

June 14-19, 2015

Hyatt Regency
Vancouver, BC
Canada

Conference Program

11th International Conference on Ceramic Materials and Components for Energy and Environmental Applications

Ceramic technologies for sustainable development

ceramics.org/11cmcee



Welcome

On behalf of The American Ceramic Society, we would like to welcome you to the 11th International Symposium on Ceramic Materials and Components for Energy and Environmental Applications (CMCEE-11). The conference opens with the plenary session, *Technological Innovations and Sustainable Development*, followed by 32 symposia across four tracks. Several special activities are planned during this event in addition to the technical program. Some highlights are below:

- Renew acquaintances and get to know new faces during the **Welcome Reception** on Sunday (June 14th) 5:00-7:00 p.m. Enjoy complimentary hors d'oeuvres, live music, and the spectacular view of Vancouver from the 34th floor of the Hyatt.
- The opening Plenary Session “**Technological Innovations and Sustainable Development**” will take place on Monday (June 15th), from 8:30 am – noon in Regency C&D Ballroom.
- Lunch will follow the plenary session on Monday from noon – 1:30 p.m. in Regency C&D Ballroom.
- Students and young professionals are invited to grow their professional network by attending the **Student and Young Professional Networking Mixer**, brought to you by Saint-Gobain and ACerS’ Global Graduate Researcher Network (GGRN) on Monday evening.
- Continue your learning experience by attending the Poster Session on Tuesday (June 16th) from 6:00–8:00 p.m. In addition to the **Best Poster Awards**, ACerS’ Global Graduate Researcher Network (GGRN) is sponsoring the first ever **GGRN Student Poster Awards**.
- Take time to explore Vancouver during the free time on Wednesday afternoon. ACerS staff and the Hyatt’s concierge will be in the lobby to help you with suggestions.
- CMCEE attendees are invited to be our guests and continue networking with their colleagues during the conference dinner on Thursday (June 18th) from 7:00–9:30 p.m. In addition to awards presentation, prepared to be dazzled by a cultural program featuring dancers from the Royal Academy of Bhangra and more.

Our special thanks to conference sponsors: Fraunhofer IKTS; UBE; Deltech, Inc.; AdValue Technology; Hysitron; TR, Ltd.; American Elements; Saint-Gobain; Iones; Wiley; and Materials Today

The American Ceramic Society would like to thank you for participating in CMCEE-11. We would also like to invite all of you to take advantage of this opportunity to visit the great city of Vancouver and actively participate in this conference.

ORGANIZERS



Mrityunjay Singh

Chair

Ohio Aerospace Institute, USA



Tatsuki Ohji

Co-chair

AIST, Japan



Alex Michaelis

Co-chair

Fraunhofer IKTS, Germany

Table of Contents

Sponsors	2
Schedule At A Glance	3
Hotel Floor Plan.....	5
Technical Program at a Glance	6–7
Technical Program Symposia.....	8–9
GGRN Student Poster Awards	11
Presenting Author List	13–18
Events Calendar	19

Final Program

Plenary and Honorary Symposia	21–22
Track 1	23–32
Track 2	33–38
Track 3	39–43
Track 4	44–54
Posters	55–58

Use of the Conference Program

- Refer to pages 6 & 7 for the Technical Program at a Glance session grid to visualize the day sessions are held for a particular symposium. The corresponding page number of the session is listed in the grid.
Example of abbreviations found on these pages: T1S1 = Track 1, Symposium 1
- Refer to pages 8 & 9 for the Technical Program symposia topics and the organizer list of each.

MEETING REGULATIONS

The American Ceramic Society is a nonprofit scientific organization that facilitates the exchange of knowledge meetings and publication of papers for future reference. The Society owns and retains full right to control its publications and its meetings. The Society has an obligation to protect its members and meetings from intrusion by others who may wish to use the meetings for their own private promotion purpose. Literature found not to be in agreement with the Society's goals, in competition with Society services or of an offensive nature will not be displayed anywhere in the vicinity of the meeting. Promotional literature of any kind may not be displayed without the Society's permission and unless the Society provides tables for this purpose. Literature not conforming to this policy or displayed in other than designated areas will be disposed. The Society will not permit unauthorized scheduling of activities during its meeting by any person or group when those activities are conducted at its meeting place in interference with its programs and scheduled activities. The Society does not object to appropriate activities by others during its meetings if it is consulted with regard to time, place, and suitability. Any person or group wishing to conduct any activity at the time and location of the Society meeting must obtain permission from the Executive Director or Director of Meetings, giving full details regarding desired time, place and nature of activity.

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

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

website. By participating in the conference, you grant The American Ceramic Society the right to use your name and photograph for such purposes. All postings become the property of The American Ceramic Society.

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

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

Disclaimer: Statements of fact and opinion are the responsibility of the authors alone and do not imply an opinion on the part of the officers, staff or members of The American Ceramic Society. The American Ceramic Society assumes no responsibility for the statements and opinions advanced by the contributors to its publications or by the speakers at its programs; nor does The American Ceramic Society assume any liability for losses or injuries suffered by attendees at its meetings. Registered names and trademarks, etc. used in its publications, even without specific indications thereof, are not to be considered unprotected by the law. Mention of trade names of commercial products does not constitute endorsement or recommendations for use by the publishers, editors or authors.

Final determination of the suitability of any information, procedure or products for use contemplated by any user, and the manner of that use, is the sole responsibility of the user. Expert advice should be obtained at all times when implementation is being considered, particularly where hazardous materials or processes are encountered.

Copyright © 2015. The American Ceramic Society (www.ceramics.org). All rights reserved.

sponsors

Special thanks to our sponsors for their generosity

Conference Sponsors



Media Sponsors



Schedule at a Glance

June 14 – 19, 2015

International Symposium on Ceramic Materials and Components for Energy and Environmental Applications (11th CMCEE)

Hyatt Regency Vancouver
Vancouver, BC Canada

Sunday – June 14, 2015

Registration	4:00 p.m. – 7:00 p.m.
Welcome Reception	5:00 p.m. – 7:00 p.m.

Monday – June 15, 2015

Registration	7:30 a.m. – 5:00 p.m.
Plenary Session	8:30 a.m. – 12:00 p.m.
Lunch	12:00 p.m. – 1:30 p.m.
Concurrent Sessions	1:30 p.m. – 5:00 p.m.
Student and Young Professional Networking Mixer*	6:00 p.m. – 9:30 p.m.

Tuesday – June 16, 2015

Registration	8:00 a.m. – 7:30 p.m.
Concurrent Sessions	8:30 a.m. – 6:00 p.m.
Lunch on own	12:00 p.m. – 1:30 p.m.
Poster Session	6:00 p.m. – 8:00 p.m.

Wednesday – June 17, 2015

Registration	8:00 a.m. – 12:00 p.m.
Concurrent Sessions	8:30 a.m. – 12:00 p.m.
Free afternoon and evening to explore Vancouver	12:00 p.m.+

Thursday – June 18, 2015

Registration	8:00 a.m. – 5:00 p.m.
Concurrent Sessions	8:30 a.m. – 5:00 p.m.
Lunch on own	12:00 p.m. – 1:30 p.m.
Conference Dinner	7:00 p.m. – 9:00 p.m.

Friday – June 19, 2015

Registration	8:00 a.m. – 12:00 p.m.
Concurrent Sessions	8:30 a.m. – 12:00 p.m.

* brought to you by Saint-Gobain and ACerS Global Graduate Researcher Network



Fraunhofer

IKTS

FRAUNHOFER INSTITUTE FOR
CERAMIC TECHNOLOGIES AND SYSTEMS IKTS



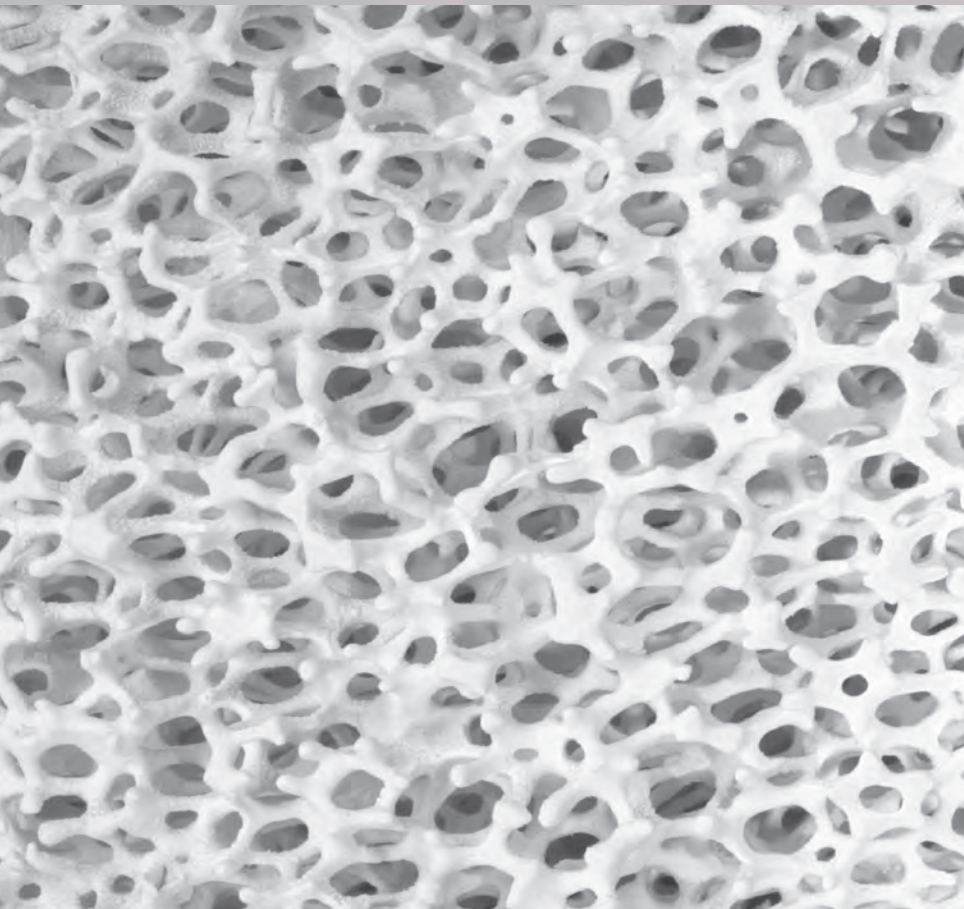
Fraunhofer IKTS – the largest institution
for ceramics research in Europe.



www.ikts.fraunhofer.de/en

YOUR CERAMICS ONE STOP SHOP

WE DELIVER CERAMIC SOLUTIONS ALL ALONG THE VALUE CHAIN



Our services offered:

- Materials know-how
- Manufacturing technologies
- Systems and product integration
- Materials diagnostics and testing

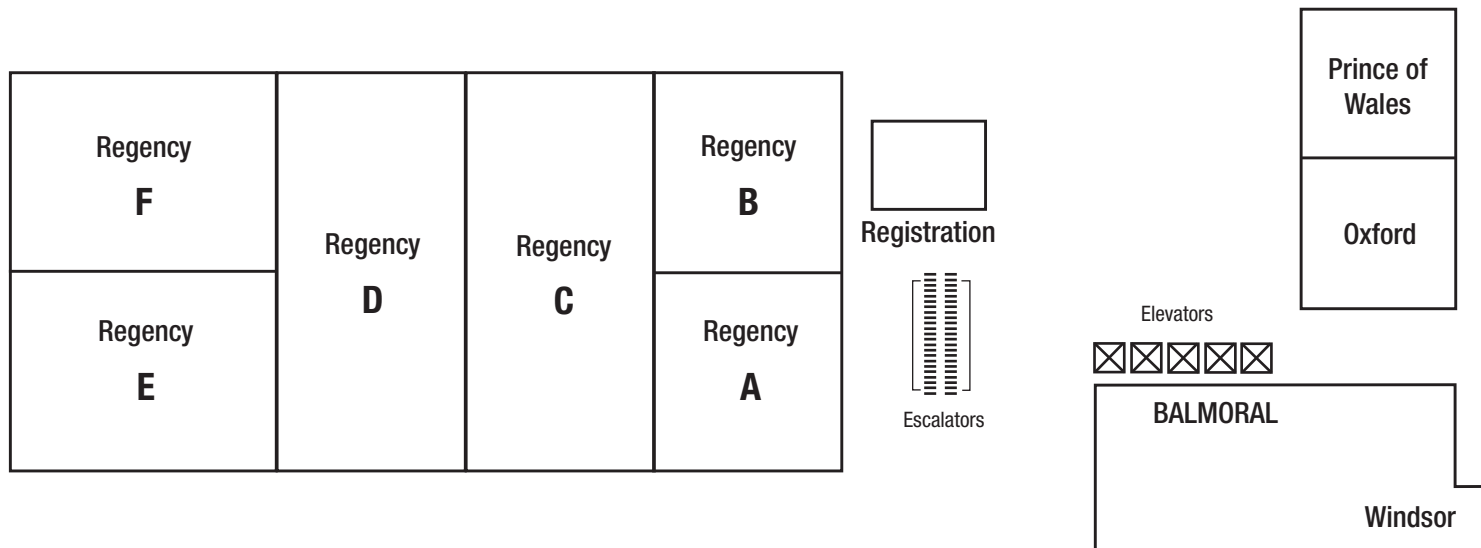
Our R&D in market-oriented divisions:

- Materials and Processes
- Mechanical/Automotive Engineering
- Electronics and Microsystems
- Energy
- Environmental/Process Engineering
- Bio- and Medical Technology
- Optics

Plaza Level (second floor)

Plaza Ballroom C	Plaza Ballroom B	Plaza Ballroom A	Georgia Ballroom B	Georgia Ballroom A
-----------------------------------	-----------------------------------	-----------------------------------	-------------------------------------	-------------------------------------

Convention Level (third floor)



Key code –

REGENCY A

Monday – Friday
T4S5

REGENCY B

Monday – T4S11
Tuesday – T4S3
Wednesday – T4S3
Thursday – T4S6
Friday – T4S6

REGENCY C

Monday – Plenary, lunch
Tuesday – Poster session
Thursday – Dinner

REGENCY D

Monday – Plenary, lunch
Tuesday – Poster session
Thursday – Dinner

REGENCY E

Monday – T4S2
Tuesday – T4S1
Wednesday – T4S7
Thursday – T4S7, Dinner

REGENCY F

Monday – T4S4
Tuesday – T4S4, T4S10
Wednesday – T4S10
Thursday – T4S8, Dinner

PLAZA A

Monday – Wednesday – T1S1
Thursday – T1S5, T1S4
Friday – T1S4

PLAZA B

Monday, Tuesday – T1S9
Wednesday – T1S3
Thursday, Friday – T1S2

PLAZA C

Monday – T3S3
Tuesday – Thursday – T1S7

GEORGIA A

Monday – Honorary 1
Tuesday – Honorary 1, T3S5
Wednesday – Honorary 2
Thursday – T2S5, T2S7
Friday – T2S7

GEORGIA B

Monday – T1S8
Tuesday – T1S8, T1S6
Wednesday – T2S3
Thursday, Friday – T3S1

BALMORAL

Monday, Tuesday – T2S1
Wednesday – T2S6
Thursday – T2S4

PRINCE OF WALES

Monday-Wednesday – T3S4
Thursday – T2S2

OXFORD

Tuesday – T3S2

34TH FLOOR

Sunday – Welcome Reception
Monday – Student and YP Networking Mixer

See pp 8 and 9 for Symposia listing

TECHNICAL PROGRAM AT A GLANCE

T1 - CERAMICS FOR ENERGY CONVERSION, STORAGE, AND DISTRIBUTION SYSTEMS

T1S1: HIGH-TEMPERATURE FUEL CELLS AND ELECTROLYSIS

T1S2: CERAMICS-RELATED MATERIALS, DEVICES, AND PROCESSING FOR HEAT-TO-ELECTRICITY DIRECT CONVERSION AIMING AT GREEN AND SUSTAINABLE HUMAN SOCIETY

T1S3: PHOTOVOLTAIC MATERIALS, DEVICES, AND SYSTEMS

T1S4: MATERIAL SCIENCE AND TECHNOLOGIES FOR ADVANCED NUCLEAR FISSION AND FUSION ENERGY

T1S5: FUNCTIONAL NANOMATERIALS FOR SUSTAINABLE ENERGY TECHNOLOGIES

T1S6: ADVANCED MULTIFUNCTIONAL NANOMATERIALS AND SYSTEMS FOR PHOTOVOLTAIC AND PHOTONIC TECHNOLOGIES

T1S7: ADVANCED BATTERIES AND SUPERCAPACITORS FOR ENERGY STORAGE APPLICATIONS

T1S8: MATERIALS FOR SOLAR THERMAL ENERGY CONVERSION AND STORAGE

T1S9: HIGH TEMPERATURE SUPERCONDUCTORS: MATERIALS, TECHNOLOGIES, AND SYSTEMS

T2 - CERAMICS FOR ENERGY CONSERVATION AND EFFICIENCY

T2S1: ADVANCED CERAMICS AND COMPOSITES FOR GAS TURBINE ENGINES

T2S2: ADVANCED CERAMIC COATINGS FOR POWER SYSTEMS

T2S3: ENERGY EFFICIENT ADVANCED BEARINGS AND WEAR RESISTANT MATERIALS

T2S4: MATERIALS FOR SOLID STATE LIGHTING

T2S5: ADVANCED REFRACTORY CERAMIC MATERIALS AND TECHNOLOGIES

T2S6: ADVANCED NITRIDES AN RELATED MATERIALS FOR ENERGY APPLICATIONS

T2S7: CERAMICS IN CONVENTIONAL ENERGY, OIL, AND GAS EXPLORATION

T3 - CERAMICS FOR ENVIRONMENTAL SYSTEMS

T3S1: PHOTOCATALYSTS FOR ENERGY AND ENVIRONMENTAL APPLICATIONS

T3S2: ADVANCED FUNCTIONAL MATERIALS, DEVICES, AND SYSTEMS FOR ENVIRONMENTAL CONSERVATION AND POLLUTION CONTROL

T3S3: GEOPOLYMERS, INORGANIC POLYMER CERAMICS AND SUSTAINABLE COMPOSITES

T3S4: MACROPOROUS CERAMICS FOR ENVIRONMENTAL AND ENERGY APPLICATIONS

T3S5: ADVANCED SENSORS FOR ENERGY, ENVIRONMENT AND HEALTH APPLICATIONS

T4 - CROSS-CUTTING MATERIALS TECHNOLOGIES

T4S1: COMPUTATIONAL DESIGN AND MODELING

T4S2: ADDITIVE MANUFACTURING TECHNOLOGIES

T4S3: NOVEL, GREEN, AND STRATEGIC PROCESSING AND MANUFACTURING TECHNOLOGIES

T4S4: POWDER PROCESSING TECHNOLOGY FOR ADVANCED CERAMICS

T4S5: ADVANCED MATERIALS, TECHNOLOGIES, AND DEVICES FOR ELECTRO-OPTICAL AND BIOMEDICAL APPLICATIONS

T4S6: MULTIFUNCTIONAL COATINGS FOR ENERGY AND ENVIRONMENTAL APPLICATIONS

T4S7: MATERIALS FOR EXTREME ENVIRONMENTS: ULTRAHIGH TEMPERATURE CERAMICS (UHTCS) AND NANO-LAMINATED TERNARY CARBIDES AND NITRIDES (MAX PHASES)

T4S8: CERAMIC INTEGRATION TECHNOLOGIES FOR ENERGY AND ENVIRONMENTAL APPLICATIONS

T4S9: ENVIRONMENTAL FRIENDLY AND ENERGY EFFICIENT MANUFACTURING ROUTES FOR THE PRODUCTION ROOT TECHNOLOGY

T4S10: BIO-INSPIRED AND HYBRID MATERIALS

T4S11: MATERIALS DIAGNOSTICS AND STRUCTURAL HEALTH MONITORING OF CERAMIC COMPONENTS AND SYSTEMS

HONORARY SYMPOSIA

SYMPOSIUM H1: INNOVATIVE PROCESSING AND MICROSTRUCTURAL DESIGN OF ADVANCED CERAMICS—A SYMPOSIUM IN HONOR OF PROFESSOR DONGLIANG JIANG

SYMPOSIUM H2: MATERIALS PROCESSING SCIENCE WITH LASERS AS ENERGY SOURCES—A SYMPOSIUM IN HONOR OF PROFESSOR JUERGEN HEINRICH

	Mon - AM	Mon - PM	Tues - AM	Tues - PM	Wed - AM	Wed - PM	Thurs - AM	Thurs - PM	Fri - AM
		pg 23	pg 24	pg 25	pg 28	FREE			
					pg 28	FREE	pg 29	pg 29	pg 31
						FREE		pg 30	pg 32
				pg 25		FREE	pg 30		
			pg 26	pg 26	pg 28	FREE	pg 31	pg 31	
	pg 23	pg 27				FREE			
	pg 24	pg 27	pg 27	pg 27		FREE			
		pg 33	pg 33	pg 33		FREE			
						FREE	pg 35	pg 35	
					pg 34	FREE			
						FREE	pg 36	pg 36	
						FREE	pg 37		
					pg 35	FREE			
						FREE		pg 37	pg 38
						FREE	pg 42	pg 43	pg 43
			pg 40	pg 40		FREE			
	pg 39					FREE			
	pg 39	pg 41	pg 41	pg 41	pg 42	FREE			
			pg 42			FREE			
			pg 46	pg 46		FREE			
	pg 44					FREE			
		pg 46	pg 47	pg 47	pg 49	FREE			
	pg 44	pg 47				FREE			
	pg 45	pg 48	pg 48	pg 48	pg 49	FREE	pg 51	pg 51	pg 53
						FREE	pg 51	pg 52	pg 54
					pg 50	FREE	pg 52		
						FREE	pg 53		
				posters only - pg 55		FREE			
				pg 48	pg 50	FREE			
	pg 45					FREE			
	pg 21	pg 21				FREE			
					pg 22	FREE			

Symposia

TECHNICAL PROGRAM

T1S1: High-temperature Fuel Cells and Electrolysis

Thomas Pfeifer, Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany; **Alexander Michaelis**, Fraunhofer IKTS, Germany; **Chan Siew Hwa**, Nanyang Technological University, Singapore; **Prabhakar Singh**, University of Connecticut, USA; **Mihails Kusnezoff**, Fraunhofer IKTS, Germany; **Toshio Suzuki**, AIST, Japan; **R. Muccillo**, Energy and Nuclear Research Institute, Brazil; **Brian Borglum**, Versa Power Systems/Fuel Cell Energy, Canada

T1S2: Ceramics-related Materials, Devices, and Processing for Heat-to-electricity Direct Conversion Aiming at Green and Sustainable Human Societies

Michitaka Ohtaki, Kyushu University, Japan; **Ryoji Funahashi**, AIST, Japan; **Qiang Li**, Brookhaven National Laboratory, USA; **Yuzuru Miyazaki**, Tohoku University, Japan; **Takao Mori**, National Institute for Materials Science, Japan; **Tsunehiro Takeuchi**, Toyota Technological Institute, Japan; **Terry M. Tritt**, Clemson University, USA

T1S3: Photovoltaic Materials, Devices, and Systems

Tohru Sekino, The Institute of Scientific and Industrial Research, Osaka University; **Jin-Hyo Boo**, Sungkyunkwan University, Korea; **Robert Chang**, Northwestern University, USA; **Yoshikazu Suzuki**, Tsukuba University, Japan

T1S4: Material Science and Technologies for Advanced Nuclear Fission and Fusion Energy

Josef Matyas, Pacific Northwest National Laboratory, USA; **Yutai Katoh**, Oak Ridge National Laboratory, USA; **Kyle Brinkman**, Clemson University, USA; **Raghunath Kanakala**, University of Idaho, USA; **Ram Devanathan**, Pacific Northwest National Laboratory, USA; **Jake Amoroso**, Savannah River National Laboratory, USA

T1S5: Functional Nanomaterials for Sustainable Energy Technologies

Sanjay Mathur, University of Cologne, Germany; **Dunwei Wang**, Boston College, USA; **Silke Christiansen**, Max-Planck-Institut für die Wissenschaft der Licht, Germany; **Ausrine Bartasyte**, Université Franche-Comté, France; **Xavier Obrados**, ICAMB, Spain; **Anke Weidenkaff**, University of Stuttgart, Germany; **Yoshitake Masuda**, AIST, Japan; **Taejin Huang**, KITECH, Korea

T1S6: Advanced Multifunctional Nanomaterials and Systems for Photovoltaic and Photonic Technologies

Yoon-Bong Hahn, Chonbuk National University, Korea; **Giovanni Fanchini**, University of Western Ontario, Canada; **Ravi Silva**, University of Surrey, UK; **S. Christiansen**, MPI, Germany; **Yunhang Hu**, Michigan Technological University, USA

T1S7: Advanced Batteries and Supercapacitors for Energy Storage Applications

Palani Balaya, National University of Singapore, Singapore; **Partha P. Mukherjee**, Texas A&M University, USA; **Dany Carlier-Larregeray**, ICMCB-CNRS, France; **Pengjian Zuo**, Harbin Institute of Technology, China; **Robert Dominko**, National Institute of Chemistry, Slovenia; **Kisuk Kang**, Seoul National University, Seoul, Korea; **Neeraj Sharma**, University of New South Wales, Australia

T1S8: Materials for Solar Thermal Energy Conversion and Storage

Dileep Singh, Argonne National Laboratory, USA; **Martin Schmuecker**, DLR, Germany; **A. Oztekin**, Lehigh University, USA; **R. Reddy**, University of Alabama, USA; **J. Gomez**, National Renewable Energy Laboratory, USA; **M. Roeb**, DLR, Institute for Solar Research, Germany; **Chr. Sattler**, DLR, Institute for Solar Research, Germany

T1S9: High-temperature Superconductors: Materials, Technologies, and Systems

Davor Pavuna, EPFL, Switzerland; **Andrea Damascelli**, UBC, Canada; **John Wei**, University of Toronto, Canada; **Christos Panagopoulos**, NTU, Singapore

T2S1: Advanced Ceramics and Composites for Gas Turbine Engines

Hua-Tay Lin, Guangdong University of Technology, China; **Walter Krenkel**, University of Bayreuth, Germany; **Yutaka Kagawa**, University of Tokyo, Japan; **Kang Lee**, Rolls-Royce, USA;

Wei Pan, Tsinghua University, China; **Hai-Doo Kim**, Korea Institute of Materials Science, Korea; **Yujin Wang**, Harbin Institute of Technology, China; **Ping Xia**, University of Manchester, UK; **David Marshall**, Teledyne Scientific Co., USA; **Laifei Cheng**, Northwestern Polytechnical University, China

T2S2: Advanced Ceramic Coatings for Power Systems

Hagen Klemm, Fraunhofer Institute Ceramic Technologies and Systems, IKTS Dresden, Germany; **Dongming Zhu**, NASA Glenn Research Center, USA; **Satoshi Kitaoka**, Japan Fine Ceramic Center, Japan; **Takashi Goto**, Tohoku University, Japan; **Douglas Wolfe**, Pennsylvania State University, USA; **Soumendra Basu**, Massachusetts Institute of Technology, USA; **Robert Vaßen**, Forschungszentrum Jülich GmbH, Germany; **Uwe Schulz**, DLR, Germany; **Peter Mechnich**, DLR, Germany

T2S3: Energy-efficient Advanced Bearings and Wear-resistant Materials

Junichi Tatami, Yokohama National University, Japan; **Pavol Sajgalik**, Slovak Academy of Sciences, Slovakia; **Hasan Mandat**, Sabanci University, Turkey; **Katsutoshi Komeya**, Yokohama National University, Japan; **Rolf Waesche**, BAM, Germany

T2S4: Materials for Solid-State Lighting

Ralf Riedel, Technical University of Darmstadt, Germany; **Pavol Sajgalik**, SAS Bratislava; **R.J. Xie**, NIMS, Japan; **K. Hirao**, AIST, Japan

T2S5: Advanced Refractory Ceramic Materials and Technologies

James Hemrick, Oak Ridge National Laboratory, USA; **Christos G. Aneziris**, TU Bergakademie Freiberg, Germany; **Valeriy V. Martynenko**, Ukrainian Research Institute of Refractories, Ukraine; **Victor C. Pandolfelli**, Universidade Federal de São Carlos, Brazil; **Josh Pelletier**, Kerneos Aluminate Technologies, USA; **Jeffrey D. Smith**, Missouri University of Science and Technology, USA; **Harald A. Walter**, Refratechnik North America, USA

T2S6: Advanced Nitrides and Related Materials for Energy Applications

Gunter Motz, University of Bayreuth, Germany; **Ralf Riedel**, Technical University of Darmstadt, Germany; **Yoshiyuki Sugahara**, Waseda University, Japan; **Paolo Colombo**, Università di Padova, Italy; **Rajendra K. Bordia**, Clemson University, USA; **Hui Gu**, Shanghai Institute of Ceramics, China

T2S7: Ceramics in Conventional Energy, Oil, and Gas Exploration

Surojit Gupta, University of North Dakota, USA; **Dongsheng Wen**, University of Leeds, UK; **Aiguo Zhou**, Henan Polytechnic University, China

T3S1: Photocatalysts for Energy and Environmental Applications

Wenzhong Wang, Shanghai Institute of Ceramics, China; **Jinhua Ye**, National Institute for Materials Science, Japan; **Lianzhou Wang**, University of Queensland, Australia; **Hexing Li**, Shanghai Normal University, China; **Yongfa Zhu**, Tsinghua University, China; **Chuanyi Wang**, Xinjiang Technical Institute of Physics & Chemistry, China

T3S2: Advanced Functional Materials, Devices, and Systems for Environmental Conservation and Pollution Control

Nobuhito Imanaka, Osaka University, Japan; **Taek-Soo Kim**, Korea Institute of Industrial Technology, Korea; **Youichi Shimizu**, Kyushu Institute of Technology, Japan; **Teng-Ming Chen**, National Chiao Tung University, Taiwan; **Kenji Toda**, Niigata University, Japan; **Toshiyuki Masui**, Osaka University, Japan

T3S3: Geopolymers, Inorganic Polymer Ceramics and Sustainable Composites

Waltraud M. Kriven, University of Illinois at Urbana-Champaign, USA; **Claus H. Rüscher**, Leibniz University of Hannover, Germany; **Sylvie Rossignol**, GEMH-ENSCI, France; **Hubert Rahier**, Vrije Universiteit, Belgium; **John L. Provis**, University of Sheffield, UK

T3S4: Porous and Cellular Ceramics for Filter and Membrane Applications

Ingolf Voigt, Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany; **Manabu Fukushima**, AIST, Japan; **Hannes Richter**, Fraunhofer Institute for Ceramic Technolo-

gies and Systems IKTS, Germany; **Paolo Colombo**, Università di Padova, Italy; **Tobias Fey**, Universität Erlangen-Nürnberg, Germany; **Young-Wook Kim**, University of Seoul, Republic of Korea; **Alberto Ortona**, University of Applied Sciences and Arts of Southern Switzerland, Switzerland; **Takashi Shirai**, Nagoya Institute of Technology, Japan; **Sujanto Widjaja**, Corning Incorporated, USA; **Yu-ping Zeng**, Shanghai Institute of Ceramics, China

T3S5: Advanced Sensors for Energy, Environment and Health Applications

Girish Kale, University of Leeds, UK; **Sheikh Akbar**, The Ohio State University, USA; **Yasuhiro Shimizu**, Nagasaki University, Japan; **Sanjay Mathur**, University of Cologne, Germany; **Jong-Huen Lee**, Korea University, Korea; **R. Vasant Kumar**, University of Cambridge, UK, J.A. Varela, FAPESP, Brazil

T4S1: Computational Design and Modeling

Jingyang Wang, Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, China; **Wai-Yim Ching**, University of Missouri-Kansas City, USA; **Kwang-Ryeol Lee**, Korea Institute of Science and Technology, Korea; **Isao Tanaka**, Kyoto University, Japan; **Hans J. Seifert**, University of Karlsruhe, Germany; **Sean Smith**, University of New South Wales, Australia; **Gerard L. Vignoles**, University of Bordeaux, France; **William J. Weber**, University of Tennessee, USA

T4S2: Additive Manufacturing Technologies

Soshu Kirihiro, Osaka University, Japan; **Roger Narayan**, NC State University, USA; **Michael C. Halbig**, NASA Glenn Research Center, USA; **Hiroya Abe**, Osaka University, Japan; **Johannes Homa**, Lithos GmbH, Austria; **Nahum Travizky**, University of Erlangen-Nürnberg, Germany; **Martin Schwentenwein**, Lithos GmbH, Austria

T4S3: Novel, Green, and Strategic Processing and Manufacturing Technologies

Tatsuki Ohji, AIST, Japan; **Surojit Gupta**, University of North Dakota, USA; **Mathias Herrmann**, Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany; **Eugene Medvedovski**, Endurance Technologies Inc., Canada; **Richard D. Sisson, Jr.**, Worcester Polytechnic Institute, USA; **Michael Stelzer**, Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany; **Tohru S. Suzuki**, NIMS, Japan; **Junichi Tatami**, Yokohama National University; **Yiquan Wu**, Alfred University, USA; **Guo-Jun Zhang**, Shanghai Institute of Ceramics, Chinese Academy of Science, China

T4S4: Powder Processing Technology for Advanced Ceramics

Makio Naito, Joining and Welding Research Institute, Osaka University, Japan; **Junichi Tatami**, Yokohama National University, Japan; **Kevin Ewsuk**, Sandia National Laboratories, USA; **Yuji Hotta**, AIST, Japan; **C. C. Huang**, Hosokawa Micron Powder Systems, USA; **Norifumi Iku**, LIXIL Corp., Japan; **Esko I. Kauppinen**, Aalto University, Finland; **Ungyu Paik**, Hanyang University, Korea; **Tetsuo Uchikoshi**, NIMS, Japan

T4S5: Advanced Materials, Technologies, and Devices for Electro-optical and Biomedical Applications

Kiyoshi Shimamura, NIMS, Japan; **Noboru Ichinose**, Waseda University, Japan; **Matthias Bickermann**, The Leibniz Institute for Crystal Growth (IKZ), Germany; **Xutang Tao**, Shandong University, China; **Alain Largeteau**, Institute for Solid State Chemistry, Bordeaux, France; **Gen Sazaki**, Hokkaido University, Japan; **Luisa E. Bausá**, Autonomous University of Madrid, Spain

T4S6: Multifunctional Coatings for Energy and Environmental Applications

Jun Akedo, AIST, Japan; **Seiji Kuroda**, NIMS, Japan; **Soshu Kirihiro**, University of Osaka, Japan; **Balu Balachandran**, Argonne National Laboratory, USA; **Armelle Vardelle**, University of Limoges, France; **Valentin Craciun**, National Institute for Laser, Plasma, and Radiation Physics, Romania; **Kyoung Il Moon**, Korea Institute of Industrial Technology, Korea; **Sang Sub Kim**, Inha University, Korea; **Minoru Osada**, NIMS, Japan

T4S7: Materials for Extreme Environments: Ultra-high Temperature Ceramics (UHTCs) and Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Yanchun Zhou, Aerospace Research Institute of Materials & Processing Technology, China; **Jon Binner**, University of Birmingham, UK; **Erica L. Corral**, University of Arizona, USA;

Sea-Hoon Lee, Korea Institute of Materials Science, Korea; **Per Eklund**, Linköping University, Sweden; **William G. Fahrenholtz**, Missouri University of Science and Technology, USA; **Greg Hilmas**, Missouri University of Science and Technology, USA; **Frederic Monteverde**, Institute of Science and Technology of Ceramics-CNR, Italy; **Miladin Radovic**, Texas A&M University, USA; **Jochen Schneider**, Materials Chemistry, RWTH Aachen, Germany; **Luc J. Van der Perre**, Imperial College London, UK; **Guo-Jun Zhang**, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

T4S8: Ceramic Integration Technologies for Energy and Environmental Applications

Milena Salvo, Politecnico di Torino, Italy; **Monica Ferraris**, Politecnico di Torino, Italy; **Michael C. Halbig**, NASA Glenn Research Center, USA; **Michael J. Reece**, Queen Mary, University of London, UK; **Jacques Lamon**, CNRS LMT ENS Cachan, France; **Tatsuya Hinoki**, Kyoto University, Japan

T4S9: Environmentally-friendly and Energy-efficient Manufacturing Routes for Production Root Technology

Sang Mok Lee, Korea Institute of Industrial Technology (KITECH), Korea; **Sahn Zhong-de**, China Academy of Machinery and Science Technology, China; **L. K. Sharma**, CSIR-Central Glass & Ceramic Research Institute, India; **Martin Fehlbier**, Institut für Produktionstechnik und Logistik, Germany; **Horst Wolff**, IfG - Institute for Foundry Technology, Germany; **Taek Soo Kim**, Korea Institute for Rare Metals, Korea; **Dechang Jia**, Harbin Institute of Technology, China; **Tadachika Nakayama**, Nagaoka University of Technology, Japan

T4S10: Bioinspired and Hybrid Materials

Tadachika Nakayama, Nagaoka University of Technology, Japan; **Roger Narayan**, NC State University, USA; **Seiichi Takami**, Tohoku University, Japan; **Yong-Ho Choo**, Hanyang University, Korea; **Simon Hall**, University of Bristol, UK; **Koji Kuraoka**, Kobe University, Japan; **Ping Xu**, Harbin Institute of Technology, Harbin, China; **Shaifulazuar Bin Rozali**, University of Malaya, Malaysia

T4S11: Materials Diagnostics and Structural Health Monitoring of Ceramic Components and Systems

Joerg Opitz, Fraunhofer Institute for Ceramic Technologies and Systems, Germany; **Andrew L. Gyekenyesi**, Ohio Aerospace Institute, NASA Glenn Research Center, USA; **Qiwen Zhan**, University of Dayton, USA; **P. Terry Murray**, University of Dayton, USA; **Mathias Herrmann**, Fraunhofer Institute for Ceramic Technologies and Systems, Germany; **Klaus-Juergen Wolter**, Electronics Packaging Lab (IAVT), TU Dresden, Germany; **Bernd Koehler**, Fraunhofer Institute for Ceramic Technologies and Systems, Germany; **Peter Czurratis**, PVA TePla Analytical Systems GmbH, Germany; **Juergen Schreiber**, Nuga Lab, Germany; **Viktoryia Lapina**, Academy of Science, Belarus; **Cerasela Zoica Dinu**, West Virginia University, USA; **Ben Dutton**, MTC Limited, UK

HONORARY SYMPOSIA

Symposium H1: Innovative Processing and Microstructural Design of Advanced Ceramics—A Symposium in Honor of Professor Dongliang Jiang

Shaoming Dong, Shanghai Institute of Ceramics, China; **Yanchun Zhou**, Aerospace Research Institute of Material & Processing Technology; **Hua-Tay Lin**, Guangdong University of Technology; **Makio Naito**, Osaka University, Japan; **Suk-Joong Kang**, Korea Advanced Institute of Science and Technology, Korea; **Hai-Doo Kim**, Korea Institute of Materials Science, Korea; **Shiwei Wang**, Shanghai Institute of Ceramics, China; **Yi-Bing Cheng**, Monash University, Australia

Symposium H2: Materials Processing Science with Lasers as Energy Sources—A Symposium in Honor of Professor Juergen Heinrich

Jens Günster, Federal Institute for Materials Research and Testing, BAM, Germany; **Frank A. Müller**, Friedrich-Schiller-University of Jena, Germany; **Francis Cambier**, INISMa-CRIBC (EMRA), Belgium; **Carina Oelgardt**, H.C. Starck GmbH, Goslar; **Christof Siebert**, TRUMPF Laser- und Systemtechnik GmbH, Germany

NEW!



Alumina ♦ Fused Quartz ♦ Zirconia ♦ Sapphire

Crucibles ♦ Furnace Tubes ♦ Thermocouple Insulators
Rods ♦ Plates & Disks ♦ Quartz Cuvettes
Alumina & Sapphire Sample Pans for Thermal Analysis
Custom Components

ADVALUE TECHNOLOGY

3470 S. Dodge Blvd., Tucson, AZ 85713

Tel: 520-514-1100 ♦ Fax: 520-747-4024

sales@advaluetech.com ♦ www.advaluetech.com



AdValue Technology

24-hour Shipment of Many In-stock Standard Sizes
Custom Fabrication for Special Requests

GLOBAL GRADUATE RESEARCH NETWORK Student Poster Awards

THURSDAY, JUNE 18 – 7 to 9 p.m.

The Global Graduate Researcher Network (GGRN) is sponsoring the first ever GGRN Student Poster Award at the 11th International Symposium on Ceramic Materials and Components for Energy and Environmental Applications (11th CMCEE), June 14-19, 2015, in Vancouver, BC, Canada. Current graduate and undergraduate students presenting a poster at 11th CMCEE are eligible for consideration for the GGRN Student Poster Award. Student posters will be reviewed by technical reviewers from the ACerS community. Posters will be evaluated based on the criteria of “Quality of Presentation,” “Quality and Thoroughness of Methods, Tests and Applications,” “Technical/Scientific Strength,” and “Impact to the Ceramics Community.”

Five GGRN Student Poster Awards of \$200 each will be given to the top five poster presenters. All winning authors will also receive award certificates. All awards will be presented at the conference dinner on Thursday, June 18, 7 to 9 p.m.

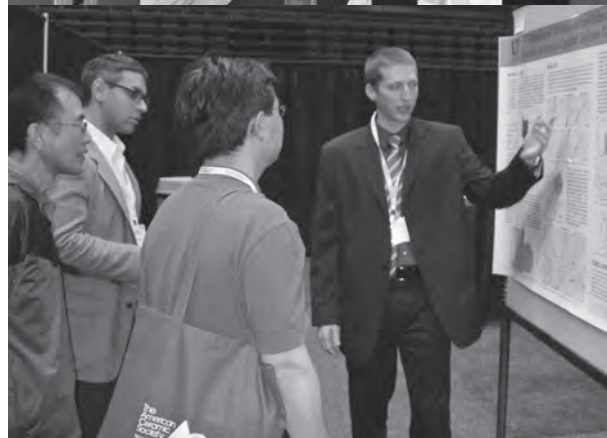
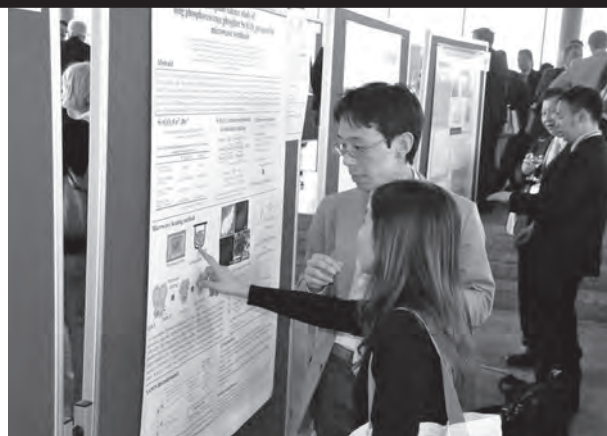
11th CMCEE BEST POSTER AWARDS

THURSDAY, JUNE 18 – 7 to 9 p.m.

The 11th CMCEE Best Poster Awards will be selected from posters that are presented at the 11th International Symposium on Ceramic Materials and Components for Energy and Environmental Applications (11th CMCEE), June 14-19, 2015, in Vancouver, BC, Canada, during the specified poster presentation period when the poster evaluation is performed. Consideration for the award will be given to all poster presenters.

The posters will be evaluated by the Best Poster Award selection committee consisting of technical reviewers from the ACerS community. The Best Poster Selection Committee will evaluate all eligible posters using the criteria of “Quality of Presentation,” “Quality and Thoroughness of Methods, Tests and Applications,” “Technical/Scientific Strength,” and “Impact to the Ceramics Community” to select the Best Posters. The Best Posters must be in the upper twentieth percentile, based on the selection committee’s overall evaluations.

The Best Poster Award will consist of first, second and third prizes for each contest. The cash awards for the first, second and third place prizes of each award category (the Best Paper or Best Poster) will be \$500, \$300 and \$200, respectively. All winning authors will also receive award certificates. All awards will be presented at the conference dinner on Thursday, June 18, 7 to 9 p.m.



Hysitron xSol[®] Wide Temperature System

HEATING • COOLING • HUMIDITY



SUPERIOR STABILITY IN EXTREME ENVIRONMENTS FOR MECHANICAL CHARACTERIZATION AT THE NANO & MICRO-SCALE

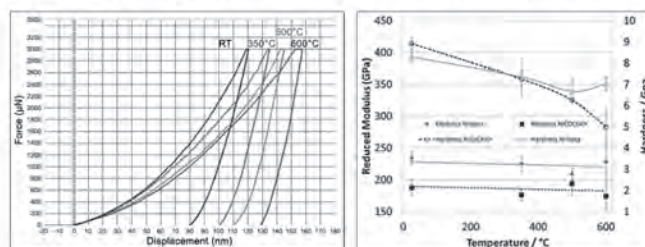
HIGH TEMPERATURE TESTING

- Thermally stable stage design enables quantitative, accurate, and reliable nanomechanical characterization at elevated temperatures **up to 800°C and beyond**
- Innovative design incorporates localized oxidation reduction + the ability to experiment with different atmospheric chemistries
- Proprietary probe design for isothermal tip-sample contact
- Compatible with **nanoDMA[®] III** for reliable, high temperature creep characterization
- Combine with **in-situ SPM imaging** to study topography, thermal expansion and contraction

ENVIRONMENTAL TESTING

- Capable of cooling **down to -100°C**
- Ability for testing in reactive gases
- Precise control of **humidity + heating** during testing

Ni-BASE SUPERALLOY EXAMPLE



- Load-displacement curves on NiCoCrAlY thermal barrier coating at room temperature 350°C, 500°C, and 600°C
- The bond layer shows a hardness drop at 600°C
- The NiAl phase becomes softer as this is well above the brittle to ductile transition temperature
- The modulus of the sample remains constant

AVAILABLE NOW ON HYSITRON'S TI SERIES INSTRUMENTS



Contact Hysitron today and learn how our nanomechanical test instruments can help advance your research.

+1-952-835-6366 • info@hysitron.com • www.hysitron.com



HYSITRON[®]

Oral Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
A									
Abdul Aziz, A.	18-Jun	4:40PM	Plaza B (2nd fl.)	30	Dinu, C.	15-Jun	4:10PM	Regency B (3rd fl.)	45
Abdulhameed, M.A.	15-Jun	5:20PM	Prince of Wales (3rd fl.)	40	Dollé, M.	16-Jun	8:30AM	Plaza C (2nd fl.)	26
Adagideli, I.	16-Jun	9:10AM	Plaza B (2nd fl.)	27	Dong, S.	16-Jun	8:30AM	Georgia A (2nd fl.)	21
Adelhelm, P.	18-Jun	8:30AM	Plaza C (2nd fl.)	31	Donne, S.W.	18-Jun	3:40PM	Plaza C (2nd fl.)	31
Agrafiotis, C.C.	16-Jun	8:30AM	Georgia B (2nd fl.)	27	Du, Y.	18-Jun	3:40PM	Georgia B (2nd fl.)	43
Akedo, J.	17-Jun	10:10AM	Regency B (3rd fl.)	49	Duan, X.	15-Jun	3:50PM	Georgia A (2nd fl.)	21
Akgun, U.	17-Jun	11:20AM	Regency A (3rd fl.)	50	Dubowski, J.	16-Jun	5:30PM	Georgia B (2nd fl.)	26
Anand, A.	15-Jun	2:40PM	Plaza C (2nd fl.)	39	E				
Ansar, A.	16-Jun	9:10AM	Plaza A (2nd fl.)	24	Edwards, D.	17-Jun	9:00AM	Regency B (3rd fl.)	49
Arvizu, D.	15-Jun	8:50AM	Regency C & D (3rd fl.)	21	Eisaki, H.	15-Jun	2:00PM	Plaza B (2nd fl.)	24
Asahi, T.	18-Jun	3:50PM	Regency A (3rd fl.)	51	Eklund, P.	17-Jun	8:30AM	Regency E (3rd fl.)	50
Asano, Y.	16-Jun	8:40AM	Plaza B (2nd fl.)	27	El Hajji, M.	19-Jun	11:00AM	Regency B (3rd fl.)	54
B					Eom, N.	16-Jun	2:40PM	Regency F (3rd fl.)	49
Bakthavatchalam, K.	17-Jun	11:00AM	Balmoral (3rd fl.)	35	Epifani, M.	16-Jun	3:30PM	Georgia A (2nd fl.)	42
Bakthavatchalam, K.	18-Jun	2:00PM	Plaza B (2nd fl.)	29	Epifani, M.	18-Jun	11:00AM	Plaza A (2nd fl.)	30
Balaya, P.	16-Jun	4:50PM	Plaza C (2nd fl.)	26	Ewsuk, K.	15-Jun	1:30PM	Regency F (3rd fl.)	44
Bamiduro, F.O.	18-Jun	11:40AM	Plaza A (2nd fl.)	30	F				
Banerjee, S.	16-Jun	10:00AM	Plaza C (2nd fl.)	26	Fellinger, T.	17-Jun	10:20AM	Plaza C (2nd fl.)	29
Baran, J.D.	19-Jun	10:50AM	Plaza B (2nd fl.)	32	Fey, T.	16-Jun	5:00PM	Prince of Wales (3rd fl.)	41
Barroso, G.S.	17-Jun	10:20AM	Balmoral (3rd fl.)	35	Fischer, G.	18-Jun	9:20AM	Regency B (3rd fl.)	51
Barsoum, M.W.	16-Jun	2:30PM	Plaza C (2nd fl.)	26	Franco, A.A.	17-Jun	8:30AM	Plaza C (2nd fl.)	28
Basu, R.N.	16-Jun	2:10PM	Plaza A (2nd fl.)	25	Frank, J.M.	17-Jun	9:50AM	Regency A (3rd fl.)	49
Basu, S.	16-Jun	8:50AM	Plaza A (2nd fl.)	24	Friedrich, K.	16-Jun	4:20PM	Plaza A (2nd fl.)	25
Basu, S.	18-Jun	3:10PM	Prince of Wales (3rd fl.)	36	Fuertes, A.	18-Jun	8:30AM	Balmoral (3rd fl.)	36
Bausa, L.E.	19-Jun	10:00AM	Regency A (3rd fl.)	54	Fuierer, P.A.	16-Jun	5:20PM	Plaza A (2nd fl.)	25
Benjamin, S.E.	16-Jun	5:40PM	Prince of Wales (3rd fl.)	42	Fuji, M.	16-Jun	8:30AM	Prince of Wales (3rd fl.)	41
Bergner, A.	17-Jun	11:20AM	Regency F (3rd fl.)	50	Fujihara, S.	16-Jun	11:30AM	Oxford (3rd fl.)	40
Block, T.	16-Jun	10:50AM	Georgia B (2nd fl.)	27	Fujiwara, K.	15-Jun	4:40PM	Regency A (3rd fl.)	45
Borglum, B.P.	15-Jun	4:10PM	Plaza A (2nd fl.)	23	Fukushima, M.	16-Jun	11:10AM	Prince of Wales (3rd fl.)	41
Both Engel, A.	17-Jun	9:20AM	Regency F (3rd fl.)	50	Fukushima, M.	16-Jun	2:30PM	Prince of Wales (3rd fl.)	41
Both Engel, A.	18-Jun	9:20AM	Plaza A (2nd fl.)	30	G				
Bottone, C.	15-Jun	9:35AM	Regency C & D (3rd fl.)	21	Gadea, C.	16-Jun	4:40PM	Plaza A (2nd fl.)	25
Bourret, E.	17-Jun	8:30AM	Regency A (3rd fl.)	49	Galusek, D.	17-Jun	10:40AM	Balmoral (3rd fl.)	35
Brinkman, K.S.	18-Jun	2:00PM	Plaza A (2nd fl.)	30	Gangaroo, H.	15-Jun	3:20PM	Regency B (3rd fl.)	45
Burch, K.	16-Jun	11:00AM	Plaza B (2nd fl.)	27	Gentile, M.	18-Jun	10:30AM	Regency E (3rd fl.)	52
C					Gharzouni, A.	15-Jun	2:20PM	Plaza C (2nd fl.)	39
Cao, Y.	18-Jun	9:00AM	Plaza A (2nd fl.)	30	Ghodke, S.C.	18-Jun	3:50PM	Plaza B (2nd fl.)	30
Casillas Trujillo, L.A.	16-Jun	9:20AM	Regency E (3rd fl.)	46	Gobereit, B.	15-Jun	2:20PM	Georgia B (2nd fl.)	23
Chaussende, D.	16-Jun	1:30PM	Regency A (3rd fl.)	48	Gogia, B.	18-Jun	8:30AM	Prince of Wales (3rd fl.)	35
Chen, C.	19-Jun	11:30AM	Plaza A (2nd fl.)	32	Goller, R.	15-Jun	4:50PM	Balmoral (3rd fl.)	33
Chen, D.	18-Jun	9:20AM	Georgia B (2nd fl.)	43	Gonczy, S.T.	16-Jun	9:20AM	Balmoral (3rd fl.)	33
Chen, L.	18-Jun	11:40AM	Georgia A (2nd fl.)	37	Gonczy, S.T.	19-Jun	10:20AM	Plaza A (2nd fl.)	32
Chen, W.	18-Jun	11:10AM	Georgia B (2nd fl.)	43	Goto, T.	16-Jun	3:20PM	Balmoral (3rd fl.)	34
Chen, X.	17-Jun	8:30AM	Prince of Wales (3rd fl.)	42	Goto, T.	18-Jun	9:00AM	Prince of Wales (3rd fl.)	35
Chen, X.	18-Jun	9:00AM	Plaza C (2nd fl.)	31	Goto, T.	19-Jun	11:00AM	Plaza A (2nd fl.)	32
Chhibber, R.	15-Jun	3:40PM	Georgia B (2nd fl.)	23	Govindasamy, L.	15-Jun	6:00PM	Balmoral (3rd fl.)	33
Chlubny, L.	17-Jun	9:20AM	Regency E (3rd fl.)	50	Gregorova, E.	18-Jun	10:20AM	Georgia A (2nd fl.)	37
Cho, H.	17-Jun	10:00AM	Regency F (3rd fl.)	50	Gu, H.	15-Jun	4:10PM	Georgia A (2nd fl.)	21
Cho, S.	15-Jun	4:00PM	Plaza C (2nd fl.)	39	Gu, H.	17-Jun	9:20AM	Balmoral (3rd fl.)	35
Christian, J.	18-Jun	3:20PM	Plaza C (2nd fl.)	31	Gu, H.	18-Jun	8:30AM	Regency E (3rd fl.)	52
Chua, D.H.	18-Jun	8:30AM	Plaza A (2nd fl.)	30	Gu, J.	15-Jun	4:20PM	Regency F (3rd fl.)	44
Clark, R.	18-Jun	10:00AM	Georgia A (2nd fl.)	37	Guadalupe del Rocio Herrera Salazar, M.	16-Jun	4:40PM	Regency F (3rd fl.)	49
Clem, P.	18-Jun	2:20PM	Regency B (3rd fl.)	52	Günster, J.	15-Jun	1:30PM	Regency E (3rd fl.)	44
Correa, S.M.	15-Jun	10:40AM	Regency C & D (3rd fl.)	21	Guo, X.	18-Jun	10:10AM	Plaza C (2nd fl.)	31
Covaci, L.	16-Jun	10:30AM	Plaza B (2nd fl.)	27	Gupta, S.	16-Jun	2:30PM	Plaza A (2nd fl.)	25
Cui, J.	17-Jun	11:05AM	Plaza B (2nd fl.)	28	Gupta, S.	16-Jun	3:30PM	Plaza A (2nd fl.)	25
D					Gupta, S.	16-Jun	4:20PM	Regency B (3rd fl.)	47
Damascelli, A.	15-Jun	3:20PM	Plaza B (2nd fl.)	24	Gupta, S.	18-Jun	2:30PM	Georgia A (2nd fl.)	37
Dambournet, D.	16-Jun	1:30PM	Plaza C (2nd fl.)	26	Gupta, S.	18-Jun	4:50PM	Georgia A (2nd fl.)	37
de Andres, A.	16-Jun	10:30AM	Regency A (3rd fl.)	48	Gupta, S.	18-Jun	5:10PM	Georgia A (2nd fl.)	37
de Boer, T.	17-Jun	9:00AM	Balmoral (3rd fl.)	35	Gupta, S.	19-Jun	9:30AM	Georgia A (2nd fl.)	38
de Castro, F.A.	16-Jun	2:00PM	Georgia B (2nd fl.)	25	Gurauskis, J.	17-Jun	9:30AM	Regency B (3rd fl.)	49
De Guire, M.R.	16-Jun	1:50PM	Plaza A (2nd fl.)	25	H				
Debéda, H.	16-Jun	3:10PM	Georgia A (2nd fl.)	42	Hakeem, A.S.	15-Jun	5:00PM	Regency F (3rd fl.)	44
Delmas, C.	15-Jun	4:10PM	Regency A (3rd fl.)	45	Halabe, U.B.	15-Jun	2:00PM	Regency B (3rd fl.)	45
Demange, V.	15-Jun	3:20PM	Regency A (3rd fl.)	45	Halbig, M.C.	15-Jun	1:50PM	Regency E (3rd fl.)	44
Derby, B.	15-Jun	3:10PM	Regency E (3rd fl.)	44	Hari, B.	16-Jun	3:20PM	Oxford (3rd fl.)	40
Deschuyteneer, D.	17-Jun	9:00AM	Georgia A (2nd fl.)	22					

Presenting Author List

Oral Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Hatta, S.	18-Jun	11:40AM	Regency B (3rd fl.)	52	Kim, Y.	18-Jun	5:00PM	Plaza C (2nd fl.)	31
Haugen, A.B.	17-Jun	9:10AM	Prince of Wales (3rd fl.)	42	Kinski, I.	18-Jun	11:40AM	Balmoral (3rd fl.)	36
Hawthorn, D.G.	15-Jun	3:50PM	Plaza B (2nd fl.)	24	Kirihara, S.	15-Jun	4:10PM	Regency E (3rd fl.)	44
Hay, R.S.	16-Jun	10:50AM	Balmoral (3rd fl.)	34	Kirihara, S.	15-Jun	5:10PM	Regency E (3rd fl.)	44
Hay, R.S.	16-Jun	8:20AM	Balmoral (3rd fl.)	33	Kirihara, S.	16-Jun	3:20PM	Regency B (3rd fl.)	47
Hayasaka, D.	15-Jun	5:40PM	Balmoral (3rd fl.)	33	Kirihara, S.	17-Jun	10:20AM	Georgia B (2nd fl.)	34
Hayashi, Y.	17-Jun	10:30AM	Regency F (3rd fl.)	50	Kirihara, S.	18-Jun	9:00AM	Regency B (3rd fl.)	51
He, P.	15-Jun	3:40PM	Plaza C (2nd fl.)	39	Kishimoto, A.	16-Jun	11:00AM	Oxford (3rd fl.)	40
He, T.	19-Jun	10:00AM	Georgia B (2nd fl.)	43	Kita, H.	16-Jun	1:30PM	Prince of Wales (3rd fl.)	41
Heinrich, J.G.	17-Jun	8:30AM	Georgia A (2nd fl.)	22	Kita, K.	16-Jun	10:00AM	Prince of Wales (3rd fl.)	41
Heinz, H.	16-Jun	10:30AM	Regency E (3rd fl.)	46	Kita, K.	17-Jun	11:00AM	Regency B (3rd fl.)	49
Heinz, H.	16-Jun	9:00AM	Regency F (3rd fl.)	47	Kitayama, M.	15-Jun	1:30PM	Prince of Wales (3rd fl.)	39
Heinz, H.	17-Jun	8:30AM	Regency F (3rd fl.)	50	Kitiwan, M.	18-Jun	10:00AM	Prince of Wales (3rd fl.)	35
Hellmann, J.R.	18-Jun	1:30PM	Georgia A (2nd fl.)	37	Kiyohara, M.	19-Jun	10:00AM	Regency B (3rd fl.)	54
Hemrick, J.	18-Jun	9:00AM	Georgia A (2nd fl.)	37	Kizaki, T.	19-Jun	11:00AM	Regency A (3rd fl.)	54
Henager, C.H.	19-Jun	8:30AM	Plaza A (2nd fl.)	32	Klemm, H.	15-Jun	3:20PM	Balmoral (3rd fl.)	33
Higuchi, M.	19-Jun	11:30AM	Regency A (3rd fl.)	54	Knoblauch, N.	15-Jun	4:40PM	Georgia B (2nd fl.)	24
Hinoki, T.	16-Jun	9:00AM	Regency B (3rd fl.)	46	Ko, M.	16-Jun	2:30PM	Georgia B (2nd fl.)	25
Hirata, Y.	16-Jun	10:00AM	Oxford (3rd fl.)	40	Kobayashi, K.	15-Jun	2:40PM	Regency F (3rd fl.)	44
Hosokawa, S.	16-Jun	5:00PM	Oxford (3rd fl.)	40	Koch, D.	15-Jun	1:30PM	Georgia B (2nd fl.)	23
Hotta, Y.	15-Jun	2:20PM	Regency F (3rd fl.)	44	Kocic, L.	17-Jun	11:50AM	Regency B (3rd fl.)	49
Hu, D.	18-Jun	9:20AM	Regency E (3rd fl.)	52	Kohyama, A.	15-Jun	4:20PM	Balmoral (3rd fl.)	33
Hu, J.	15-Jun	4:30PM	Georgia A (2nd fl.)	21	Kombamuthu, V.	15-Jun	5:20PM	Regency F (3rd fl.)	45
Huang, A.	18-Jun	11:20AM	Georgia A (2nd fl.)	37	Kombamuthu, V.	17-Jun	10:50AM	Georgia B (2nd fl.)	35
Huang, J.	16-Jun	8:30AM	Regency A (3rd fl.)	48	Kowalski, P.	16-Jun	2:00PM	Regency E (3rd fl.)	46
Hussain, A.	15-Jun	3:50PM	Regency A (3rd fl.)	45	Koyanagi, T.	19-Jun	10:40AM	Plaza A (2nd fl.)	32
Huynh, M.T.	17-Jun	9:00AM	Regency F (3rd fl.)	50	Kozawa, T.	16-Jun	10:20AM	Regency F (3rd fl.)	48
I					Kpogbemabou, D.	15-Jun	5:40PM	Plaza C (2nd fl.)	39
Iavarone, M.	16-Jun	3:20PM	Plaza B (2nd fl.)	28	Krenkel, W.	15-Jun	2:00PM	Balmoral (3rd fl.)	33
Iizuka, K.	16-Jun	4:50PM	Regency A (3rd fl.)	48	Krishnan, V.V.	15-Jun	5:10PM	Plaza A (2nd fl.)	23
Imai, H.	15-Jun	5:10PM	Regency A (3rd fl.)	45	Kriven, W.M.	15-Jun	2:00PM	Plaza C (2nd fl.)	39
Imai, H.	16-Jun	8:50AM	Regency A (3rd fl.)	48	Kriven, W.M.	15-Jun	4:40PM	Plaza C (2nd fl.)	39
Imanaka, Y.	18-Jun	4:20PM	Regency B (3rd fl.)	52	Krohns, S.	18-Jun	4:30PM	Plaza C (2nd fl.)	31
Imanaka, Y.	19-Jun	8:30AM	Balmoral (3rd fl.)	53	Kroll, S.	15-Jun	4:20PM	Prince of Wales (3rd fl.)	40
Iqbal, K.	16-Jun	9:00AM	Balmoral (3rd fl.)	33	Kruesemann, H.	17-Jun	9:30AM	Georgia A (2nd fl.)	22
J					Kuhn, M.	15-Jun	2:20PM	Prince of Wales (3rd fl.)	39
Jancar, B.	18-Jun	5:00PM	Plaza B (2nd fl.)	30	Kumada, N.	16-Jun	2:00PM	Oxford (3rd fl.)	40
Janssen, R.	15-Jun	1:30PM	Georgia A (2nd fl.)	21	Kumagai, M.	19-Jun	9:20AM	Plaza B (2nd fl.)	31
Janssen, R.	16-Jun	11:10AM	Balmoral (3rd fl.)	34	Kurnia, F.	18-Jun	4:20PM	Georgia B (2nd fl.)	43
Janssen, R.	18-Jun	9:20AM	Prince of Wales (3rd fl.)	35	Kuroda, S.	18-Jun	10:40AM	Regency B (3rd fl.)	52
Jarkaneh, R.	18-Jun	11:00AM	Plaza C (2nd fl.)	31	Kurosaki, K.	18-Jun	1:30PM	Plaza B (2nd fl.)	29
Jhang, S.	16-Jun	5:40PM	Regency B (3rd fl.)	47	Kusano, D.	16-Jun	11:30AM	Regency B (3rd fl.)	47
Jia, D.	17-Jun	10:50AM	Regency E (3rd fl.)	50	Kwak, C.	16-Jun	4:10PM	Georgia A (2nd fl.)	42
Jiang, D.	15-Jun	2:00PM	Georgia A (2nd fl.)	21	Kwok, W.	16-Jun	1:30PM	Plaza B (2nd fl.)	27
Joya, K.S.	18-Jun	9:00AM	Georgia B (2nd fl.)	43	Kwon, O.	15-Jun	2:40PM	Balmoral (3rd fl.)	33
Jung, I.	16-Jun	2:30PM	Oxford (3rd fl.)	40	L				
K					Laoui, T.	15-Jun	5:00PM	Prince of Wales (3rd fl.)	40
Kagawa, Y.	18-Jun	2:00PM	Prince of Wales (3rd fl.)	36	Laoui, T.	17-Jun	11:20AM	Balmoral (3rd fl.)	35
Kale, G.	16-Jun	2:20PM	Georgia A (2nd fl.)	42	Lapina, V.A.	15-Jun	3:50PM	Regency B (3rd fl.)	45
Kamada, K.	16-Jun	3:40PM	Oxford (3rd fl.)	40	Largeteau, A.	19-Jun	11:10AM	Balmoral (3rd fl.)	53
Kano, J.	16-Jun	8:30AM	Regency F (3rd fl.)	47	Lau, S.	16-Jun	3:20PM	Georgia B (2nd fl.)	25
Karimi Sharif, H.	17-Jun	8:30AM	Balmoral (3rd fl.)	35	Lee, C.	16-Jun	3:50PM	Georgia A (2nd fl.)	42
Katoh, Y.	19-Jun	10:00AM	Plaza A (2nd fl.)	32	Lee, S.	17-Jun	11:20AM	Regency E (3rd fl.)	50
Keren, A.	15-Jun	4:20PM	Plaza B (2nd fl.)	24	Lee, S.	18-Jun	9:00AM	Regency E (3rd fl.)	52
Khalifa, H.E.	19-Jun	9:20AM	Plaza A (2nd fl.)	32	Lee, T.	15-Jun	5:20PM	Plaza B (2nd fl.)	24
Khare, S.V.	16-Jun	1:30PM	Regency E (3rd fl.)	46	Lee, W.	16-Jun	2:30PM	Regency A (3rd fl.)	48
Kidner, N.J.	16-Jun	8:30AM	Plaza A (2nd fl.)	24	Lences, Z.	18-Jun	9:20AM	Balmoral (3rd fl.)	36
Kikkawa, S.	18-Jun	10:10AM	Balmoral (3rd fl.)	36	Lertwittayanon, K.	16-Jun	11:50AM	Regency B (3rd fl.)	47
Kim, H.	16-Jun	11:00AM	Regency B (3rd fl.)	47	Levy, G.	16-Jun	5:20PM	Plaza B (2nd fl.)	28
Kim, H.	16-Jun	4:20PM	Balmoral (3rd fl.)	34	Levy, G.S.	18-Jun	11:40AM	Plaza B (2nd fl.)	29
Kim, I.J.	17-Jun	10:40AM	Prince of Wales (3rd fl.)	42	Lewinsohn, C.A.	17-Jun	9:10AM	Plaza A (2nd fl.)	28
Kim, J.	16-Jun	4:15PM	Georgia B (2nd fl.)	25	Lewinsohn, C.A.	18-Jun	9:00AM	Regency F (3rd fl.)	53
Kim, K.	16-Jun	10:10AM	Regency B (3rd fl.)	47	Li, H.	16-Jun	5:10PM	Balmoral (3rd fl.)	34
Kim, S.	16-Jun	3:50PM	Regency F (3rd fl.)	49	Li, J.	16-Jun	11:15AM	Plaza A (2nd fl.)	24
Kim, S.	16-Jun	4:00PM	Oxford (3rd fl.)	40	Li, J.	16-Jun	3:50PM	Regency B (3rd fl.)	47
Kim, S.	16-Jun	9:00AM	Georgia B (2nd fl.)	27	Li, Q.	15-Jun	2:30PM	Regency A (3rd fl.)	45
Kim, S.	18-Jun	10:20AM	Regency A (3rd fl.)	51	Li, Q.	18-Jun	11:10AM	Plaza B (2nd fl.)	29
Kim, S.	19-Jun	11:40AM	Regency B (3rd fl.)	54	Li, X.	19-Jun	10:30AM	Georgia B (2nd fl.)	43
Kim, Y.	15-Jun	2:40PM	Prince of Wales (3rd fl.)	39	Li, Y.	18-Jun	2:40PM	Plaza A (2nd fl.)	30
					Liivat, A.	16-Jun	10:30AM	Plaza C (2nd fl.)	26
					Lim, H.	16-Jun	4:20PM	Regency F (3rd fl.)	49

Oral Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Wilhelmi, C.	18-Jun	10:00AM	Regency F (3rd fl.)	53	Yokokawa, H.	15-Jun	1:55PM	Plaza A (2nd fl.)	23
Winnubst, L.	15-Jun	3:20PM	Prince of Wales (3rd fl.)	39	Yoshimura, M.	17-Jun	8:30AM	Regency B (3rd fl.)	49
Wohlmuth, D.	18-Jun	11:20AM	Plaza C (2nd fl.)	31	Yoshino, M.	17-Jun	8:50AM	Plaza A (2nd fl.)	28
Wolf, C.	15-Jun	4:40PM	Regency B (3rd fl.)	45	Yoshiya, M.	16-Jun	10:00AM	Regency E (3rd fl.)	46
Wolfe, D.E.	18-Jun	10:20AM	Prince of Wales (3rd fl.)	35	Yuh, C.	15-Jun	2:45PM	Plaza A (2nd fl.)	23
Wolter, M.	16-Jun	5:10PM	Plaza C (2nd fl.)	26					
Wu, R.	18-Jun	11:00AM	Regency B (3rd fl.)	52			Z		
Wu, Y.	16-Jun	10:40AM	Georgia A (2nd fl.)	22	Zasadzinski, J.	15-Jun	4:50PM	Plaza B (2nd fl.)	24
Wu, Y.	16-Jun	4:40PM	Regency B (3rd fl.)	47	Zeng, Y.	15-Jun	5:10PM	Georgia A (2nd fl.)	21
Wunderlich, C.	15-Jun	1:30PM	Regency B (3rd fl.)	45	Zeng, Y.	17-Jun	10:10AM	Georgia A (2nd fl.)	22
Wunderlich, C.	15-Jun	3:30PM	Plaza A (2nd fl.)	23	Zhang, D.	15-Jun	3:50PM	Regency F (3rd fl.)	44
		X			Zhang, L.	16-Jun	2:40PM	Regency E (3rd fl.)	46
Xie, R.	18-Jun	2:30PM	Balmoral (3rd fl.)	36	Zhang, L.	18-Jun	11:20AM	Regency F (3rd fl.)	53
Xu, H.	16-Jun	3:50PM	Regency E (3rd fl.)	46	Zhang, P.	15-Jun	4:50PM	Georgia A (2nd fl.)	21
		Y			Zhang, W.	15-Jun	4:40PM	Regency F (3rd fl.)	44
Yagi, M.	16-Jun	4:40PM	Georgia B (2nd fl.)	26	Zhang, Z.	16-Jun	3:50PM	Georgia B (2nd fl.)	25
Yamaguchi, S.	16-Jun	4:40PM	Oxford (3rd fl.)	40	Zhao, G.	16-Jun	2:30PM	Plaza B (2nd fl.)	27
Yamaguchi, Y.	16-Jun	3:50PM	Prince of Wales (3rd fl.)	41	Zheng, L.	18-Jun	8:30AM	Regency A (3rd fl.)	51
Yamashita, S.	16-Jun	2:50PM	Prince of Wales (3rd fl.)	41	Zhong, Y.	18-Jun	4:00PM	Georgia A (2nd fl.)	37
Yang, J.	18-Jun	10:00AM	Plaza B (2nd fl.)	29	Zhou, A.	18-Jun	4:30PM	Georgia A (2nd fl.)	37
Yang, L.	15-Jun	4:30PM	Regency E (3rd fl.)	44	Zhou, X.	15-Jun	2:30PM	Plaza B (2nd fl.)	24
Yashima, M.	16-Jun	10:30AM	Oxford (3rd fl.)	40	Zhou, Y.	15-Jun	3:30PM	Georgia A (2nd fl.)	21
Yasuda, K.	16-Jun	3:20PM	Prince of Wales (3rd fl.)	41	Zhou, Y.	16-Jun	1:30PM	Balmoral (3rd fl.)	34
Ye, Z.	19-Jun	9:20AM	Balmoral (3rd fl.)	53	Zhou, Y.	16-Jun	2:00PM	Regency B (3rd fl.)	47
Yin, L.	16-Jun	4:20PM	Regency E (3rd fl.)	46	Zhu, D.	15-Jun	5:20PM	Balmoral (3rd fl.)	33
					Zhu, D.	18-Jun	1:30PM	Prince of Wales (3rd fl.)	35
					Zuo, P.	16-Jun	9:20AM	Plaza C (2nd fl.)	26

Presenting Author List

Poster Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Alves, A.K.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Mahmood, A.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Benjamin, S.E.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Mahmoudi, T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Bergmann, C.P.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Martin, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Berutti, F.A.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Mitani, Y.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Casalegno, V.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Moon, K.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Chaika, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Muccillo, E.N.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Chang, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Naa, O.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Cherng, J.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Nakayama, T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58
Cho, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Nam, C.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Choi, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Ohashi, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Chun, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Ohtaki, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Cohen, J.D.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Onishi, G.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58
Colomer, M.T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Park, D.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58
de Florio, D.Z.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Park, K.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57, 58
Enomoto, T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Park, Y.K.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Fey, G.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Qurashi, A.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Fujihara, T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Ramasamy, R.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Fukushima, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Reches, Y.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Guo, X.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Rogacheva, E.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Gupta, R.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Samadzadeh, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Gupta, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56, 57	Schwartz, J.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Ha, J.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Seo, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Han, K.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Seo, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Han, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Shimamura, A.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Han, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Shirai, T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Haneda, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56, 57	Singh, P.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Hill, C.D.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Smeacetto, F.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Jang, G.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Tada, R.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Jee, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Tokairin, T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Jeong, Y.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Tsuchiya, T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Joo, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Tsuda, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Jung, J.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Ueno, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Kanno, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Wang, L.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Kim, J.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56, 57	Wang, Y.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55, 56
Kim, K.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Wu, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Kim, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Xia, Y.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Kitayama, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Yamagata, C.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Kocic, L.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Yamamoto, A.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Krishnan, V.V.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Yang, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Kusano, D.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57	Yin, J.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Kwon, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Yoon, J.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58
Kwon, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Yoshiya, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55
Lee, H.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56, 57	Yu, Y.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Lee, S.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55	Zhang, D.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Lee, T.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Zhao, M.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Lee, Y.	16-Jun	6:00PM	Regency C & D (3rd fl.)	58	Zhao, Z.	16-Jun	6:00PM	Regency C & D (3rd fl.)	57
Li, Q.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56	Zhou, A.	16-Jun	6:00PM	Regency C & D (3rd fl.)	56
Lu, C.	16-Jun	6:00PM	Regency C & D (3rd fl.)	55					

2015 – 2016

Meetings & Expositions of THE AMERICAN CERAMIC SOCIETY

JUNE 21 – 25, 2015

14th International Conference of the European Ceramic Society
Toledo, Spain

JULY 20 – 22, 2015

6th Advances in Cement-based Materials (Cements 2015)
Kansas State University
Manhattan, Kansas USA

AUGUST 30 – SEPTEMBER 4, 2015

11th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 11)
ICC JEJU
Jeju Island, Korea

SEPTEMBER 15 – 18, 2015

Unified International Technical Conference on Refractories (UNITECR 2015)
Vienna, Austria

OCTOBER 4 – 8, 2015

Materials Science & Technology 2015, combined with ACerS 117th Annual Meeting (MS&T15)
Greater Columbus Convention Center
Columbus, Ohio USA

NOVEMBER 2 – 5, 2015

76th Conference on Glass Problems (76th GPC)
Greater Columbus Convention Center
Columbus, Ohio USA

JANUARY 20 – 22, 2016

Electronic Materials and Applications (EMA 2016)
DoubleTree by Hilton Orlando at Sea World®
Orlando, Florida USA

JANUARY 24 – 29, 2016

40th International Conference and Expo on Advanced Ceramics and Composites (ICACC'16)
Hilton Daytona Beach Resort/
Ocean Walk Village
Daytona Beach, Florida USA

APRIL 7 – 11, 2016

International Commission on Glass XXIV International Congress 2016
Shanghai, China

APRIL 17 – 21, 2016

Materials Challenges in Alternative & Renewable Energy (MCARE 2016)
Hilton Clearwater Beach Resort
Clearwater, Florida USA

APRIL 26 – 28, 2016

2nd Ceramics Expo
Cleveland, Ohio USA

APRIL 26 – 28, 2016

5th Ceramic Leadership Summit, in conjunction with Ceramics Expo (CLS 2016)
Cleveland, Ohio USA

JUNE 26 – 30, 2016

9th International Conference on High-Temperature Ceramic Matrix Composites (HTCMC 9)
Toronto Marriott Downtown Eaton Centre Hotel
Toronto, Ontario Canada

AUGUST 21 – 26, 2016

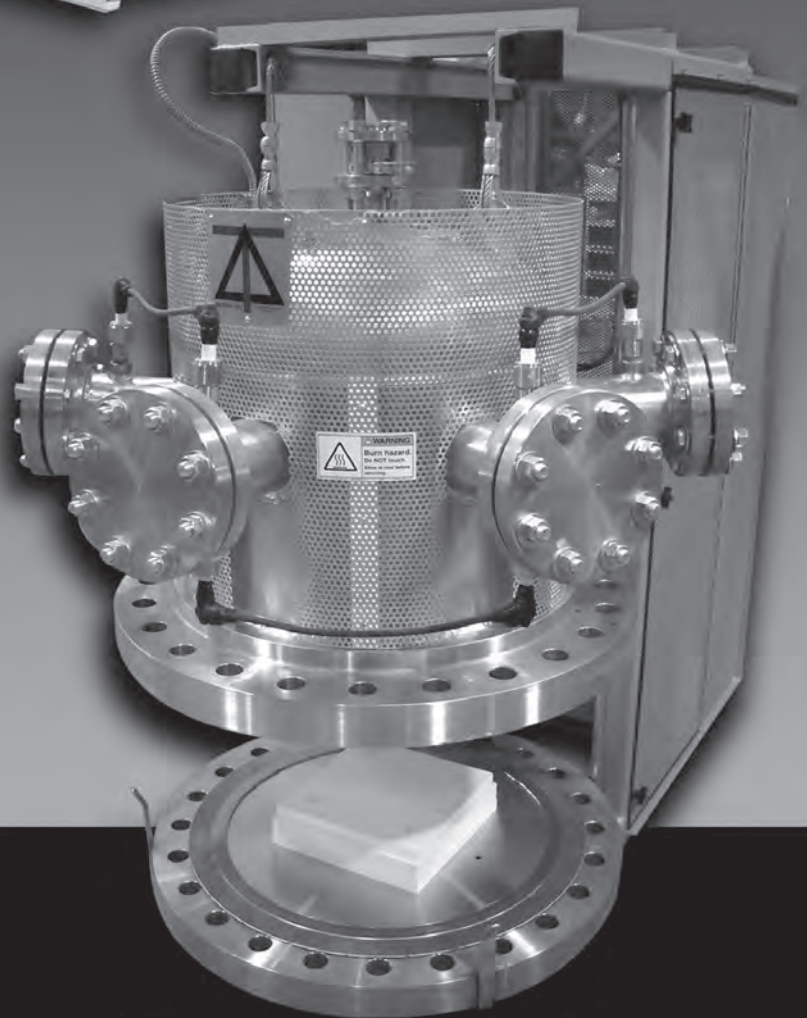
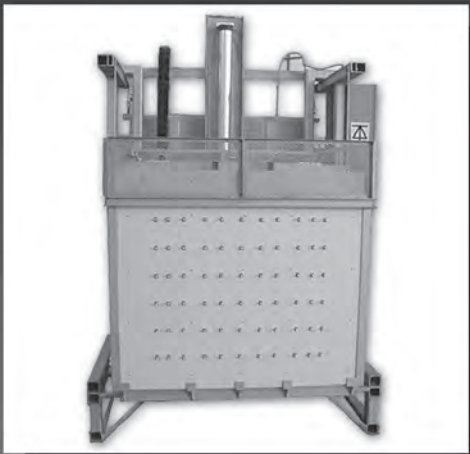
International Congress on Ceramics (ICC6)
Dresden, Germany





Deltech Furnaces

We Build The Furnace To Fit Your Need



Standard or Custom

303-433-5939 • www.deltechfurnaces.com

Monday, June 15, 2015

Plenary Session

Ceramic Technologies for Sustainable Development

Room: Regency C & D (3rd fl.)

Session Chairs: Mrityunjay Singh, Ohio Aerospace Institute; Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST); Alexander Michaelis, Fraunhofer IKTS

8:30 AM

Opening Remarks

8:50 AM

(CMCEE-PL-001-2015) Maximizing the potential of renewable energy

D. Arvizu*; 1. National Renewable Energy Laboratory, USA

9:35 AM

(CMCEE-PL-002-2015) High temperature fuel cells delivering clean, affordable power today

C. Bottone*; 1. FuelCell Energy, Inc., USA

10:20 AM

Break

10:40 AM

(CMCEE-PL-003-2015) CMC applications in turbine engines: Science at scale

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

11:25 AM

(CMCEE-PL-004-2015) Energy efficient manufacturing: What can be done in the technical ceramics industry and which technical ceramic products can help other industries

R. Metzler*; 1. Rauschert GmbH, Germany

Symposium H1: Innovative Processing and Microstructural Design of Advanced Ceramics- A Symposium in Honor of Professor Dongliang Jiang

Processing Science of Si-based Ceramics

Room: Georgia A (2nd fl.)

Session Chairs: Hui Gu, Shanghai University; Rolf Janssen, TU Hamburg-Harburg

1:30 PM

(CMCEE-H1-001-2015) Powder Metallurgical Synthesis of Metal-Ceramic Composites (Invited)

R. Janssen*; R. Besler*; 1. TU Hamburg-Harburg, Germany

2:00 PM

(CMCEE-H1-002-2015) Liquid phase sintering of silicon carbide ceramics (Invited)

D. Jiang*; 1. Shanghai Institute of Ceramics, China

2:30 PM

(CMCEE-H1-003-2015) Evidence of Conventional Densification Behavior During Flash Sintering

Y. Du*; A. J. Stevenson*; D. Marinha*; 1. UMR 3080 CNRS/Saint-Gobain, France

2:50 PM

(CMCEE-H1-004-2015) Pressureless sintering of $TiB_2-TiC_xN_{1-x}$ composites with eutectic composition

Y. Wang*; 1. Harbin Institute of Technology, China

3:10 PM

Break

3:30 PM

(CMCEE-H1-006-2015) Thermal Conductivities of Silicon Nitride Ceramics Doped with Various Rare-Earth Oxide Sintering Additives

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

3:50 PM

(CMCEE-H1-007-2015) Anisotropic Mechanical Properties and Plasma Sputtering Resistance Performances of Textured h-BN Composite Ceramics

X. Duan*; D. Jia*; Y. Zhou*; Z. Tian*; Z. Yang*; P. He*; 1. Harbin Institute of Technology, China

4:10 PM

(CMCEE-H1-008-2015) Solution-precipitation process to dictate phase and microstructure evolution in sintering of SiC ceramics

H. Gu*; 1. Shanghai University, China

4:30 PM

(CMCEE-H1-009-2015) Highly dense C/SiC composite fabricated by reactive melt infiltration process

J. Hu*; Q. Feng*; S. Dong*; X. Zhang*; Z. Wang*; H. Zhou*; 1. Shanghai Institute of Ceramics, China; 2. Donghua University, China

4:50 PM

(CMCEE-H1-010-2015) Synthesis of MAX phase Ti_3SiC_2 from renewable resources

P. Zhang*; D. Pan*; X. Tang*; Y. Zhang*; B. An*; T. Iijima*; Z. Sun*; 1. Southeast University, China; 2. National Institute of Advanced Industrial Science and Technology (AIST), Japan

5:10 PM

(CMCEE-H1-011-2015) Porous Si_3N_4/SiC ceramics prepare via rapid nitridation processing and ZrO_2 as catalyst

Y. Zeng*; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

Tuesday, June 16, 2015

Symposium H1: Innovative Processing and Microstructural Design of Advanced Ceramics- A Symposium in Honor of Professor Dongliang Jiang

Microstructure Design of Ceramics for Energy Applications

Room: Georgia A (2nd fl.)

Session Chairs: Makio Naito, JWRI, Osaka University; Shaoming Dong, Shanghai Institute of Ceramics, Chinese Academy of Sciences

8:30 AM

(CMCEE-H1-012-2015) Carbon Fiber Reinforced Ultra-high Temperature Ceramic Matrix Composites Fabricated by Melt Infiltration Method (Invited)

S. Dong*; L. Zhang*; X. Chen*; Y. Kan*; X. Zhang*; L. Gao*; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

Monday, June 15, 2015

T1S1: High-Temperature Fuel Cells and Electrolysis

High-Temperature Fuel Cell and Electrolysis Technology Review

Room: Plaza A (2nd fl.)

Session Chair: Alexander Michaelis, Fraunhofer IKTS

1:30 PM

(CMCEE-T1-S1-001-2015) Solid Oxide Fuel Cells (SOFCs) and Solid Oxide Electrolysis Cells (SOECs) - Technological Status (Invited)

N. Minh^{*1}; 1. University of California, San Diego, USA

1:55 PM

(CMCEE-T1-S1-002-2015) 10-Year Cooperative Investigations on Durability/Reliability of Stationary SOFCs Among Industries, Research Institutes and Universities within NEDO SOFC projects (Invited)

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

2:20 PM

(CMCEE-T1-S1-003-2015) Solid Oxide Cells – Development Status at Forschungszentrum Jülich (Invited)

D. Roehrens^{*1}; L. Blum¹; L. (. de Haart¹; J. Malzbender¹; N. Margrits¹; N. Menzler¹; 1. Forschungszentrum Jülich GmbH, Germany

2:45 PM

(CMCEE-T1-S1-004-2015) High-Temperature Direct Fuel Cell Material Experience

C. Yuh^{*1}; A. Hilmi¹; R. Venkataraman¹; 1. FuelCell Energy, Inc., USA

3:10 PM

Break

SOFC Stack Development Status and Design Issues

Room: Plaza A (2nd fl.)

Session Chair: Thomas Pfeifer, Fraunhofer IKTS

3:30 PM

(CMCEE-T1-S1-005-2015) Technology Readiness of SOFC Stack Technology - A Review

C. Wunderlich^{*1}; 1. Fraunhofer IKTS, Germany

3:50 PM

(CMCEE-T1-S1-006-2015) Performance variance of anode supported SOFC-stacks: systematic evaluation of material characteristics for maximum output

D. Roehrens^{*1}; J. Szasz²; W. Herzhof¹; A. Weber¹; L. Blum¹; E. Ivers-Tiffée²; N. Menzler¹; O. Guillon¹; 1. Forschungszentrum Jülich GmbH, Germany; 2. Karlsruhe Institute of Technology (KIT), Germany

4:10 PM

(CMCEE-T1-S1-007-2015) Solid Oxide Fuel Cell Stack Development Methodology at Versa Power Systems

B. P. Borglum^{*1}; E. Tang¹; M. Pastula¹; 1. Versa Power Systems Ltd, Canada

4:30 PM

(CMCEE-T1-S1-008-2015) NexTech's Solid Oxide Fuel Cell Stack Technology (Invited)

S. L. Swartz^{*1}; G. B. Arkenberg¹; C. T. Sellers¹; 1. NexTech Materials, Ltd., USA

4:50 PM

(CMCEE-T1-S1-009-2015) Progress in design and performance of CFY-stacks

S. Megel^{*1}; M. Kusnezoff¹; W. Beckert¹; N. Trofimenko¹; C. Dosch¹; A. Michaelis¹; C. Bienert²; M. brandner²; S. Skrabs²; A. Venskutonis²; L. Sigl¹; 1. Fraunhofer IKTS, Germany; 2. Plansee SE, Austria

5:10 PM

(CMCEE-T1-S1-010-2015) Materials to Stack development of Intermediate Temperature (550 - 650°C) Metal Supported SOFCs

K. Bala Subramanian¹; V. V. Krishnan^{*1}; R. Tomov²; R. Kumar²; B. Glowacki²; 1. Non Ferrous Materials Technology Development Center, Hyderabad, INDIA, India; 2. University of Cambridge, United Kingdom

5:30 PM

(CMCEE-T1-S1-011-2015) Self-Repairable High-Temperature Seals for Solid Oxide Fuel Cells

R. Singh^{*1}; 1. Oklahoma State University, USA

T1S8: Materials for Solar Thermal Energy Conversion and Storage

Receiver, Absorber, and Solar Fuels

Room: Georgia B (2nd fl.)

Session Chair: Martin Schmucker, German Aerospace Center

1:30 PM

(CMCEE-T1-S8-001-2015) Development of new SiC based ceramics for continuous energy conversion in photovoltaic application (Invited)

D. Koch^{*1}; M. Friess¹; M. Scheffele¹; S. Weber¹; 1. Institute of Structures and Design, Germany

2:00 PM

(CMCEE-T1-S8-002-2015) Carbon Nanotube and Hafnium Carbide Absorber Coatings for Concentrating Solar Power

B. Weisenseel^{*1}; T. Fey¹; P. Greil¹; 1. Friedrich-Alexander University Erlangen-Nuremberg, Germany

2:20 PM

(CMCEE-T1-S8-003-2015) High Temperature Solar Receivers with Ceramic Materials

B. Gobereit^{*1}; R. Uhlig¹; 1. DLR, Germany

2:40 PM

(CMCEE-T1-S8-004-2015) Tuning the spectral selectivity of SiC-based volumetric solar receivers with ultra-high temperature ceramics coatings

B. Rousseau^{*1}; S. Guevelou¹; J. Vicente¹; C. Caliot¹; G. Flamant¹; 1. CNRS, France

3:00 PM

Break

3:20 PM

(CMCEE-T1-S8-005-2015) Thermo-Mechanical Analysis of a Silicon Carbide Honeycomb Component Applied as an Absorber for Concentrated Solar Radiation

O. Smirnova^{*1}; T. Fend¹; M. Schmucker²; P. Schwarzboezl¹; F. Flucht²; S. Dathe¹; 1. Germany Aerospace Center, Germany; 2. German Aerospace Center, Germany

3:40 PM

(CMCEE-T1-S8-006-2015) Wettability Study of Borosilicate Glass Over Metal Substrates for Development of Glass-Metal Joints

R. Chhibber^{*1}; R. Joshi¹; V. Kumar¹; 1. Indian Institute of Technology Jodhpur, India

4:00 PM

(CMCEE-T1-S8-007-2015) SolarSyngas: Investigation of Redox Materials and Components for Solar-thermochemical Fuels Production

M. Roeb^{*1}; M. Schmucker¹; G. Borchardt²; C. Feldmann³; A. Steinfeld⁴; R. Pitz-Paál¹; 1. DLR, Germany; 2. TU Clausthal, Germany; 3. Karlsruhe Institute of Technology, Germany; 4. ETH Zurich, Switzerland

4:20 PM

(CMCEE-T1-S8-008-2015) Oxygen nonstoichiometry and thermodynamic characterization of doped LaMnO_{3-x} perovskites in the 1573–1773 K temperature range

M. Takacs^{*1}; M. Hoes¹; M. Caduff¹; T. Cooper¹; J. Scheffe²; A. Steinfeld¹; 1. ETH Zurich, Switzerland; 2. University of Florida, USA

4:40 PM**(CMCEE-T1-S8-009-2015) Redox kinetics of doped ceria used for thermochemical hydrogen production**

N. Knoblauch^{*}; M. Schmucker¹; F. Seeliger¹; L. Dörner²; P. Fielitz²; R. De Souza³; G. Borchardt²;
1. Deutsches Zentrum für Luft- und Raumfahrt, Germany; 2. TU Clausthal, Germany; 3. RWTH Aachen, Germany

5:00 PM**(CMCEE-T1-S8-010-2015) Optimizing Nonstoichiometric Perovskite Oxides for Solar Thermochemical Fuel Production**

A. McDaniel^{*}; R. O'Hayre²; J. Tong²; A. Emery³; C. Wolverton³; 1. Sandia National Labs, USA; 2. Colorado School of Mines, USA; 3. Northwestern University, USA

T1S9: High Temperature Superconductors: Materials, Technologies, and Systems**Fundamental Phenomena of High-Tc Superconductors**

Room: Plaza B (2nd fl.)

Session Chairs: Andrea Damascelli, University of British Columbia; Jeffery Tallon, Victoria University of Wellington; Hiroshi Eisaki, AIST

1:30 PM**(CMCEE-T1-S9-001-2015) Thermodynamics and universal behavior in cuprate and pnictide superconductors (Invited)**

J. Tallon^{*}; 1. Victoria University of Wellington, New Zealand

2:00 PM**(CMCEE-T1-S9-002-2015) Charge dynamics of iron-based superconductors : Role of chemical substitution and necessary ingredients for high-Tc superconductivity (Invited)**

H. Eisaki^{*}; 1. University of British Columbia, Canada

2:30 PM**(CMCEE-T1-S9-003-2015) Electronic Structure and High Temperature Superconductivity of FeSe/SrTiO₃ Films (Invited)**

X. Zhou^{*}; 1. Chinese Academy of Sciences, China

3:00 PM**Break****3:20 PM****(CMCEE-T1-S9-004-2015) Charge order in cuprates: from hole to electron doping (Invited)**

A. Damascelli^{*}; 1. University of British Columbia, Canada

3:50 PM**(CMCEE-T1-S9-005-2015) Charge Density Wave Order in Cuprate Superconductors (Invited)**

D. G. Hawthorn^{*}; 1. University of Waterloo, Canada

4:20 PM**(CMCEE-T1-S9-006-2015) Is magnetism relevant to cuprate superconductivity: lanthanides versus charge compensated 123 (Invited)**

A. Keren^{*}; 1. Technion-Israel Institute of Technology, Israel

4:50 PM**(CMCEE-T1-S9-008-2015) Review of Tunneling Spectroscopy Studies of the High Temperature Superconductor Bi₂Sr₂CaCu₂O_{8+δ} (Invited)**

J. Zasadzinski^{*}; L. Ozyuzer³; K. Gray²; D. Hinks²; T. Proslie²; 1. Illinois Institute of Technology, USA; 2. Argonne National Laboratory, USA; 3. Izmir Institute of Technology, Turkey

5:20 PM**(CMCEE-T1-S9-007-2015) Charge orders and superconductivity are connate properties of cuprates (Invited)**

T. Lee^{*}; W. Tu¹; 1. Academia Sinica, Taiwan

5:50 PM**(CMCEE-T1-S9-009-2015) Self-doping interactions between planes and chains in the metal-to-superconductor transition of YBa₂Cu₃O_{6.9} (Invited)**

M. Magnuson^{*}; 1. Linköping University, Sweden

Tuesday, June 16, 2015**T1S1: High-Temperature Fuel Cells and Electrolysis****High-Temperature Protective Coatings**

Room: Plaza A (2nd fl.)

Session Chair: Stefan Megel, Fraunhofer IKTS

8:30 AM**(CMCEE-T1-S1-012-2015) High Temperature Protective Coatings for Metallic SOFC Components**

N. J. Kidner^{*}; S. I. Ibanez¹; M. Seabaugh¹; S. L. Swartz¹; 1. NexTech Materials, USA

8:50 AM**(CMCEE-T1-S1-013-2015) Electrophoretically Deposited Spinel Coatings for Solid Oxide Fuel Cell Interconnections**

S. Basu^{*}; S. Gopalan¹; U. Pal¹; 1. Boston University, USA

9:10 AM**(CMCEE-T1-S1-014-2015) Effect of additives on self-healing of plasma sprayed ceramic coatings**

N. Sata¹; A. Ansar^{*}; 1. German Aerospace Center (DLR), Germany

9:30 AM**Break****Anode-Supported Cells: Materials Development and Fabrication Techniques**

Room: Plaza A (2nd fl.)

Session Chair: Brian Borglum, Versa Power Systems Ltd

10:00 AM**(CMCEE-T1-S1-015-2015) Development of high performance planar solid oxide fuel cells with microstructure-controlled electrodes**

H. Shimada^{*}; T. Suzuki¹; Y. Fujishiro¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

10:25 AM**(CMCEE-T1-S1-016-2015) Low temperature ac electric field-assisted sintering of unitary anode-supported solid oxide fuel cell (Invited)**

R. Muccillo^{*}; E. N. Muccillo¹; F. C. Fonseca¹; D. Z. de Florio²; 1. IPEN, Brazil; 2. UFABC, Brazil

10:50 AM**(CMCEE-T1-S1-018-2015) Nb-doped SrTiO₃ and Gd-doped CeO₂ composites : Potential anodes for solid oxide fuel cell applications**

B. Sudireddy^{*}; S. veltzé¹; J. Nielsen¹; P. Jørgensen¹; T. Ramos¹; 1. Technical University of Denmark, Denmark

11:15 AM**(CMCEE-T1-S1-019-2015) Large gas permeability nickel/alumina substrates with hierarchical pore structure for solid oxide fuel cells derived from particle-stabilized emulsions**

J. Li^{*}; X. Wang¹; 1. China University of Geosciences, China

SOFC Electrodes: Materials Development and Long-term Stability Issues

Room: Plaza A (2nd fl.)

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

1:30 PM

(CMCEE-T1-S1-020-2015) Synthesis and Characterization of Solid Oxide Fuel Cells Materials

D. A. Mendoza*; M. Hinojosa; A. M. Arato; M. Cassir; J. Chavez; 1. U.A.N.L., Mexico; 2. ENSCP, France; 3. UNAM, Mexico

1:50 PM

(CMCEE-T1-S1-021-2015) Degradation of LSM-Based SOFC Cathodes Under Accelerated Test Conditions

M. R. De Guire*; N. Hilli; H. Parikh; C. Cooper; R. Zienert; A. H. Heuer; 1. Case Western Reserve University, USA

2:10 PM

(CMCEE-T1-S1-022-2015) Development of Nanostructured Ceramic Component Materials for Solid Oxide Fuel Cell and Studies of Cell Degradation (Invited)

R. N. Basu*; 1. CSIR-Central Glass & Ceramic Research Institute, India

2:30 PM

(CMCEE-T1-S1-023-2015) Nickel and titanium co-doped lanthanum chromite based perovskite for high temperature electrochemical devices (Invited)

S. Gupta*; P. Singh; M. K. Mahapatra; 1. University of Connecticut, USA

2:50 PM

Break

3:10 PM

(CMCEE-T1-S1-024-2015) The Role of Grain Boundaries and Porosity in Reduction and Oxidation of Nickel-Zirconia Composites

I. Reimanis*; A. Morrissey; 1. Colorado School of Mines, USA

3:30 PM

(CMCEE-T1-S1-025-2015) Performance and interfacial stability of strontium and iron doped lanthanum chromite and stabilized zirconia composite fuel electrode for solid oxide fuel cell (Invited)

S. Gupta*; P. Singh; M. K. Mahapatra; 1. University of Connecticut, USA

Electrolytes and MEAs: Materials Development and Fabrication Techniques

Room: Plaza A (2nd fl.)

Session Chair: Reginaldo Muccillo, IPEN

4:20 PM

(CMCEE-T1-S1-026-2015) Development of Ceramic Functional Layers for Solid Oxide Cells (Invited)

K. Friedrich*; R. Costa; G. Schiller; 1. German Aerospace Centre (DLR), Germany

4:40 PM

(CMCEE-T1-S1-027-2015) Fabrication of thin yttria-stabilized-zirconia dense electrolyte layers by inkjet printing for high performing solid oxide fuel cells (Invited)

C. Gadea*; V. Esposito; J. Hjelm; D. Marani; Q. Hu; K. Agersted; S. Ramousse; S. Højgaard; 1. DTU Energy, Denmark

5:00 PM

(CMCEE-T1-S1-028-2015) Fabrication and Evaluation of YSZ Thin-Film Electrolyte SOC by Multi-Layer Tape Casting and Co-Sintering Process

Q. Liu*; J. Zhou; S. Chan; 1. Nanyang Technological University, Singapore

5:20 PM

(CMCEE-T1-S1-029-2015) BIMEVOX ceramics as an intermediate temperature SOFC electrolyte: Another look

P. A. Fuierer*; K. Ring; J. Exner; R. Moos; 1. New Mexico Tech, USA; 2. University of Bayreuth, Germany

5:40 PM

(CMCEE-T1-S1-030-2015) Influence of Ca²⁺ ion doping on the phase transformation and thermal expansion properties of LaNbO₄

D. Lowry; P. Sarin*; 1. Oklahoma State University, USA

T1S6: Advanced Multifunctional Nanomaterials and Systems for Photovoltaic and Photonic Technologies

Photovoltaics and Photonics I

Room: Georgia B (2nd fl.)

Session Chair: Yoon-Bong Hahn, Chonbuk National University

1:30 PM

(CMCEE-T1-S6-001-2015) 4G Hybrid Solar Cells and Optimising Light Harvesting in OPV (Invited)

S. R. Silva*; K. Jayawardena; B. Fischer; K. Gandhi; D. Kutsarov; C. Smith; N. Nismy; L. Rozanski; C. Mills; V. Stolojan; M. Beliatis; 1. University of Surrey, United Kingdom

2:00 PM

(CMCEE-T1-S6-002-2015) Advanced nanoscale characterisation methods for organic PVs and other nanoscale electronic materials (Invited)

F. A. de Castro*; N. Kumar; A. Zoladek-Lemanczyk; A. Guilbert; J. Nelson; D. Roy; 1. National Physical Laboratory, United Kingdom; 2. Imperial College London, United Kingdom

2:30 PM

(CMCEE-T1-S6-003-2015) Facile and Rapid Fabrication of Cost-Effective Flexible Mesoporous Dye-Sensitized Solar Cells (Invited)

M. Ko*; 1. Korea Institute of Science and Technology (KIST), Korea

3:00 PM

Break

Photovoltaics and Photonics II

Room: Georgia B (2nd fl.)

Session Chair: Giovanni Fanchini, University of Western Ontario

3:20 PM

(CMCEE-T1-S6-004-2015) Enhancement of Si-based solar cells via photon management (Invited)

S. Lau*; 1. The Hong Kong Polytechnic University, Hong Kong

3:50 PM

(CMCEE-T1-S6-005-2015) Heterostructure ZnO nanowire arrays for solar energy harvesting applications (Invited)

Z. Zhang*; 1. Pohang University of Science and Technology (POSTECH), Korea

4:15 PM

(CMCEE-T1-S6-006-2015) Multifunctional nanostructured thin-film materials fabricated by oblique-angle deposition for photonics applications (Invited)

J. Kim*; 1. POSTECH, Korea

4:40 PM**(CMCEE-T1-S6-007-2015) Development of nanostructured metal oxide semiconductor photoanodes for efficient visible-light-driven water oxidation (Invited)**M. Yagi^{*1}; 1. Niigata University, Japan**5:05 PM****(CMCEE-T1-S6-008-2015) The role of surfaces and interfaces in multifunctional materials (Invited)**F. Rosei^{*1}; 1. INRS, Canada**5:30 PM****(CMCEE-T1-S6-009-2015) Functionalized GaAs/AlGaAs Nano-heterostructures for Photonic Sensing of Surface Immobilized Molecules (Invited)**J. Dubowski^{*1}; 1. Sherbrooke University, Canada**5:55 PM****(CMCEE-T1-S6-010-2015) Thermometry and Imaging using Gold Nanorods - Temperature-Sensing in the Terahertz Regime (Invited)**R. Nacache¹; A. Mazhorova¹; M. Clerici²; L. Razzari¹; F. Vetrone¹; R. Morandotti^{*1}; 1. L'Institut National de la Recherche Scientifique, Canada; 2. Heriot-Watt University, United Kingdom

T1S7: Advanced Batteries and Supercapacitors for Energy Storage Applications

Lithium-ion Battery (Cathode Materials)

Room: Plaza C (2nd fl.)

Session Chairs: Palani Balaya, National University of Singapore; Young-Jun Kim, Korea Electronics Technology Institute

8:30 AM**(CMCEE-T1-S7-001-2015) Melt-synthesis of LiFePO₄ using non-expensive raw materials (Invited)**M. Talebi-Esfandarani¹; S. Rousselot¹; M. Gauthier¹; P. Sauriol²; P. Chartrand²; K. Ruying³; X. Sun³; G. Liang⁴; M. Dollé^{*1}; 1. Université de Montreal, Canada; 2. Ecole Polytechnique de Montréal, Canada; 3. University Western Ontario, Canada; 4. Clariant Canada Inc., Canada**9:00 AM****(CMCEE-T1-S7-002-2015) Novel synthesis and electrochemical characterization of LiFePO₄ and NaFePO₄ cathode materials**D. Ribero^{*1}; W. M. Kriven¹; 1. University of Illinois, USA**9:20 AM****(CMCEE-T1-S7-003-2015) High Performance Iron-doped Lithium Manganese Phosphate Composite for Lithium-ion Batteries**P. Zuo^{*1}; 1. Harbin Institute of Technology, China**9:40 AM****Break****10:00 AM****(CMCEE-T1-S7-004-2015) Intercalation-Induced Phase Transitions in Binary and Ternary Vanadium Oxides: Lessons for Cathode Design (Invited)**S. Banerjee^{*1}; 1. Texas A&M University, USA**10:30 AM****(CMCEE-T1-S7-005-2015) Silicates: from insulators to rechargeable Li-ion battery materials (Invited)**A. Liivat^{*1}; 1. Uppsala University, Sweden**11:00 AM****(CMCEE-T1-S7-006-2015) High Energy Density Lithium-ion Battery: Vanadium Based Cathode Materials (Invited)**S. Mitra^{*1}; 1. Indian Institute of Technology Bombay, India**11:30 AM****(CMCEE-T1-S7-007-2015) The influence of the synthesis route on electrochemical properties of spinel type high-voltage cathode material LiNi_{0.5}Mn_{1.5}O₄ for lithium ion batteries**K. Nikolowski^{*1}; M. Seidel¹; M. Wolter¹; K. Waetzig¹; I. Kinski¹; A. Michaelis¹; 1. Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany; 2. TU Dresden, Germany**11:50 AM****(CMCEE-T1-S7-008-2015) Synthesis and electrochemical performance of 5V spinel LiNi_{0.5}Mn_{1.5}O₄ for Li-ion batteries**C. Lu^{*1}; S. Liao¹; J. Chen¹; J. Huang²; J. Huang²; 1. Industrial Technology Research Institute, Taiwan; 2. Chinese Petroleum Corporation, Taiwan

Lithium-ion Batteries (Anode Materials)/Sodium-ion Batteries

Room: Plaza C (2nd fl.)

Session Chairs: Pengjian Zuo, Harbin Institute of Technology; Mickael Dollé, Université de Montreal

1:30 PM**(CMCEE-T1-S7-009-2015) High Substitution rate in TiO₂ anatase nanoparticles: Impacts on the intercalation properties (Invited)**D. Dambournet^{*1}; 1. Sorbonne Universités, France**2:00 PM****(CMCEE-T1-S7-010-2015) Nanostructured transition metal oxides as excellent anode materials of lithium batteries (Invited)**Q. Pan^{*1}; 1. Harbin Institute of Technology, China**2:30 PM****(CMCEE-T1-S7-011-2015) From MAX to MXene - From 3D to 2D (Invited)**M. Ghidui¹; M. Naguib²; M. Lukatskaya¹; Y. W. Gogotsi¹; M. W. Barsoum^{*1}; 1. Drexel University, USA; 2. Oak Ridge National Lab, USA**3:00 PM****Break****3:20 PM****(CMCEE-T1-S7-012-2015) Advanced materials for Na-ion batteries. An emerging technology (Invited)**T. Rojo^{*1}; 1. CIC Energigune, Spain**3:50 PM****(CMCEE-T1-S7-013-2015) New Electrode Materials for Na and Li ion batteries: a good way to discover new mechanism (Invited)**V. Pralong^{*1}; 1. CNRS ENSICAEN, France**4:20 PM****(CMCEE-T1-S7-014-2015) Sodium fluorophosphates and pyrophosphates for Na-ion batteries: Recent advances and challenges (Invited)**V. Palomares-Durán^{*1}; P. Serras²; T. Rojo³; 1. University of the Basque Country UPV/EHU, Spain; 2. BCMaterials, Spain; 3. CIC Energigune, Spain**4:50 PM****(CMCEE-T1-S7-015-2015) Sodium titanates as viable anode material for sodium-ion battery applications**A. Rudola¹; P. Balaya^{*1}; 1. National University of Singapore (NUS), Singapore**5:10 PM****(CMCEE-T1-S7-016-2015) Development of environmentally friendly and low-cost technologies for lithium ion battery production**M. Wolter^{*1}; D. M. Leiva Pinzon¹; S. Börner¹; K. Nikolowski¹; 1. Fraunhofer IKTS, Germany

T1S8: Materials for Solar Thermal Energy Conversion and Storage

Thermal Storage, Heat Media

Room: Georgia B (2nd fl.)

Session Chair: Dileep Singh, Argonne National Lab

8:30 AM

(CMCEE-T1-S8-011-2015) Redox-oxide-based porous ceramics for efficient solar thermal energy conversion and storage (Invited)

C. C. Agrafiotis*; A. Becker¹; M. Roeb¹; C. Sattler¹; 1. DLR-German Aerospace Center, Germany

9:00 AM

(CMCEE-T1-S8-012-2015) Development and Thermophysical Properties of Novel Carbonate Molten Salt for Thermal Energy Storage

S. Kim*; K. Uematsu¹; K. Toda¹; M. Sato¹; 1. Niigata University, Japan

9:20 AM

(CMCEE-T1-S8-013-2015) High-Temperature Latent Heat Based Thermal Energy Storage (LHTES) System for Concentrated Solar Power

D. Singh*; 1. Argonne National Lab, USA

9:40 AM

Break

10:00 AM

(CMCEE-T1-S8-014-2015) Specific Heat, Thermal Expansion, Thermal Conductivity of Nitrates measured by Thermal Analysis Techniques

E. Post*; M. Parken²; 1. NETZSCH Geraetebau GmbH, Germany; 2. NETZSCH Instruments LLC, USA

10:20 AM

(CMCEE-T1-S8-016-2015) Determination of Metal Oxides Suitable for Use in Thermal Energy Storage (Invited)

S. Neti¹; L. Solomon*; A. Oztekin¹; H. Jain²; 1. LEHIGH UNIVERSITY, USA; 2. Lehigh University, USA

10:50 AM

(CMCEE-T1-S8-017-2015) Cobalt containing metal oxide systems as high temperature thermochemical storage materials

T. Block*; H. Simon¹; M. Schmucker¹; 1. DLR, Germany

11:10 AM

(CMCEE-T1-S8-018-2015) Phase Change Materials for Solar Energy Storage

M. White*; J. Noël¹; S. Kahwaji¹; P. Allred¹; L. Desgrosseilliers¹; C. Whitman¹; A. Joseph¹; M. Kabbara¹; A. Kheirabadi¹; D. Groulx¹; 1. Dalhousie University, Canada

11:30 AM

(CMCEE-T1-S8-019-2015) Increased Thermal Energy Storage Capacity for Eutectic Salts Used in Concentrated Solar Power

D. Singh*; 1. Argonne National Lab, USA

T1S9: High Temperature Superconductors: Materials, Technologies, and Systems

Topological and Nanostructured Superconductivity

Room: Plaza B (2nd fl.)

Session Chair: John Wei, University of Toronto

8:40 AM

(CMCEE-T1-S9-011-2015) Anomalous proximity effect and more than one Majorana fermion (Invited)

Y. Asano*; 1. Hokkaido University, Japan

9:10 AM

(CMCEE-T1-S9-012-2015) Universal parity-crossing statistics in dirty normal-superconductor nanostructures (Invited)

I. Adagideli*; 1. Sabanci University, Turkey

9:40 AM

Break

10:00 AM

(CMCEE-T1-S9-013-2015) Towards topological superconductivity in InAs/GaSb heterostructures (Invited)

V. Pribiag*; 1. University of Minnesota, USA

10:30 AM

(CMCEE-T1-S9-014-2015) Novel low-energy electronic excitations at the domain wall between two competing superconducting order parameters (Invited)

L. Covaci*; 1. University of Antwerp, Belgium

11:00 AM

(CMCEE-T1-S9-015-2015) Optimizing and Exploring Two-Dimensional Atomic High Temperature Superconductors (Invited)

K. Burch*; 1. Boston College, USA

Superconductivity Enhancement and Pairing Mechanism

Room: Plaza B (2nd fl.)

Session Chairs: Amit Keren, Technion-Israel Institute of Technology; Kenneth Burch, Boston College; Andrea Damascelli, University of British Columbia

1:30 PM

(CMCEE-T1-S9-016-2015) Irradiation Enhancement of Critical Current in High Performance High Temperature Superconductors (Invited)

W. Kwok*; K. Kihlstrom¹; M. Leroux¹; B. Shen¹; L. Fang¹; Y. Jia¹; A. Koshelev¹; D. Miller¹; U. Welp¹; I. Sadovskiy¹; A. Glatz¹; J. Zuo²; S. Zhu²; G. Crabtree³; A. Kayani³; L. Civale³; M. Rupich³; S. Fleshler³; Y. Zhang³; 1. Argonne National Laboratory, USA; 2. University of Illinois-Urbana Champaign, USA; 3. Western Michigan University, USA; 4. Los Alamos National Laboratory, USA; 5. American Superconductor Corporation, USA; 6. SuperPower Inc., USA

2:00 PM

(CMCEE-T1-S9-017-2015) New approaches for enhancing T_c (Invited)

M. Osofsky*; C. Krowne¹; R. J. Soulen²; E. Clements¹; G. Woods³; H. Srikanth³; I. Takeuchi⁴; V. Smolyaninova⁵; B. Yost⁵; K. Zander⁵; T. Gresock⁵; S. Saha⁵; R. Greene⁵; I. Smolyaninova⁵; 1. Naval Research Laboratory, USA; 2. Retired, USA; 3. University of South Florida, USA; 4. University of Maryland, USA; 5. Towson University, USA

2:30 PM

(CMCEE-T1-S9-018-2015) Polaronic high-temperature superconductivity in bismuth, copper, and iron-based superconductors (Invited)

G. Zhao*; 1. California State University at Los Angeles, USA

3:00 PM

Break

3:20 PM

(CMCEE-T1-S9-019-2015) STM investigation of FeSe_{1-x}S_x (Invited)M. Iavarone^{*}; S. A. Moore¹; E. Lechner¹; J. Curtis²; O. Volkova³; A. Vasiliev³; D. A. Chareev⁴; G. Karapetrov²; 1. Temple University, USA; 2. Drexel University, USA; 3. M.V. Lomonosov Moscow State University, Russian Federation; 4. Institute of Experimental Mineralogy, Russian Federation

3:50 PM

(CMCEE-T1-S9-020-2015) Complete phase diagram and giant increase of T_c in FeSe_{1-x}Te_x thin films (Invited)A. Maeda^{*}; 1. University of Tokyo, Japan

4:20 PM

(CMCEE-T1-S9-021-2015) Effect of electron irradiation on the superconducting gap structure in iron pnictides (Invited)Y. Mizukami^{*}; M. Konczykowski²; S. Kasahara³; K. Hashimoto³; V. Mishra⁴; A. Kreisel⁵; Y. Wang⁶; P. Hirschfeld⁷; Y. Matsuda⁸; T. Shibauchi¹; 1. University of Tokyo, Japan; 2. Ecole Polytechnique, France; 3. Kyoto University, Japan; 4. Argonne National Laboratory, USA; 5. University of Florida, USA

4:50 PM

(CMCEE-T1-S9-022-2015) Tuning the superconductivity in single-layer FeSe/oxides by interface engineering (Invited)R. Peng^{*}; H. Xu¹; D. Feng¹; 1. Fudan University, China

5:20 PM

(CMCEE-T1-S9-023-2015) Probing the role of transition metal substitution in iron-pnictides superconductors (Invited)G. Levy^{*}; S. Chi¹; L. Chauviere¹; V. Strocov²; L. Patthey²; R. Sutarto³; D. Chevrier³; T. Regier³; R. Blyth³; J. Geck⁴; S. Wurmehl⁴; L. Harnagea⁴; H. Wadati⁵; T. Mizokawa⁶; I. Elfimov⁶; G. Sawatzky⁷; A. Damascelli¹; 1. University of British Columbia, Canada; 2. Swiss Light Source, Switzerland; 3. Canadian Light Source, Canada; 4. Institute for Solid State Research, Germany; 5. Institute for Solid State Physics (ISSP), Japan; 6. Department of Complexity Science and Engineering, Japan

5:50 PM

(CMCEE-T1-S9-024-2015) The Phase Diagram of Electron-Doped La_{2-x}Ce_xCuO_{4-δ} superconductors (Invited)H. Saadaoui^{*}; 1. TRIUMF laboratory, Canada

Wednesday, June 17, 2015

T1S1: High-Temperature Fuel Cells and Electrolysis

SOFC & SOEC System Concept Analyses, Test and Demonstration

Room: Plaza A (2nd fl.)

Session Chair: Christian Wunderlich, Fraunhofer IKTS

8:30 AM

(CMCEE-T1-S1-031-2015) Symbolic Analysis of Multi-Stage Electrochemical Oxidation for Enhancement of Electric Efficiency of SOFCs (Invited)Y. Matsuzaki^{*}; Y. Tachikawa²; T. Hatae¹; H. Matsumoto²; S. Taniguchi³; K. Sasaki³; 1. Tokyo Gas CO., Ltd., Japan; 2. Kyushu University WPI-I2CNER, Japan; 3. Kyushu University, Japan

8:50 AM

(CMCEE-T1-S1-032-2015) Development of Highly-efficient Energy Storage System Using Solid Oxide Type Electrochemical Cells (Invited)M. Yoshino^{*}; T. Kameda¹; H. Watanabe¹; M. Yamada¹; 1. Toshiba Corporation, Japan

9:10 AM

(CMCEE-T1-S1-033-2015) Compact, High Temperature Heat Exchangers for Efficient Power Generation and Energy Conversion (Invited)C. A. Lewinsohn^{*}; J. Fellows¹; 1. Ceramatec, Inc., USA

9:30 AM

Break

9:50 AM

(CMCEE-T1-S1-034-2015) SOFC System Development and Field Trials for Commercial ApplicationsT. Pfeifer^{*}; S. Reuber¹; M. Hartmann¹; M. Barthel¹; J. Baade¹; 1. Fraunhofer IKTS, Germany

T1S3: Photovoltaic Materials, Devices, and Systems

Photovoltaic Materials, Devices, and Systems

Room: Plaza B (2nd fl.)

Session Chairs: Tohru Sekino, Osaka University; Yoshikazu Suzuki, University of Tsukuba

8:45 AM

(CMCEE-T1-S3-001-2015) Dye-sensitized solar cells using double-oxide electrodes (Invited)Y. Suzuki^{*}; Y. Okamoto¹; N. Ishii¹; 1. University of Tsukuba, Japan

9:15 AM

(CMCEE-T1-S3-003-2015) Multifunctional materials for electronics and photonics (Invited)F. Rosei^{*}; 1. INRS, Canada

9:55 AM

Break

10:15 AM

(CMCEE-T1-S3-004-2015) Fabrication and Photo Sensing Properties on Pyroelectric light detector with CNT and PVDF Hybrid Thin FilmsT. Nakayama^{*}; K. Yoshida¹; M. T. Huynh¹; T. Suzuki¹; H. Suematsu¹; K. Niihara¹; 1. Nagaoka Univ of Tech, Japan

10:40 AM

(CMCEE-T1-S3-005-2015) Structure Tuning of Titania Nanotubes by Doping and their Photovoltaic CharacteristicsT. Sekino^{*}; H. Sugiyama²; H. Nishida¹; D. Park²; S. Tanaka²; 1. Osaka University, Japan; 2. Tohoku University, Japan

11:05 AM

(CMCEE-T1-S3-006-2015) Thermoelectric generator used in fire-alarm temperature sensingW. Wu¹; Z. Du¹; J. Cui^{*1}; Y. Deng²; 1. Ningbo University of Technology, China; 2. Beihang University, China

T1S7: Advanced Batteries and Supercapacitors for Energy Storage Applications

Emerging Technologies: Li-air battery/Li-S battery/Na-air battery

Room: Plaza C (2nd fl.)

Session Chairs: Partha Mukherjee; Teofilo Rojo, CIC Energigune

8:30 AM

(CMCEE-T1-S7-017-2015) Lithium Air Batteries: Myth or Reality? – A combined multiscale modeling/experimental investigation (Invited)A. A. Franco^{*1}; Y. Yin¹; K. Xue¹; D. Larcher¹; 1. Université de Picardie Jules Verne, France

9:00 AM

(CMCEE-T1-S7-018-2015) Charge Transport in Peroxides and Superoxides: Relevance for Sodium-Air Batteries (Invited)

D. Siegel*; 1. University of Michigan, USA

9:30 AM

Break

9:50 AM

(CMCEE-T1-S7-019-2015) Explorative investigation on rechargeable lithium air battery (Invited)D. Wang*; Z. Liu¹; Y. Fang¹; H. Lin¹; 1. Chinese Academy of Science, China

10:20 AM

(CMCEE-T1-S7-020-2015) Doped carbon host materials in Li-S batteries (Invited)T. Fellingner*; A. Vizintin²; F. Schipper¹; J. Pampel¹; L. Chabanne¹; R. Dominko¹; M. Antonietti¹; 1. MPI of Colloids and Interfaces, Germany; 2. NIC, Slovenia

10:50 AM

(CMCEE-T1-S7-021-2015) Cathodes for Lithium Sulfur Batteries (Invited)F. Nitze*; K. Fossum¹; S. Andersson¹; S. Xiong²; A. Matic¹; A. Palmqvist¹; 1. Chalmers University of Technology, Sweden; 2. National University of Defense Technology, China

11:20 AM

(CMCEE-T1-S7-022-2015) Influence of Cathode Microstructure in the Lithium-Sulfur BatteryZ. Liu¹; C. Chen¹; P. Mukherjee*; 1. Texas A&M University, USA

11:40 AM

(CMCEE-T1-S7-023-2015) Use of fluorinated graphene based separator interlayer in lithium-sulfur batteryA. Vizintin*; M. Lozinsek²; M. Patel¹; G. Mali¹; G. Drazic¹; R. Chellappan³; R. Dedryvère³; B. Genorio¹; R. Dominko¹; 1. National Institute Of Chemistry, Slovenia; 2. Jozef Stefan Institute, Slovenia; 3. IPREM-ECP (UMR 5254 CNRS), University of Pau, France**Thursday, June 18, 2015****T1S2: Ceramics-Related Materials, Devices, and Processing for Heat-to-Electricity Direct Conversion Aiming at Green and Sustainable Human Society****Nano/Tellurides**

Room: Plaza B (2nd fl.)

Session Chairs: Qiang Li, Brookhaven National Lab; Michitaka Ohtaki, Kyushu University

8:30 AM

(CMCEE-T1-S2-001-2015) Chalcogenide-type Nanostructures: Topological Insulator Nature versus Thermoelectric Performance (Invited)

K. Nielsch*; 1. University of Hamburg, Germany

9:00 AM

(CMCEE-T1-S2-002-2015) Thickness quantum oscillations of thermoelectric properties in Bi₂Te₃ thin filmsE. Rogacheva*; A. Budnik¹; A. Sipatov¹; A. Fedorov²; O. Nashchekina¹; M. Dresselhaus³; 1. National technical university "Kharkov polytechnic institute", Ukraine; 2. Institute for scintillation materials of NAS of Ukraine, Ukraine; 3. Massachusetts Institute of Technology, USA

9:20 AM

Break

Theory/Measurement

Room: Plaza B (2nd fl.)

Session Chairs: Kornelius Nielsch, University of Hamburg; Hiromichi Ohta, Hokkaido University

10:00 AM

(CMCEE-T1-S2-004-2015) Mixed Chemical Bonds and Semiconductor Transport: in the context of thermoelectricity (Invited)

J. Yang*; 1. Univ. of Washington, USA

10:30 AM

(CMCEE-T1-S2-005-2015) Development of practical thermoelectric materials using information about electronic structure, electron scatterings, and phonon scatterings

T. Takeuchi*; 1. Toyota Technological Institute, Japan

10:50 AM

(CMCEE-T1-S2-006-2015) Band Structure Engineering and Thermoelectric Properties of Charge-Compensated Filled SkutteruditesX. Shi*; L. Wu¹; Q. Li¹; 1. Brookhaven National Laboratory, USA

11:10 AM

(CMCEE-T1-S2-007-2015) Direct Measurements of Atomic Displacement in Thermoelectric Materials (Invited)

Q. Li*; 1. Brookhaven National Lab, USA

11:40 AM

(CMCEE-T1-S2-008-2015) Anomalous Temperature Gradient in Non-Maxwellian Gases

G. S. Levy*; 1. Entropic Power, USA

Materials I/New Materials

Room: Plaza B (2nd fl.)

Session Chairs: Masahiro Nomura, University of Tokyo; Tsunehiro Takeuchi, Toyota Technological Institute

1:30 PM

(CMCEE-T1-S2-009-2015) Thermoelectric properties of nanostructured bulk Si and Si-Ge alloys (Invited)K. Kurosaki*; A. Yusufu¹; Y. Miyazaki¹; Y. Ohishi¹; H. Muta¹; S. Yamanaka¹; 1. Osaka University, Japan

2:00 PM

(CMCEE-T1-S2-010-2015) Thermoelectric Behavior of Polymer Derived SiOC CeramicsK. Bakthavatchalam*; X. Zeng¹; T. M. Tritt¹; S. Pilla¹; 1. Clemson, USA

2:20 PM

(CMCEE-T1-S2-011-2015) Perspectives of Thermoelectric Borides

T. Mori*; 1. National Institute for Materials Science (NIMS), Japan

2:40 PM

Break

Materials II/Low-Dimensional

Room: Plaza B (2nd fl.)

Session Chairs: Jihui Yang, Univ. of Washington; Ken Kurosaki, Osaka University

3:20 PM

(CMCEE-T1-S2-013-2015) Thermophysical property of poly-Si phononic crystals for thermoelectrics (Invited)M. Nomura*; O. Paul²; 1. University of Tokyo, Japan; 2. University of Freiburg, Germany

3:50 PM

(CMCEE-T1-S2-014-2015) Thermoelectric properties higher manganese silicide containing small amount of silicon nano-particlesS. C. Ghodke^{*1}; T. Takeuchi²; A. Yamamoto²; H. Ikuta¹; 1. Nagoya University, Japan; 2. Toyota Technological Institute, Japan

4:10 PM

(CMCEE-T1-S2-015-2015) Two-dimensional giant thermopower -SrTiO₃-based superlattices and transistors (Invited)H. Ohta^{*1}; 1. Hokkaido University, Japan

4:40 PM

(CMCEE-T1-S2-016-2015) Electrical and Thermal Conductivities of Ba₂CoTeO₆-based CeramicsA. Abdul Aziz^{*1}; R. S. Eccleston¹; A. Feteira¹; G. Lewin²; D. C. Sinclair²; 1. Sheffield Hallam University, United Kingdom; 2. The University of Sheffield, United Kingdom

5:00 PM

(CMCEE-T1-S2-017-2015) Intergrowth structures of thermoelectric cobaltatesB. Jancar^{*1}; I. Petousis²; G. Drazic³; D. Suvorov¹; 1. Jozef Stefan Institute, Slovenia; 2. Stanford University, USA; 3. National institute of chemistry, Slovenia**T1S4: Material Science And Technologies For Advanced Nuclear Fission And Fusion Energy****Material Challenges for Nuclear Waste Management**

Room: Plaza A (2nd fl.)

Session Chairs: Josef Matyas, Pacific Northwest National Lab; Kyle Brinkman, Clemson University

1:30 PM

(CMCEE-T1-S4-001-2015) Materials challenges for spent nuclear fuel and high level waste management (Invited)V. V. Rondinella^{*1}; T. Wiss¹; D. Wegen¹; P. Carbol¹; D. Serrano-Purroy¹; D. Papaioannou¹; R. Naszyrow¹; L. Aldave de Las Heras¹; T. Gouder¹; J. Glatz¹; 1. EC-JRC-ITU, Germany

2:00 PM

(CMCEE-T1-S4-002-2015) Dopant Effects on Structural Stability and Cs Incorporation in Ba₂Cs₂(M, Ti)₈O₁₆ Hollandite Waste FormsK. S. Brinkman^{*1}; Y. Xu¹; 1. Clemson University, USA

2:20 PM

(CMCEE-T1-S4-003-2015) Silver-functionalized silica aerogel: A solution to an efficient remediation of radioiodine from reprocessing off-gasJ. Matyas^{*1}; 1. Pacific Northwest National Lab, USA

2:40 PM

(CMCEE-T1-S4-004-2015) Atomistic simulations of ceramic materials relevant for nuclear waste management: cases of monazite and pyrochloreY. Li^{*1}; P. Kowalski¹; G. Beridze¹; A. Blanca-Romero¹; V. Vinograd¹; 1. Forschungszentrum Juelich, Germany; 2. Imperial College London, United Kingdom

3:00 PM

Break

15:00-15:20

3:20 PM

(CMCEE-T1-S4-005-2015) Spark Plasma Sintering: Applications to Nuclear MaterialsV. Tyrpekli^{*1}; M. Cologna¹; T. Wangle¹; J. Somers¹; 1. EC-JRC Institute for Transuranium Elements, Germany**T1S5: Functional Nanomaterials for Sustainable Energy Technologies****Functional Nanomaterials**

Room: Plaza A (2nd fl.)

Session Chairs: Sanjay Mathur, University of Cologne; Bilge Saruhan-Brings, German Aerospace Center

8:30 AM

(CMCEE-T1-S5-001-2015) Effectiveness of 2D Materials in PEM Fuel Cells; from Graphene to Metal Dichalcogenide (Invited)D. H. Chua^{*1}; 1. National University of Singapore, Singapore

9:00 AM

(CMCEE-T1-S5-002-2015) Sputtering Deposition of VO₂ Films Using Plasma Emission Monitor System as Feedback ControlX. Wang¹; Y. Cao^{*1}; Y. Li¹; L. Yan¹; 1. Shanghai Institute of Ceramics, China

9:20 AM

(CMCEE-T1-S5-003-2015) One-pot route to electrospun carbon fibers decorated with gold (nano)particles for the electrochemical oxidation of glucoseA. Both Engel^{*1}; A. Cherifi¹; M. Bechelany¹; S. Tingry¹; D. Cornu¹; 1. European Membranes Institut - National Superior School of Chemistry of Montpellier, France

9:40 AM

Break

10:00 AM

(CMCEE-T1-S5-004-2015) Nanostructured oxide electrodes for high temperature gas sensing applications (Invited)B. Saruhan-Brings^{*1}; Y. Gonullu²; A. Haidry¹; 1. German Aerospace Center, Germany; 2. University of Cologne, Germany

10:30 AM

(CMCEE-T1-S5-005-2015) Smart recycling of composite materials for high-functional applications (Invited)M. Naito^{*1}; 1. Osaka University, Japan

11:00 AM

(CMCEE-T1-S5-006-2015) Solvothermal synthesis of monoclinic WO₃ nanocrystals and their gas-sensing propertiesM. Epifani^{*1}; E. Comini²; R. Diaz³; T. Andreu⁴; A. Genç⁵; J. Arbiol⁶; P. Siciliano¹; G. Faglia²; J. R. Morante⁴; 1. Consiglio Nazionale delle Ricerche, Italy; 2. Università di Brescia, Italy; 3. IMDEA, Spain; 4. IREC, Spain; 5. CSIC, Spain

11:20 AM

(CMCEE-T1-S5-007-2015) Precursor-derived SiCN/hexagonal boron nitride nanosheet composite: fabrication and electrochemical characterizationL. David¹; G. Singh^{*1}; 1. Kansas State University, USA

11:40 AM

(CMCEE-T1-S5-008-2015) Investigation into Laboratory Scale up of Hydrothermally Prepared Zinc Oxide Hexagonal RodsF. O. Bamiduro^{*1}; R. M. Brydson¹; M. B. Ward¹; S. J. Milne¹; 1. University of Leeds, United Kingdom

12:00 PM

(CMCEE-T1-S5-009-2015) Synthesis of Tin, Iron, Bismuth and Antimony Chalcogenide nanoamaterialsN. Revaprasadu^{*1}; 1. University of Zululand, South Africa

T1S7: Advanced Batteries and Supercapacitors for Energy Storage Applications

Li-air Battery/Solid Electrolytes

Room: Plaza C (2nd fl.)

Session Chairs: Lorenzo Stievano, Université Montpellier 2; Sagar Mitra, Indian Institute of Technology Bombay

8:30 AM

(CMCEE-T1-S7-024-2015) Better or worse than lithium? - On the chemistry and challenges of room temperature sodium-oxygen and sodium-sulfur batteries (Invited)

P. Adelmhelm*; 1. Justus-Liebig-University Giessen, Germany

9:00 AM

(CMCEE-T1-S7-025-2015) Design and Demonstration of a Low-Dissipation, Pumpless, Gravity Induced Flow Cell

X. Chen*; B. R. Solomon; W. Carter; Y. Chiang; 1. Massachusetts Institute of Technology, USA

9:20 AM

(CMCEE-T1-S7-026-2015) Low cost, ceramic battery components and cell design (Invited)

M. Schulz; M. Stelter*; H. Dohndorf; R. Weidl; B. Capraro; 1. Fraunhofer IKTS, Germany

9:50 AM

Break

10:10 AM

(CMCEE-T1-S7-027-2015) High-Performance Garnet-Type Ceramic Electrolytes for Solid State Lithium Batteries (Invited)

Y. Li; X. Guo*; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

10:40 AM

(CMCEE-T1-S7-028-2015) $\text{Li}_{10}\text{SnP}_2\text{S}_{12}$, an Electrolyte and Negative Electrode Material for Solid State Li-ion Batteries

I. Tarhouchi*; V. Viallet; P. Vinatier; M. MENETRIER; 1. CNRS RS2E, France; 2. Université Picardie Jules Verne RS2E, France

11:00 AM

(CMCEE-T1-S7-029-2015) Li_3PO_4 -based solid electrolytes

R. Jarkaneh*; 1. UNIVERSITY OF SHEFFIELD, United Kingdom

11:20 AM

(CMCEE-T1-S7-030-2015) Fast but Complex — Ultrafast Li^+ Ion Dynamics in $\text{Li}_7\text{P}_3\text{S}_{11}$ Glass Ceramic as Seen by ^6Li NMR and Conductivity Studies

D. Wohlmuth*; M. Wilkening; 1. Christian Doppler Laboratory of Lithium Batteries, Austria

Characterization/Supercapacitors/New Concepts

Room: Plaza C (2nd fl.)

Session Chairs: Scott Donne, University of Newcastle; Xiangxin Guo, Shanghai Institute of Ceramics, Chinese Academy of Sciences

1:30 PM

(CMCEE-T1-S7-031-2015) Operando spectroscopy and diffraction techniques for the study of battery materials (Invited)

L. Stievano*; 1. Université Montpellier 2, France

2:00 PM

(CMCEE-T1-S7-032-2015) Characterization of electrode materials for Li- and Na-ion batteries using operando diffraction techniques (Invited)

W. Pang*; V. K. Peterson; 1. Australian Nuclear Science and Technology Organisation, Australia

2:30 PM

(CMCEE-T1-S7-033-2015) Ternary Metal Fluorides as New Cathodes for Rechargeable Lithium Batteries: Enabling Cu redox for High Energy Density and Efficiency (Invited)

F. Wang*; S. Kim; J. Graetz; 1. Brookhaven National Lab, USA; 2. HRL Laboratories, LLC, USA

3:00 PM

Break

3:20 PM

(CMCEE-T1-S7-034-2015) Graphene and Selected Derivatives as Negative Electrodes in Sodium and Lithium-Ion Batteries

J. Christian*; D. Pontiroli; G. Magnani; M. Gaboardi; M. Ricco; C. Milanese; H. Brand; N. Sharma; 1. University of New South Wales Australia, Australia; 2. University of Parma, Italy; 3. Australian Synchrotron, Australia; 4. Pavia Hydrogen Lab, Italy

3:40 PM

(CMCEE-T1-S7-035-2015) Differentiating Charge Storage Mechanisms in Carbon and Metal Oxide Electrochemical Capacitors (Invited)

S. W. Donne*; 1. University of Newcastle, Australia

4:10 PM

(CMCEE-T1-S7-036-2015) Nanostructured metal-oxide composites for use as high power and energy density storage electrodes

B. Saruhan-Brings*; 1. German Aerospace Center, Germany

4:30 PM

(CMCEE-T1-S7-037-2015) Systematic dielectric analysis of ionic liquids (Invited)

S. Krohns*; P. Sippel; P. Lunkenheimer; A. Loidl; 1. University of Augsburg, Germany

5:00 PM

(CMCEE-T1-S7-038-2015) Design and synthesis of nanostructured metal oxides for rechargeable Mg batteries (Invited)

Y. Kim*; M. Park; S. Woo; 1. Korea Electronics Technology Institute, Korea

Friday, June 19, 2015

T1S2: Ceramics-Related Materials, Devices, and Processing for Heat-to-Electricity Direct Conversion Aiming at Green and Sustainable Human Society

Materials III/Bulk

Room: Plaza B (2nd fl.)

Session Chairs: Nini Pryds, Department of Energy and Storage, Technical University of Denmark; Takao Mori, National Institute for Materials Science (NIMS)

8:30 AM

(CMCEE-T1-S2-019-2015) Ceramics of thermoelectric oxides and sulfides: extrinsic vs intrinsic effects and role of the structural dimensionality (Invited)

A. Maignan*; 1. Laboratoire CRISMAT, France

9:00 AM

(CMCEE-T1-S2-020-2015) Large enhancement of power factor in PbS-decorated TiS_2 bulk ceramics

Y. Wang*; Y. Wang; J. Wen; 1. Nanjing Tech University, China

9:20 AM

(CMCEE-T1-S2-021-2015) Electronic structure and thermoelectric properties of Al_3V

M. Kumagai*; K. Kurosaki; Y. Ohishi; H. Muta; S. Yamanaka; 1. Osaka University, Japan

9:40 AM**Break****Applications/Modules**

Room: Plaza B (2nd fl.)

Session Chairs: Antoine Maignan, Laboratoire CRISMAT; Michitaka Ohtaki, Kyushu University

10:00 AM**(CMCEE-T1-S2-022-2015) Thermoelectric modules for Efficient Power Generation: Modeling and Performance (Invited)**N. Pryds*; N. V. Ngo; L. Han¹; H. Thanh¹; P. Hoang Ngan¹; A. Sarhadi¹; K. Kirstein Nielsen¹; R. Bjørk¹; 1. Department of Energy and Storage, Technical University of Denmark, Denmark**10:30 AM****(CMCEE-T1-S2-023-2015) Titanium suboxide based thermoelectric modules**H. Martin¹; A. poenicke¹; A. Rost¹; J. Schilm¹; K. Waetzig¹; S. Conze¹; A. Michaelis¹; K. Schönfeld¹; 1. Fraunhofer IKTS, Germany**10:50 AM****(CMCEE-T1-S2-024-2015) Optimization of Thermoelectric Properties of Oxides Using Modelling Techniques**J. D. Baran*; M. Molinari¹; S. R. Yeandel¹; F. Azough²; R. Freer²; S. C. Parker¹; 1. University of Bath, United Kingdom; 2. Material Science Centre, School of Materials, University of Manchester, United Kingdom**11:10 AM****(CMCEE-T1-S2-025-2015) Skutterudites: Materials, Modules and Systems (Invited)**J. R. Salvador*; A. Thompson²; R. McCarty²; S. Bradenburg³; M. Birkett⁴; J. Burgers⁴; L. Meda⁵; A. Dubitsky⁶; G. Meisner¹; B. Myers³; D. Ihms³; D. Brown⁷; D. Miller⁷; J. Fleurial⁸; 1. General Motors Research and Development, USA; 2. II-VI Marlow, USA; 3. Delphi Electronics and Safety, USA; 4. Dana Canada Corp, Canada; 5. Eberpaecher North America, USA; 6. Purdue University, USA; 7. Molycorp, Singapore; 8. NASA Jet Propulsion Laboratory, USA**11:40 AM****(CMCEE-T1-S2-026-2015) Low cost Ca and CaCe filled skutterudites**D. R. Thompson*; C. Liu¹; D. B. Haddad²; J. R. Salvador²; J. Yang³; J. Yang³; H. Wang⁴; 1. Optimal CAE, USA; 2. General Motors Research and Development, USA; 3. University of Washington, USA; 4. Oak Ridge National Laboratory, USA**T1S4: Material Science And Technologies For Advanced Nuclear Fission And Fusion Energy****Silicon Carbide for Fission and Fusion Applications**

Room: Plaza A (2nd fl.)

Session Chairs: Yutai Katoh, Oak Ridge National Laboratory; Charles Henager, Pacific Northwest National Lab (PNNL)

8:30 AM**(CMCEE-T1-S4-007-2015) Joining SiC for Fission and Fusion Applications: Modeling Torsion Tests with Validation (Invited)**C. H. Henager*; B. Nguyen¹; R. J. Kurtz¹; M. Ferraris²; Y. Katoh³; 1. Pacific Northwest National Lab (PNNL), USA; 2. Politecnico di Torino, Italy; 3. Oak Ridge National Laboratory, USA**9:00 AM****(CMCEE-T1-S4-008-2015) Development of Joining Method for Zircaloy and SiC/SiC Composite Tubes By Using Fiber Laser**H. Serizawa¹; Y. Asakura²; J. Park²; H. Kishimoto²; A. Kohyama²; 1. Osaka University, Japan; 2. Muroran Institute of Technology, Japan**9:20 AM****(CMCEE-T1-S4-009-2015) Robust, Radiation Tolerant Joining of Silicon Carbide Structures for Nuclear Applications**H. E. Khalifa*; G. Jacobsen¹; C. Deck¹; C. Back¹; 1. General Atomics, USA**9:40 AM****Break**

9:40-10:00

10:00 AM**(CMCEE-T1-S4-010-2015) Effects of Neutron Irradiation on Ceramic Joints for Silicon Carbide-Based Nuclear Structures and Fuels**Y. Katoh*; T. Koyanagi¹; L. Snead¹; T. Hinoki²; C. H. Henager³; M. Ferraris⁴; H. E. Khalifa⁵; C. A. Lewinsohn⁶; S. Grasso⁷; 1. Oak Ridge National Laboratory, USA; 2. Kyoto University, Japan; 3. Pacific Northwest National Laboratory, USA; 4. Politecnico di Torino, Italy; 5. General Atomics, USA; 6. Ceramtec Inc., USA; 7. Queen Mary University, United Kingdom**10:20 AM****(CMCEE-T1-S4-011-2015) The ASTM C28 Test Standard for the Torsional Shear Properties of Bonded Joints in Small Specimens of Advanced Ceramics**S. T. Gonczyk*; Y. Katoh¹; M. Ferraris²; 1. Gateway Materials Technology, USA; 2. Politecnico di Torino, Italy; 3. Oak Ridge National Laboratory, USA**10:40 AM****(CMCEE-T1-S4-012-2015) Specimen Size Effect on Torsional Shear Strength of SiC Hourglass Joints**T. Koyanagi*; J. Kiggans¹; J. Pryor¹; Y. Katoh¹; 1. Oak Ridge National Laboratory, USA**11:00 AM****(CMCEE-T1-S4-013-2015) High Speed Deposition of SiC Coating by Laser Chemical Vapor Deposition (Invited)**

T. Goto*; 1. IMR Tohoku University, Japan

11:30 AM**(CMCEE-T1-S4-014-2015) Evolution of Helium Bubbles in Nano-engineered SiC under Fusion Reactor Environment**C. Chen*; E. Fu³; Y. Wang³; M. L. Crespillo⁴; C. L. Fontana²; J. T. Graham¹; S. C. Shannon⁴; Y. Zhang⁵; W. J. Weber¹; 1. University of Tennessee, USA; 2. Oak Ridge National Laboratory, USA; 3. Los Alamos National Laboratory, USA; 4. North Carolina State University, USA**Notes**

Monday, June 15, 2015

T2S1: Advanced Ceramics and Composites for Gas Turbine Engines

CMC Technologies and Applications

Room: Balmoral (3rd fl.)

Session Chair: Ralf Goller, University of Applied Sciences

1:30 PM

(CMCEE-T2-S1-001-2015) Field Experience and Life Prediction of CMCs for Gas Turbine Combustor Applications (Invited)

M. van Roode*; 1. Mark van Roode & Associates, USA

2:00 PM

(CMCEE-T2-S1-002-2015) CMC Jackets for Power Plant Pipes (Invited)

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

2:20 PM

(CMCEE-T2-S1-003-2015) CMCs: the Key for Affordable Access to Space

J. Petursson*; L. GONZALEZ¹; 1. EMBRY RIDDLE AERONAUTICAL UNIVERSITY, USA

2:40 PM

(CMCEE-T2-S1-004-2015) Perspectives on Industrialization of Advanced Engineering Ceramics and Composites (Invited)

O. Kwon*; 1. Saint-Gobain, USA

3:00 PM

Break

CMC Design and Performance

Room: Balmoral (3rd fl.)

Session Chairs: Walter Krenkel, University of Bayreuth; Greg Ojard, United Technologies Research Center

3:20 PM

(CMCEE-T2-S1-005-2015) Design of CMC for application in hot gas atmospheres (Invited)

H. Klemm*; K. Schönfeld¹; W. Kunz¹; C. Steinborn¹; 1. FhG IKTS Dresden, Germany

3:50 PM

(CMCEE-T2-S1-006-2015) Ceramic Matrix Composites: Ceramic Matrix Composites: Development of Characterization Tools Concurrently with Material Development (Invited)

G. Ojard*; I. Smyth²; Y. Gowayed³; U. Santhosh⁴; J. Ahmad⁴; 1. United Technologies Research Center, USA; 2. Pratt & Whitney, USA; 3. Auburn University, USA; 4. Structural Analytics, USA

4:20 PM

(CMCEE-T2-S1-007-2015) High Performance SiC/SiC Component by NITE-method and Its Application to Energy and Environment (Invited)

A. Kohyama*; H. Kishimoto¹; J. Park¹; 1. Murooran Institute of Technology, Japan

4:50 PM

(CMCEE-T2-S1-008-2015) Damage in ceramic matrix composites during machining operations (Invited)

R. Goller*; A. Roesiger¹; 1. University of Applied Sciences, Germany

5:20 PM

(CMCEE-T2-S1-009-2015) Creep, Fatigue and Fracture Behavior of Environmental Barrier Coating and SiC-SiC Ceramic Matrix Composite Systems: The Role of Environment Effects (Invited)

D. Zhu*; L. J. Ghosn¹; 1. NASA Glenn Research Center, USA

5:40 PM

(CMCEE-T2-S1-010-2015) Oxidation and High Temperature Resistance of SiC/SiC Composites by NITE-method

D. Hayasaka*; H. Kishimoto¹; J. Park¹; A. Kohyama¹; 1. Murooran Institute of Technology, Japan

6:00 PM

(CMCEE-T2-S1-011-2015) Properties of Carbon Fiber Reinforced Silicon Nitride Composites Prepared By Reaction Bonding Method

L. Govindasamy*; B. M¹; 1. Indian Institute of Technology, Madras, India

Tuesday, June 16, 2015

T2S1: Advanced Ceramics and Composites for Gas Turbine Engines

Processing and Properties of Matrix and Fiber I

Room: Balmoral (3rd fl.)

Session Chairs: Dong-Soo Park, Korea Institute of Materials Science; Tadashi Matsunaga, Ube Industries, Ltd.

8:00 AM

(CMCEE-T2-S1-012-2015) An Overview of UBE's Silicon Carbide Fiber and Its Applications (Invited)

T. Matsunaga*; 1. Ube Industries, Ltd., Japan

8:20 AM

(CMCEE-T2-S1-013-2015) SiC Fiber Degradation Mechanisms

R. S. Hay*; T. Parthasarathy²; P. Mogilevsky²; R. Krishnamurthy²; C. Pryzbyla¹; 1. Air Force Research Laboratory, USA; 2. UES, Inc., USA

8:40 AM

(CMCEE-T2-S1-014-2015) Reactive silicon infiltration into carbon bonded preforms heated by microwaves

G. Bianchi¹; P. Vavassori²; B. Vila³; G. Annino⁴; M. Nagliati⁵; M. Mallah³; S. Gianella⁶; M. Valle⁵; M. Orlandi⁶; G. Scocchi¹; A. Ortona¹; 1. SUPSI, Switzerland; 2. Petroceramics SPA, Italy; 3. Fricke und Mallah Microwave Technology GmbH, Germany; 4. Istituto per i Processi Chimico-Fisici, UOS Pisa, Consiglio Nazionale delle Ricerche, Italy; 5. Brembo SGL Carbon Ceramic Brakes, Italy; 6. Erbiccol SA, Switzerland

9:00 AM

(CMCEE-T2-S1-015-2015) Numerical Determination of Effects of Temperature on Infiltration Dynamics of Liquid- Silicon/Solid-Carbon System

K. Iqbal*; 1. Dalian University of Technology, China

9:20 AM

(CMCEE-T2-S1-016-2015) An ASTM Test Standard for the Open Hole Tensile Strength of Fiber-Reinforced Ceramic Matrix Composites

S. T. Gonczyk*; Y. Katoh²; 1. Gateway Materials Technology, USA; 2. Oak Ridge National Laboratory, USA

9:40 AM

Break

Processing and Properties of Matrix and Fiber II

Room: Balmoral (3rd fl.)

Session Chairs: Rolf Janssen, TU Hamburg-Harburg; Zhengming Sun, Southeast University

10:00 AM

(CMCEE-T2-S1-017-2015) Spontaneous whisker growth on Cr₂GaC, understanding the stability of MAX Phases (Invited)

Z. Sun*; P. Zhang¹; J. Ouyang¹; Y. Zhang¹; B. An²; T. Iijima²; 1. Southeast University, China; 2. National Institute of Advanced Industrial Science and Technology (AIST), Japan

10:30 AM**(CMCEE-T2-S1-018-2015) Manufacturing of Oxide Fiber Composites by Water-based Prepregging**

T. Wamser*; J. Schamel; S. Scheler; B. Martin; W. Krenkel; 1. Ceramic Materials Engineering, Germany

10:50 AM**(CMCEE-T2-S1-019-2015) Nextel 610 Alumina Fiber 3D Grain Growth, Fiber Strength, And Grain Boundary Structure**

R. S. Hay*; 1. Air Force Research Laboratory, USA

11:10 AM**(CMCEE-T2-S1-020-2015) Multilayered fiber-reinforced oxide composites fabricated via a modified prepreg approach**

R. Janssen*; D. Blaese; P. Guglielmi; D. Hotza; D. Garcia; H. Al-Qureshi; 1. TU Hamburg-Harburg, Germany; 2. UFSC, Brazil

11:30 AM**(CMCEE-T2-S1-021-2015) Deposition of Highly Dense Ceramic Films at Room Temperature by Granule Spray in Vacuum (GSV) (Invited)**

D. Park*; B. Hahn; J. Ryu; J. Choi; J. Kim; W. Yoon; 1. Korea Institute of Materials Science, Korea

Si3N4 Development and Applications

Room: Balmoral (3rd fl.)

Session Chair: Kevin Plucknett, Dalhousie University

1:30 PM**(CMCEE-T2-S1-022-2015) Thermal Conductivity and Mechanical Properties of Sintered Reaction-Bonded Silicon Nitride Ceramics (Invited)**

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

2:00 PM**(CMCEE-T2-S1-023-2015) Thermal Shock Resistance, Wear Behaviour and Oxidation Resistance of Silicon Nitride Based Nano-composites (Invited)**

P. Sajgalik*; 1. Institute of Inorganic Chemistry, Slovakia

2:20 PM**(CMCEE-T2-S1-024-2015) Recent Developments in Porous Silicon Nitride Ceramics (Invited)**

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

2:40 PM**(CMCEE-T2-S1-025-2015) Reliability Assessment of Silicon Nitride Ceramic Components Implemented for Turbine Engines (Invited)**

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

3:00 PM**Break****Processing and Properties of TBC & EBC**

Room: Balmoral (3rd fl.)

Session Chairs: Takashi Goto, IMR Tohoku University; Hyung-Tae Kim, KICET

3:20 PM**(CMCEE-T2-S1-026-2015) Thermal Barrier Coating by Laser Chemical Vapor Deposition (Invited)**

T. Goto*; 1. IMR Tohoku University, Japan

3:50 PM**(CMCEE-T2-S1-027-2015) Thermal and Mechanical Properties of High Temperature Degraded YSZ with Deferent Content of T-prime Phase (Invited)**

W. Pan*; X. Ren; K. Wang; M. Zhao; 1. Tsinghua University, China

4:20 PM**(CMCEE-T2-S1-028-2015) Fabrication and Characterization of Thermal Barrier Coatings of Yttrium Stabilized Zirconia and Lanthanide added Zirconate Films Prepared by Suspension Plasma Spray and EBPVD Method (Invited)**

H. Kim*; Y. Oh; S. Kim; S. Lee; B. Koog; 1. Korea Institute of Ceramic Engineering and Technology, Korea; 2. National Institute of Materials Science, Japan

4:50 PM**(CMCEE-T2-S1-029-2015) Thermal Barrier Coatings (TBCs) with Enhanced Toughness at Elevated Operating Temperatures**

M. Schmitt*; D. E. Wolfe; A. Rai; D. Zhu; R. Bhattacharya; 1. Penn State University, USA; 2. The Applied Research Laboratory, USA; 3. NASA Glenn Research Center, USA; 4. UES Inc., USA

5:10 PM**(CMCEE-T2-S1-030-2015) High-temperature ceramic coatings for protecting carbon/carbon composites against oxidation (Invited)**

H. Li*; 1. Northwestern Polytechnical University, China

5:40 PM**(CMCEE-T2-S1-031-2015) A New EBC System for Silicon Carbide Ceramics with Al₂O₃/HfO₂ Eutectic Structure Layer (Invited)**

S. Ueno*; K. Seya; 1. Nihon University, Japan

Wednesday, June 17, 2015**T2S3: Energy Efficient Advanced Bearings and Wear Resistant Materials****Bearing I**

Room: Georgia B (2nd fl.)

Session Chairs: Junichi Tatami, Yokohama National University; Pavol Sajgalik, Institute of Inorganic Chemistry

8:30 AM**(CMCEE-T2-S3-001-2015) Slide and Abrasive Wear of Graphite/ Silicon Nitride Based Composites (Invited)**

P. Sajgalik*; 1. Institute of Inorganic Chemistry, Slovakia

9:00 AM**(CMCEE-T2-S3-002-2015) Fabrication of high strength Si₃N₄ ceramics using waste Si sludge and post-reaction sintering**

T. Takahashi*; J. Tatami; H. Sasano; M. Iijima; 1. Kanagawa Academy of Science and Technology, Japan; 2. Yokohama National University, Japan

9:20 AM**(CMCEE-T2-S3-003-2015) Development of Silicon Nitride Bearing Components by Powder Injection Moulding using a Novel Binder System**

R. Pompe*; W. Zhang; Z. Zhang; J. Zou; Y. Zheng; T. Wang; B. Li; 1. GOCERAM AB, Sweden; 2. Beijing Sinoma Synthetic Crystals Institute Co., Ltd., China

9:40 AM**Break****10:00 AM****(CMCEE-T2-S3-004-2015) Improvement of strength of Si₃N₄ ceramics by cyclic cold isostatic pressing using micro-granules**

J. Tatami*; H. Kayama; S. Sueyasu; M. Iijima; T. Takahashi; 1. Yokohama National University, Japan; 2. Kanagawa Academy of Science and Technology, Japan

10:20 AM**(CMCEE-T2-S3-005-2015) High Speed Formation of Fine Ceramics Layers by Nanoparticles Filler Rod Thermal Spraying (Invited)**

S. Kirihara*; 1. Osaka University, Japan

10:50 AM

(CMCEE-T2-S3-006-2015) Effect of C/Ti ratio on densification, microstructure and mechanical properties of reactive spark plasma sintered TiC

V. Kombamuthu*; S. R. Bakshi¹; 1. Indian Institute of Technology Madras, India

T2S6: Advanced Nitrides and Related Materials for Energy Applications

Advanced Nitrides and Related Materials for Energy Applications

Room: Balmoral (3rd fl.)

Session Chair: Guenter Motz, University of Bayreuth

8:30 AM

(CMCEE-T2-S6-001-2015) Structural and Electrical Deterioration of Ytterbium Doped Silicon Nitride Ceramic Igniters (Invited)

H. Karimi Sharif*; C. Oprea¹; A. Shafiei¹; T. Troczynski¹; 1. THE UNIVERSITY OF BRITISH COLUMBIA, Canada

9:00 AM

(CMCEE-T2-S6-002-2015) Band Gap and Electronic Structure of MSi₂ (M=Mg, Ca) Determined using Soft X-Ray Spectroscopy and Density Functional Theory

T. de Boer*; T. D. Boyko¹; C. Braun²; W. Schnick²; A. Moewes¹; 1. University of Saskatchewan, Canada; 2. University of Munich (LMU), Germany

9:20 AM

(CMCEE-T2-S6-003-2015) Transient Glassy Phases to Dictate Phase Relationship in Sialon Ceramics: An AEM study

H. Gu*; 1. Shanghai University, China

9:40 AM

Break

10:00 AM

(CMCEE-T2-S6-004-2015) Nb(Si,C,N) composite materials densified by spark plasma sintering

M. Seifert*; W. Krenkel¹; G. Motz¹; 1. University of Bayreuth, Germany

10:20 AM

(CMCEE-T2-S6-005-2015) Novel thermal barrier coating based on preceramic polymers with passive and active fillers for application up to 1000 °C

G. S. Barroso*; W. Krenkel¹; G. Motz¹; 1. University of Bayreuth, Germany

10:40 AM

(CMCEE-T2-S6-006-2015) Polysilazane-derived (oxy)nitride coatings with glass microsphere passive fillers for high temperature corrosion protection of metals

M. Parchoviánsky¹; I. Petriková²; D. Galusková²; G. Motz³; D. Galusek*; 1. IIC SAS, Slovakia; 2. TnUAD, Slovakia; 3. University of Bayreuth, Germany

11:00 AM

(CMCEE-T2-S6-007-2015) Study of Electrical Conductivity of Polymer Derived SiBCON Ceramics

K. Bakthavatchalam*; X. Zeng¹; S. pradeep¹; T. M. Tritt¹; S. Pilla¹; 1. Clemson, USA

11:20 AM

(CMCEE-T2-S6-008-2015) Properties of nano α -SiAlON ceramics prepared by spark plasma sintering technique

M. Al-Malki¹; R. Khan¹; F. Patel¹; A. S. Hakeem¹; T. Laoui*; 1. KFUPM, Saudi Arabia

Thursday, June 18, 2015

T2S2: Advanced Ceramic Coatings for Power Systems

Advanced Ceramic Coatings for Power Systems I

Room: Prince of Wales (3rd fl.)

Session Chairs: Hagen Klemm, FhG IKTS Dresden; Douglas Wolfe, Pennsylvania State University

8:30 AM

(CMCEE-T2-S2-001-2015) High Temperature Coatings for Gas Turbine Engines via Directed Vapor Deposition (Invited)

B. Gogia*; D. Hass¹; 1. Directed Vapor Technology Intl, USA

9:00 AM

(CMCEE-T2-S2-002-2015) Preparation of Na β / β' -alumina films by Laser Chemical Vapor Deposition

T. Goto*; C. Chi¹; H. Katsui¹; 1. IMR Tohoku University, Japan

9:20 AM

(CMCEE-T2-S2-003-2015) High Temperature Stability of Oxide Photonic Structures

R. Janssen*; R. Pasquarelli¹; 1. TU Hamburg-Harburg, Germany

9:40 AM

Break

10:00 AM

(CMCEE-T2-S2-004-2015) Synthesis of diamond-SiC core-shell powder by RCVD and its consolidation by SPS with SiO₂ additive

M. Kitiwan*; H. Katsui¹; T. Goto¹; 1. Institute for Materials Research, Tohoku University, Japan

10:20 AM

(CMCEE-T2-S2-005-2015) Thermal Barrier Coating (TBC) Design Architectures and Compositions With Improved Durability and Performance (Invited)

D. E. Wolfe*; M. Schmitt¹; A. Rai²; D. Zhu²; B. J. Harder³; 1. Pennsylvania State University, USA; 2. NASA Glenn Research Center, USA; 3. UES, Inc., USA

10:50 AM

(CMCEE-T2-S2-006-2015) Mechanical degradation and failure evolution of TBC Materials in CMAS Gradient Burner Rig Testing

O. Helle¹; D. E. Mack*; J. Malzbender¹; R. Vassen¹; O. Guillon¹; 1. Forschungszentrum Jülich GmbH, Germany

11:10 AM

(CMCEE-T2-S2-007-2015) Advanced Ceramic Coatings Produced by Axial Suspension Plasma Spray

Z. Tang*; Z. Celler¹; 1. Northwest Mettech, Canada

11:30 AM

(CMCEE-T2-S2-008-2015) Toughening Mechanisms in the TaO_{2.5}-YO_{1.5}-ZrO₂ System

C. Macauley*; B. Zhang¹; J. Krogstad²; K. Hemker²; C. Levi¹; 1. University of California Santa Barbara, USA; 2. Johns Hopkins University, USA; 3. University of Illinois, Urbana-Champaign, USA

Advanced Ceramic Coatings for Power Systems II

Room: Prince of Wales (3rd fl.)

Session Chairs: Hagen Klemm, FhG IKTS Dresden; Dongming Zhu, NASA Glenn Research

1:30 PM

(CMCEE-T2-S2-009-2015) The Development of 2700-3000F Environmental Barrier Coatings for SiC/SiC Ceramic Matrix Composites: Challenges and Opportunities (Invited)

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

2:00 PM

(CMCEE-T2-S2-010-2015) Visible and invisible changes in oxide/Si/(SiC/SiC) environmental barrier coating systems after high temperature heat exposure (Invited)

Y. Kagawa*; 1. The University of Tokyo, Japan

2:30 PM

(CMCEE-T2-S2-011-2015) Coating systems for application in power plants up to 700 °C based on PDCs

G. Motz*; 1. University of Bayreuth, Germany

2:50 PM

Break

3:10 PM

(CMCEE-T2-S2-012-2015) Mullite-Based Chemically Vapor Deposited Environmental Barrier Coatings for Gas Turbine Applications (Invited)

S. Basu*; V. Sarin; 1. Boston University, USA

3:40 PM

(CMCEE-T2-S2-013-2015) Two-layer environmental barrier coating for SiC-SiC CMCs – Manufacture, microstructure and behavior under oxidation and flowing water vapor

U. Schulz*; A. Lange; P. Mechnich; C. Maurer; 1. German Aerospace Center, Germany

4:00 PM

(CMCEE-T2-S2-014-2015) A Novel Approach to Protect Silicon Nitride Materials in Harsh Combustion Environments

A. Shafiei*; C. Oprea; H. Karimi Sharif; T. Troczynski; 1. University of British Columbia, Canada

4:20 PM

(CMCEE-T2-S2-015-2015) Calcium-magnesium aluminosilicate (CMAS) interactions with advanced environmental barrier coating material

V. L. Wiesner*; N. Bansal; 1. NASA Glenn Research Center, USA

T2S4: Materials for Solid State Lighting

Synthesis

Room: Balmoral (3rd fl.)

Session Chair: Ralf Riedel, Technische Universität Darmstadt

8:30 AM

(CMCEE-T2-S4-001-2015) Functional Oxynitrides: Synthesis, Anion Order and Luminescent Properties (Invited)

A. Fuertes*; 1. Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain

9:00 AM

(CMCEE-T2-S4-002-2015) Formation and Degradation Process of PL Centers in Si-O-C(-H) Ceramics

M. Narisawa*; T. Kawai; H. Hokazono; S. Watase; K. Matsukawa; A. Iwase; 1. Osaka Prefecture University, Japan; 2. Osaka Municipal Technical Research Institute, Japan

9:20 AM

(CMCEE-T2-S4-003-2015) Influence of Rare-Earth Dopant and N/O Substitution on the Electronic Structure and Luminescent Properties of Silicon Oxynitride Phosphors (Invited)

Z. Lencses*; I. Ibrahim; L. Benco; P. Sajgalik; 1. Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia

9:50 AM

Break

Synthesis and Properties

Room: Balmoral (3rd fl.)

Session Chair: Rong-Jun Xie, National Institute for Materials Science

10:10 AM

(CMCEE-T2-S4-004-2015) Optical solid oxynitrides (Invited)

S. Kikkawa*; Y. Masubuchi; 1. Hokkaido University, Japan

10:40 AM

(CMCEE-T2-S4-005-2015) Single Crystal Phosphors for High-Brightness White LEDs and LDs

K. Shimamura*; G. VILLORA; S. Arjoca; D. Inomata; K. Aoki; J. Hayashi; 1. National Institute for Materials Science, Japan; 2. Tamura Corp., Japan; 3. KOHA Co., Ltd., Japan; 4. Shinko Manufacturing Co., Ltd., Japan

11:00 AM

(CMCEE-T2-S4-006-2015) Investigation of the Electronic Structure and Band Gap of the Next-generation LED-phosphors Sr[LiAl₃N₄]:Eu²⁺ and Sr[Mg₃SiN₄]:Eu²⁺

T. Tolhurst*; T. D. Boyko; P. Pust; S. Schmiechen; N. Johnson; W. Schnick; A. Moewes; 1. University of Saskatchewan, Canada; 2. University of Munich, Germany

11:20 AM

(CMCEE-T2-S4-007-2015) Phosphor informatics based on confirmatory factor analysis

K. Sohn*; 1. Sejong University, Korea

11:40 AM

(CMCEE-T2-S4-008-2015) Synthesis and properties of colour conversion phosphors for different applications from sub μ -meter powders to bulk ceramics (Invited)

I. Kinski*; K. Waetzig; U. Oberbach; H. Ludwig; 1. Fraunhofer IKTS, Germany

Properties

Room: Balmoral (3rd fl.)

Session Chair: Pavol Sajgalik, Institute of Inorganic Chemistry

1:30 PM

(CMCEE-T2-S4-009-2015) Unusual temperature dependence of Eu²⁺-luminescence in LiBaF₃:Eu crystals

J. Shim; P. Cai; C. Chen; H. Seo*; 1. Pukyong National University, Korea

1:50 PM

(CMCEE-T2-S4-010-2015) Cation Substitution Tuning Photoluminescence in Oxonitridosilicate Phosphors

R. Liu*; S. Hu; 1. National Taiwan University, Taiwan; 2. National Taiwan Normal University, Taiwan

2:10 PM

(CMCEE-T2-S4-011-2015) Novel Approach to Improve the Luminescence Properties of the Nitride Phosphors

K. Toda*; 1. Niigata University, Japan

2:30 PM

(CMCEE-T2-S4-012-2015) Thermal degradation of nitride phosphors for solid state lighting (Invited)

R. Xie*; 1. National Institute for Materials Science, Japan

T2S5: Advanced Refractory Ceramic Materials and Technologies

Advanced Refractory Ceramic Materials and Technologies

Room: Georgia A (2nd fl.)

Session Chairs: James Hemrick, Reno Refractories, Inc.; Josh Pelletier, Kerneos, Inc

8:30 AM

(CMCEE-T2-S5-001-2015) Monolithic Solutions for Lining Cement Kilns : Innovative Solutions & Comparison Versus Bricks (Invited)

J. Soudier^{*}; V. Wagner^{*}; 1. Calderys, USA

9:00 AM

(CMCEE-T2-S5-002-2015) The Use of Advanced Refractory Ceramic Materials to Address Industrial Energy Efficiency Challenges (Invited)

J. Hemrick^{*}; 1. Reno Refractories, Inc., USA

9:20 AM

(CMCEE-T2-S5-003-2015) Planar and tubular refractories with graded microstructure

U. Scheithauer^{*}; E. Schwarzer^{*}; T. Slawik^{*}; A. Michaelis^{*}; 1. Fraunhofer IKTS Dresden, Germany

9:40 AM

Break

10:00 AM

(CMCEE-T2-S5-004-2015) Advanced Ceramic Materials Help to Drive Operational Efficiency Improvements in Oil and Gas Drilling

R. Clark^{*}; 1. Morgan Advanced Materials, USA

10:20 AM

(CMCEE-T2-S5-005-2015) Microstructure and Elastic Properties of Highly Porous Mullite Ceramics Prepared with Wheat Flour

E. Gregorova^{*}; W. Pabst^{*}; T. Uhlirova^{*}; 1. UCT Prague, Czech Republic

10:40 AM

(CMCEE-T2-S5-006-2015) Microstructure and High-Temperature Behavior of Silica Refractories

W. Pabst^{*}; E. Gregorova^{*}; T. Uhlirova^{*}; 1. UCT Prague, Czech Republic

11:00 AM

(CMCEE-T2-S5-007-2015) Evaluation of reoxidation tendency of refractory materials in steel metallurgy by a new test method based on carrier gas hot extraction

A. Sax^{*}; L. Redecker^{*}; S. Clasen^{*}; C. Dannert^{*}; P. Quirnbach^{*}; 1. University Koblenz-Landau, Germany; 2. Forschungsgemeinschaft Feuerfest eV., Germany

11:20 AM

(CMCEE-T2-S5-008-2015) An Approach for Modeling Slag Corrosion of Lightweight Al₂O₃-MgO Castable in Refining Ladle

A. Huang^{*}; H. Gu^{*}; Y. zou^{*}; 1. Wuhan University of Science and Technology, China

11:40 AM

(CMCEE-T2-S5-009-2015) Corrosion resistance of BN-ZrO₂ composites in molten steel

L. Chen^{*}; Y. Wang^{*}; Y. Zhou^{*}; 1. Harbin institute of technology, China

T2S7: Ceramics in Conventional Energy, Oil, and Gas Exploration

Ceramics in Conventional Energy, Oil, and Gas Exploration I

Room: Georgia A (2nd fl.)

Session Chairs: Aiguo Zhou, Henan Polytechnic University; Partha Mukherjee, Texas A&M University

1:30 PM

(CMCEE-T2-S7-001-2015) High Performance Proppants for Unconventional Gas and Oil Recovery (Invited)

J. R. Hellmann^{*}; 1. The Pennsylvania State University, USA

2:00 PM

(CMCEE-T2-S7-002-2015) Alternative Metallic Binder Systems for High Performance Cermets (Invited)

K. P. Plucknett^{*}; 1. Dalhousie Univ, Canada

2:30 PM

(CMCEE-T2-S7-003-2015) On the Development of Novel MRM (MAX Reinforced Metal) Multifunctional Materials

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

2:50 PM

(CMCEE-T2-S7-004-2015) Research on the curing of high volume fly-ash cement with microwave technology

Y. Wang^{*}; Y. Bai^{*}; A. Zhou^{*}; 1. Henan Polytechnic University, China; 2. University College London, United Kingdom

3:10 PM

Break

Ceramics in Conventional Energy, Oil, and Gas Exploration II

Room: Georgia A (2nd fl.)

Session Chairs: Radha Perumal Ramasamy, Anna University, Chennai - INDIA; Dongsheng Wen, University of Leeds

3:30 PM

(CMCEE-T2-S7-005-2015) Ceramic nanoparticles for upstream oil and gas applications (Invited)

D. Wen^{*}; Z. HU^{*}; G. Raza^{*}; 1. University of Leeds, United Kingdom

4:00 PM

(CMCEE-T2-S7-006-2015) Thermodynamic investigation of the perovskite electrical conductivity (Invited)

S. Darvish^{*}; Y. Zhong^{*}; 1. Florida International University, USA

4:30 PM

(CMCEE-T2-S7-007-2015) Synthesis and gas adsorption properties of carbide-derived carbons from Ti₂SnC

A. Zhou^{*}; J. Jia^{*}; 1. Henan Polytechnic University, China

4:50 PM

(CMCEE-T2-S7-008-2015) Novel Engineered Cementitious Materials by Class C Fly Ash

S. Gupta^{*}; M. F. Riyad^{*}; Q. Li^{*}; 1. University of North Dakota, USA; 2. Isolatak International Inc., USA

5:10 PM

(CMCEE-T2-S7-009-2015) Novel Solid Lubricant for Multifunctional Applications

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

Monday, June 15, 2015

T3S3: Geopolymers, Inorganic Polymer Ceramics and Sustainable Composites

Geopolymers, Inorganic Polymer Ceramics and Sustainable Composites

Room: Plaza C (2nd fl.)

Session Chairs: Waltraud Kriven, University of Illinois at Urbana-Champaign; Claus Ruescher, Leibniz University Hannover

1:30 PM

(CMCEE-T3-S3-001-2015) NaBH₄ and NH₃BH₃ enclosed in geopolymer and zeolite (Invited)

C. H. Ruescher^{*1}; L. Schomborg¹; Z. Assi¹; J. C. Buhl¹; 1. Leibniz University Hannover, Germany

2:00 PM

(CMCEE-T3-S3-002-2015) Effect of Carbon Content and Alkaline Condition on Transformation Yield of SiC by Carbothermal Reaction of Geopolymers (Invited)

C. Bagci²; G. Kutyla¹; W. M. Kriven^{*1}; 1. University of Illinois at Urbana-Champaign, USA; 2. Hitit University, Turkey

2:20 PM

(CMCEE-T3-S3-003-2015) Existence of consolidated material domains in the Al-Si-K/O and Al-Si-Na/O ternary diagram for various metakaolin and silicate solution: a powerful tool to estimate the geopolymer properties

A. Gharzouni^{*2}; E. Joussein¹; M. Soubrand¹; S. Rossignol²; 1. University of Limoges, GRESE, France; 2. SPCTS, France

2:40 PM

(CMCEE-T3-S3-004-2015) Sustainability Modelling and Sustainability Evaluation of Ceramic based Composite Materials: A Digraph and Matrix Approach

A. Anand^{*1}; M. WANI²; 1. SMVD UNIVERSITY KATRA J&K INDIA, India; 2. National Institute of Technology, India

3:00 PM

Break

3:20 PM

(CMCEE-T3-S3-005-2015) Nanoparticles-Seeded Geopolymers

M. Pernechele^{*1}; T. Troczynski¹; M. Pawlik¹; 1. University of British Columbia, Canada

3:40 PM

(CMCEE-T3-S3-006-2015) Preparation of fully stabilized C_f/cubic-leucite composite through geopolymer technique

P. He^{*1}; D. Jia¹; Z. Yang¹; X. Duan¹; Y. Zhou¹; 1. Harbin Institute of Technology, China

4:00 PM

(CMCEE-T3-S3-007-2015) Geopolymer beads and their applications in granular media

S. Cho^{*1}; A. Vakakis¹; D. McFarland¹; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA

4:20 PM

(CMCEE-T3-S3-008-2015) Properties of basalt, woven fabric-reinforced geopolymer composites

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

4:40 PM

(CMCEE-T3-S3-009-2015) Geopolymers Reinforced with Natural Fibers

K. Sankar¹; W. M. Kriven^{*1}; 1. University of Illinois at Urbana-Champaign, USA

5:00 PM

(CMCEE-T3-S3-010-2015) Geopolymerization: effect of the properties of alkaline silicate solutions on sand agglomeration

L. Vidal^{*1}; J. Gelet²; E. Joussein²; J. Absi¹; S. Rossignol¹; 1. SPCTS, France; 2. MERSEN, France; 3. University of Limoges - GRESE, France

5:20 PM

(CMCEE-T3-S3-011-2015) Potassium Geopolymer Reinforced with Granite Powder

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

5:40 PM

(CMCEE-T3-S3-012-2015) Geomaterial as sanitary applications

D. Kpogbemabou^{*1}; S. Rossignol¹; 1. Science des Procédés Céramiques et de Traitements de Surface (SPCTS), France

T3S4: Macroporous Ceramics for Environmental and Energy Applications

Novel Ceramic Filters for Environmental Protection

Room: Prince of Wales (3rd fl.)

Session Chair: Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST)

1:30 PM

(CMCEE-T3-S4-001-2015) Development of Porous Silicon Nitride with Tailor-made Pore Structure for Bio-Filter (Invited)

M. Kitayama^{*1}; Y. Ohta¹; 1. Fukuoka Institute of Technology, Japan

2:00 PM

(CMCEE-T3-S4-002-2015) Investigation of flat-sheet typed ceramic filter for water treatment using diatomite based composite materials

I. Song^{*1}; J. Ha¹; Y. Kim²; 1. Korea Institute of Materials Science, Korea; 2. University of Seoul, Korea

2:20 PM

(CMCEE-T3-S4-003-2015) Silicon Carbide Membranes for Filtration Applications of Produced Water

M. Kuhn^{*1}; A. Bakshi¹; F. Rodrigues²; A. Vincent²; R. Neufert³; 1. Saint-Gobain, USA; 2. Saint-Gobain, France; 3. Saint-Gobain IndustrieKeramik, Germany

2:40 PM

(CMCEE-T3-S4-004-2015) Preparation and Characterization of Alumina Coated, Clay Based Membranes for Oily Wastewater Treatment

Y. Kim^{*1}; H. Yeom¹; J. Eom¹; I. Song²; 1. University of Seoul, Korea; 2. Korea Institute of Materials Science, Korea

3:00 PM

Break

Ceramic Membranes I

Room: Prince of Wales (3rd fl.)

Session Chairs: Young-Wook Kim, University of Seoul; Hannes Richter, Fraunhofer Institute for Ceramic Technologies and Systems (IKTS)

3:20 PM

(CMCEE-T3-S4-005-2015) Polymer-functionalized ceramic membranes for use in organic solvent nanofiltration (Invited)

L. Winnubst^{*1}; A. Pinheiro¹; C. Tanardi¹; A. Nijmeijer¹; 1. University of Twente, Netherlands

3:50 PM

(CMCEE-T3-S4-006-2015) Graphene: a new membrane material for liquid filtration and gas separation (Invited)

T. Van Gestel^{*1}; 1. Forschungszentrum Jülich, Germany

4:20 PM

(CMCEE-T3-S4-007-2015) Ceramic Capillary Membranes with Adjustable Pore Size for Controlled Virus Retention

S. Kroll*; J. Werner; C. Brandes; B. Besser; K. Rezwan; 1. University of Bremen, Germany

4:40 PM

(CMCEE-T3-S4-008-2015) Zeolite membranes for energy efficient separation processes in bio fuel production and power generation

H. Richter*; C. Günther; J. Kühnert; M. Weyd; I. Voigt; A. Michaelis; 1. Fraunhofer Institute for Ceramic Technologies and Systems (IKTS), Germany

5:00 PM

(CMCEE-T3-S4-009-2015) Processing and characterization of activated carbon/carbon nanotubes-alumina composite membranes for water filtration

T. Laoui*; H. Shahzad; K. Ihsanullah; F. Patel; N. Al Aqeeli; M. Atieh; 1. KFUPM, Saudi Arabia

5:20 PM

(CMCEE-T3-S4-010-2015) Preparation and Characterization of Low Cost Kaolin Ceramic Membrane for Gas Separation Application

M. A. Abdulhameed*; M. D. Othman; A. F. Ismail; M. A. Rahman; J. Jaafar; 1. universiti teknologi Malaysia, Malaysia

Tuesday, June 16, 2015**T3S2: Advanced Functional Materials, Devices, and Systems for Environmental Conservation and Pollution Control****Advanced Functional Materials I**

Room: Oxford (3rd fl.)

Session Chair: Nobuhito Imanaka, Osaka University

8:30 AM

(CMCEE-T3-S2-001-2015) Narrow Bandgap Ferroelectric Thin Films for a New Type of Energy-Harvesting System Based on Photoelectric Conversion (Invited)

W. Sakamoto*; T. Katayama; N. Makino; K. Hayashi; T. Yogo; 1. Nagoya University, Japan

9:00 AM

(CMCEE-T3-S2-002-2015) Detection and Recognition of Single Molecule by an Oxide Semiconductor Tunnel Junction

Y. Nakamura*; M. Miyayama; 1. Graduate School of Engineering, The University of Tokyo, Japan

9:20 AM

(CMCEE-T3-S2-003-2015) Dielectric and impedance spectroscopy of Samarium and Lanthanum doped Barium Titanate at Room temperature

S. B. Narang*; D. Kaur; K. Pubby; 1. Guru Nanak Dev University, Amritsar, Punjab, India; 2. Department of Electronics And Communication Engineering, Punjab Technical University, PIT University Campus, India

9:40 AM

Break

10:00 AM

(CMCEE-T3-S2-004-2015) Electrochemical Devices with Oxide Ion Electrolytes for Formation of Hydrogen and Decomposition of Carbon Dioxide from the CH₄-CO₂ Mixed Biogas (Invited)

Y. Hirata*; S. Sameshima; T. Shimonosono; 1. Kagoshima University, Japan

10:30 AM

(CMCEE-T3-S2-005-2015) Discovery of a New Structure Family of Oxide-Ion Conductor BaNdInO₄ (Invited)

M. Yashima*; K. Fujii; M. Shiraiwa; Y. Esaki; 1. Tokyo Institute of Technology, Japan

11:00 AM

(CMCEE-T3-S2-006-2015) Gastight, closed pore inclusive porous ceramics through a superplastically foaming method (Invited)

A. Kishimoto*; 1. Okayama University, Japan

11:30 AM

(CMCEE-T3-S2-007-2015) Luminescence Sensing Using Microstructure-controlled Smart Phosphors (Invited)

S. Fujihara*; 1. Keio University, Japan

Advanced Functional Materials II

Room: Oxford (3rd fl.)

Session Chair: Nobuhito Imanaka, Osaka University

1:30 PM

(CMCEE-T3-S2-008-2015) Silicon-based Composites as Anode Materials for Next Generation Lithium Ion Battery (Invited)

H. Sakaguchi*; 1. Tottori University, Japan

2:00 PM

(CMCEE-T3-S2-009-2015) Crystal structures and properties of new inorganic compounds prepared by hydrothermal reaction (Invited)

N. Kumada*; 1. University of Yamanashi, Japan

2:30 PM

(CMCEE-T3-S2-010-2015) Recent development of thermodynamic database on RE metals and RE oxides for the application to the recovery of RE from waste materials (Invited)

I. Jung*; M. Van Ende; J. Kim; L. K. Jakobsson; 1. McGill University, Canada; 2. NTNU, Norway

3:00 PM

Break

3:20 PM

(CMCEE-T3-S2-011-2015) Synthesis and characterization of Zn-doped SnO₂ nanoparticles: enhanced ethanol sensing properties

B. Hari*; B. Zhang; W. Fu; J. Chen; H. Li; Z. Zhang; 1. Henan Polytechnic University, China

3:40 PM

(CMCEE-T3-S2-012-2015) Enzyme-Mimetic Activity of Ce-Intercalated Titanate Nanosheets

K. Kamada*; T. Ueda; T. Hyodo; Y. Shimizu; 1. Nagasaki University, Japan

4:00 PM

(CMCEE-T3-S2-013-2015) Development of Novel Ce³⁺-doped Oxide Phosphors

S. Kim*; T. Hasegawa; Y. Kawano; K. Uematsu; K. Toda; H. Takaba; T. Ishigaki; M. Sato; 1. Niigata University, Japan; 2. Kogakuin University, Japan

4:20 PM

(CMCEE-T3-S2-014-2015) Rare-earth-free Full-color Phosphors with 3d Transition Metal Luminescent Centers

Y. Matsushima*; A. SATO; H. TAKAHASHI; K. WATANABE; 1. Yamagata University, Japan

4:40 PM

(CMCEE-T3-S2-015-2015) Cyanosilylation of benzaldehyde with TMSCN over perovskite-type oxide catalyst prepared by thermal decomposition of heteronuclear cyano complex precursors

S. Yamaguchi*; T. Okuwa; H. Wada; H. Yahiro; 1. Ehime University, Japan

5:00 PM

(CMCEE-T3-S2-016-2015) Oxygen Storage Capacity of Sr-Fe Mixed Oxide

S. Hosokawa*; K. Beppu; K. Teramura; T. Tanaka; 1. Kyoto University, Japan

5:20 PM

(CMCEE-T3-S2-017-2015) Refractory and Pt-free Catalysts for Complete Oxidation of Toluene (Invited)

T. Masui*; M. Kim; N. Imanaka; 1. Osaka University, Japan

5:40 PM

(CMCEE-T3-S2-018-2015) Novel Low Temperature Synthesis Technique for Ceramic Materials (Invited)

K. Toda*; 1. Niigat University, Japan

T3S4: Macroporous Ceramics for Environmental and Energy Applications**Innovations in Processing Methods of Porous Ceramics I**

Room: Prince of Wales (3rd fl.)

Session Chairs: Takashi Shirai, Nagoya Institute of Technology; Ken'ichiro Kita, National Institute of Advanced Industrial Science and Technology (AIST)

8:30 AM

(CMCEE-T3-S4-011-2015) Synthesis and Applications of Nano-hollow Silica Particle (Invited)

M. Fuji*; C. Takai; H. K. Razavi; T. Shirai; 1. Nagoya Institute of Technology, Japan

9:00 AM

(CMCEE-T3-S4-012-2015) Microstructural Control in the Processing of Porous Materials by Use of Electrostatic Adsorption Assembly Technique (Invited)

H. Muto*; 1. Toyohashi University of Technology, Japan

9:30 AM

Break

Innovations in Processing Methods of Porous Ceramics II

Room: Prince of Wales (3rd fl.)

Session Chairs: Masayoshi Fuji; Hiroyuki Muto, Toyohashi University of Technology

10:00 AM

(CMCEE-T3-S4-013-2015) Microstructure and properties of porous alumina ceramics derived from alumina and aluminum powders (Invited)

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

10:30 AM

(CMCEE-T3-S4-014-2015) Effects of pore structure on the sound absorption property of porous ceramics fabricated by in-situ solidification technique using agar

T. Shirai*; M. Fuji; 1. Nagoya Institute of Technology, Japan

10:50 AM

(CMCEE-T3-S4-015-2015) Synthesis of Porous Self Bonded β -SiC by a Direct Reaction between Metallic Si and Carbon

S. Park*; M. Youm; S. Yoon; 1. Korea Institute of Sci. and Tech., Korea; 2. Korea Inst. of Sci. and Tech., Korea

11:10 AM

(CMCEE-T3-S4-016-2015) Engineered macrocellular ceramics by gelation freezing method

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

Energy Applications of Porous Ceramics

Room: Prince of Wales (3rd fl.)

Session Chairs: Tobias Fey, Friedrich-Alexander Universität Erlangen-Nürnberg; Alberto Ortona, SUPSI

1:30 PM

(CMCEE-T3-S4-017-2015) Thermal Management Technologies using Ceramic Members with Hollow Structure (Invited)

H. Kita*; I. Himoto; S. Yamashita; 1. Nagoya University, Japan

2:00 PM

(CMCEE-T3-S4-018-2015) Ceramic foams as supports for heat storage materials (Invited)

M. Scheffler*; S. Rannabauer; U. Betke; 1. University of Magdeburg, Germany

2:30 PM

(CMCEE-T3-S4-019-2015) Processing factor, microstructure and properties of mullite based thermal insulators by gelation freezing method

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

2:50 PM

(CMCEE-T3-S4-020-2015) Chemical heat storage property of Mg layered hydroxide salts and these porous packing bed

S. Yamashita*; H. Kita; 1. Nagoya University, Japan

3:10 PM

Break

Characterizations and Performances of Porous Ceramics

Room: Prince of Wales (3rd fl.)

Session Chairs: Michael Scheffler, University of Magdeburg; Hideki Kita, Nagoya University

3:20 PM

(CMCEE-T3-S4-021-2015) Round Robin Test on Bending Strength Distribution of Porous Ceramics (Invited)

K. Yasuda*; H. Kita; M. Takahashi; Y. Takahashi; J. Tatami; S. Tanaka; S. Honda; T. Mitsuoka; H. Muto; Y. Yoshizawa; S. Yamamoto; 1. Tokyo Tech., Japan; 2. Nagoya Univ., Japan; 3. Ehime Univ., Japan; 4. Noritake Company Limited, Japan; 5. Yokohama Nat'l Univ., Japan; 6. Nagaoka Univ. Tech., Japan; 7. Nagoya Tech., Japan; 8. NGK Spark Plug Co., Ltd., Japan; 9. Toyohashi Univ. Tech., Japan; 10. AIST, Japan; 11. Asuzac, Japan

3:50 PM

(CMCEE-T3-S4-022-2015) Structure and hydrogen gas sensing property of Pt nano particles dispersed tungsten oxide film prepared by sol-gel process (Invited)

Y. Yamaguchi*; H. Toyoda; C. Nemoto; K. Nishio; Y. Idemoto; S. Ito; K. Fujimoto; 1. Tokyo University of Science, Japan

4:20 PM

(CMCEE-T3-S4-023-2015) Heat and mass transfer in ceramic lattices during high temperature oxidation

A. Ortona*; M. Barbato; 1. SUPSI, Switzerland

4:40 PM

(CMCEE-T3-S4-024-2015) Fabrication of Porous hydroxyapatite body by gel-casting method and its catalytic activities

T. Shirai*; D. Asai; H. Nishikawa; M. Fuji; 1. Nagoya Institute of Technology, Japan

5:00 PM

(CMCEE-T3-S4-025-2015) Cellular oxide ceramics by direct metal oxidation process

T. Fey*; P. Greil; Ö. Duman; 1. Friedrich-Alexander Universität Erlangen-Nürnberg, Germany

5:20 PM

(CMCEE-T3-S4-026-2015) Cross-property relations and minimum solid area models for the effective properties of porous materials
W. Pabst*; E. Gregorova; 1. University of Chemistry and Technology, Prague (UCT Prague), Czech Republic

5:40 PM

(CMCEE-T3-S4-027-2015) Removal of Lead and Copper Ions with Egg shell and Brick kiln ash waste material adsorbents
S. E. Benjamin*; 1. Lahore College for Women University, Pakistan

T3S5: Advanced Sensors for Energy, Environment and Health Applications

Sensors

Room: Georgia A (2nd fl.)

Session Chairs: Girish Kale, University of Leeds; José Varela, UNESP

1:30 PM

(CMCEE-T3-S5-001-2015) Superior Gas Sensing Response of Novel Tin Oxide Nanostructures (Invited)
J. A. Varela*; M. O. Orlandi; 1. UNESP, Brazil

2:00 PM

(CMCEE-T3-S5-002-2015) Electronic Structure and Gas Sensing Properties of Oxide Nano-Heterostructures: Single-Nanowire Sensors and STEM-Cathodoluminescence

D. R. Miller*; S. Akbar; P. Morris; 1. The Ohio State University, USA

2:20 PM

(CMCEE-T3-S5-003-2015) Phase transformation and ac-impedance spectroscopy of $\text{Ho}_2(\text{Zr}_x\text{Ti}_{1-x})_2\text{O}_7$ for $0 \leq x \leq 1$ solid solution series (Invited)

G. Kale*; S. Muhammad; S. Mudenda; D. O'Carroll; Y. Iqbal; R. Ubc; 1. University of Leeds, United Kingdom; 2. Institute of Physics and Electronics, Pakistan; 3. Boise State University, USA

2:50 PM

Break

3:10 PM

(CMCEE-T3-S5-004-2015) Printed cantilevers and MOS gas sensors for hazardous gas detection at room temperature

H. Debéda*; V. Nguyen; M. Pina Pilar; V. Jubera; C. Lucat; 1. Université de Bordeaux, France; 2. Nano Institute of Aragon, Spain; 3. CNRS, ICMCB, France

3:30 PM

(CMCEE-T3-S5-005-2015) The importance of surface oxygen vacancies in chemoresistive gas-sensors based on nanocrystalline oxides: DFT-aided investigations

M. Epifani*; J. D. Prades; E. Comini; A. Cirera; P. Siciliano; G. Faglia; J. R. Morante; 1. CNR-IMM, Italy; 2. Universitat de Barcelona, Spain; 3. Università di Brescia and CNR-INO, Italy; 4. IREC and Universitat de Barcelona, Spain

3:50 PM

(CMCEE-T3-S5-006-2015) Monolayer inverse opal structures of Co_3O_4 , Fe_2O_3 , and LaFeO_3 for gas sensors

C. Lee*; Z. Dai; B. Kim; J. Lee; 1. Korea University, Korea; 2. Kyoto University, Japan

4:10 PM

(CMCEE-T3-S5-007-2015) Selective detection of trimethylamine using Cr_2O_3 -decorated SnO_2 nanowires

C. Kwak*; H. Woo; J. Lee; 1. Korea University, Korea

4:30 PM

(CMCEE-T3-S5-008-2015) Synthesis and Nanopatterning of In_2O_3 Nanostructures for Sensor Applications

A. Qurashi*; 1. King Fahd University of petroleum and minerals Dhahran, Saudi Arabia

Wednesday, June 17, 2015

T3S4: Macroporous Ceramics for Environmental and Energy Applications

Ceramic Membranes II

Room: Prince of Wales (3rd fl.)

Session Chairs: Tim Van Gestel, Forschungszentrum Jülich; Yuki Yamaguchi, Tokyo University of Science

8:30 AM

(CMCEE-T3-S4-028-2015) In-situ pore-forming techniques for highly interconnected porous network in ceramic membrane
X. Chen*; L. Hong; 1. National University of Singapore, Singapore

8:50 AM

(CMCEE-T3-S4-029-2015) Processing and properties of ceramics with structured porosity for Oxygen Transport Membranes

A. J. Stevenson*; J. Seuba; 1. Laboratoire de Synthèse et Fonctionnalisation des Céramiques (LSFC), France

9:10 AM

(CMCEE-T3-S4-030-2015) Tailoring of porosity of yttria-stabilized zirconia tubes as supports for oxygen separation membranes

A. B. Haugen*; D. K. Ramachandran; J. Gurauskis; A. Kaiser; M. Søgaard; 1. Technical University of Denmark, Denmark

9:30 AM

Break

Innovations in Processing Methods of Porous Ceramics III

Room: Prince of Wales (3rd fl.)

Session Chair: Mikito Kitayama, Fukuoka Institute of Technology

10:00 AM

(CMCEE-T3-S4-031-2015) High-Temperature Properties of Porous $\text{Ni}/\text{Al}_2\text{O}_3$ Nanocomposites

M. Nanko*; Y. Ito; 1. Nagaoka University of Technology, Japan

10:20 AM

(CMCEE-T3-S4-032-2015) Studies on optical properties of UV-cured acrylate films modified by dense silica nanoparticles

M. Fujii; W. Suthabanditpong; R. Buntem; C. Takai; T. Shirai; 1. Nagoya Institute of Technology, Japan; 2. Silpakorn University, Thailand

10:40 AM

(CMCEE-T3-S4-033-2015) Al_2TiO_5 - ZrTiO_4 Porous Ceramics by Direct Foaming

N. Sarkar; J. Park; S. Mazumder; I. J. Kim*; 1. Hanseo University, Korea

Thursday, June 18, 2015

T3S1: Photocatalysts for Energy and Environmental Applications

Photocatalysts for Energy and Environment I

Room: Georgia B (2nd fl.)

Session Chairs: Gang Liu, Institute of Metal Research, Chinese Academy of Sciences; Chuanyi Wang, Chinese Academy of Sciences

8:30 AM

(CMCEE-T3-S1-001-2015) Visible-light-driven Photocatalytic Hydrogen Evolution from Water over Heterogeneous Composites Employing Self-assembled Perylene Dimeres

S. Chen; C. Wang*; 1. Chinese Academy of Sciences, China

9:00 AM

(CMCEE-T3-S1-002-2015) Nanoscale Photoelectrochemical Water Oxidation Hybrid Semiconductor–Catalyst Heterojunction PhotoanodesK. S. Joya^{*1}; 1. King Abdullah University of Science and Technology (KAUST), Saudi Arabia

9:20 AM

(CMCEE-T3-S1-003-2015) Visible Light Photoactivity Enhancement via CuTCP hybridized g-C₃N₄ nanocompositeD. Chen^{*1}; 1. China University of Geosciences, China

9:40 AM

Break

10:00 AM

(CMCEE-T3-S1-004-2015) Multi-scale designing of solar driven photocatalysts for solar fuels (Invited)G. Liu^{*1}; 1. Institute of Metal Research, Chinese Academy of Sciences, China

10:30 AM

(CMCEE-T3-S1-005-2015) Highly efficient photocatalysts: mechanism, design and propertiesW. Wang^{*1}; 1. Shanghai Institute of Ceramics, China

10:50 AM

(CMCEE-T3-S1-006-2015) Understanding compositions and electronic structures dependent photocatalytic performance of complicated bismuth compoundsM. Long^{*1}; P. Hu¹; B. Tan¹; 1. Shanghai Jiao Tong University, China

11:10 AM

(CMCEE-T3-S1-007-2015) Photocatalytic Performance of Vanadium and Cobalt Co-doped TiO₂ Thin FilmsW. Chen^{*1}; P. Koshy¹; C. C. Sorrell¹; 1. The University of New South Wales, Australia**Photocatalysts for Energy and Environment II**

Room: Georgia B (2nd fl.)

Session Chairs: Gongxuan Lu, Lanzhou Institute of Chemical Physics; Kazuhiko Maeda, Tokyo Institute of Technology

1:30 PM

(CMCEE-T3-S1-008-2015) Fabrication and Photocatalytic Capability of Low Dimensional TiO₂ (Invited)J. Wang^{*1}; 1. Beijing University of Technology, China

2:00 PM

(CMCEE-T3-S1-009-2015) Development of Microtextured Titanium Dioxide Surface by Using Microcutting TechniquesJ. Shimizu^{*1}; T. Yamamoto¹; L. Zhou¹; T. Onuki¹; H. Ojima¹; 1. Ibaraki University, Japan

2:20 PM

(CMCEE-T3-S1-010-2015) Water splitting and CO₂ reduction using modified semiconductor photocatalysts (Invited)K. Maeda^{*1}; 1. Tokyo Institute of Technology, Japan

2:50 PM

Break

3:10 PM

(CMCEE-T3-S1-011-2015) Sensitized Graphene Hybrid Catalysts for Solar Hydrogen Generation (Invited)G. Lu^{*1}; 1. Lanzhou Institute of Chemical Physics, China

3:40 PM

(CMCEE-T3-S1-012-2015) Enhanced photoelectrocatalytic performance of reduced graphene oxide modified TiO₂ based photoelectrodesY. Du^{*1}; 1. Soochow University, China

4:00 PM

(CMCEE-T3-S1-013-2015) TiO₂ assisted Pt-based composite catalysts for the photo-electrocatalytic oxidation of methanolC. Wang^{*1}; Y. Du¹; 1. Soochow University, China

4:20 PM

(CMCEE-T3-S1-014-2015) ZnS-GaP superlattices: Potential new visible-light photocatalystsJ. Hart¹; F. Kurnia^{*1}; Y. Ng¹; R. Amal¹; N. Valanoor¹; 1. University of New South Wales, Australia**Friday, June 19, 2015****T3S1: Photocatalysts for Energy and Environmental Applications****Photocatalysts for Energy and Environment III**

Room: Georgia B (2nd fl.)

Session Chairs: Tao He, National Center for Nanoscience and Technology, China; Lianzhou Wang, The University of Queensland

8:30 AM

(CMCEE-T3-S1-015-2015) Dual Functional Photoelectrochemical Cell Design for Solar Fuel Generation (Invited)L. Wang^{*1}; 1. The University of Queensland, Australia

9:00 AM

(CMCEE-T3-S1-016-2015) Self-assembled growth of porous micro/nanospheres of hematite (α-Fe₂O₃) for effective removal of carcinogenic elementsR. C. Pawar^{*1}; C. S. Lee¹; 1. Hanyang University, Korea

9:20 AM

(CMCEE-T3-S1-017-2015) Hydrogen Production over Ag-Pd/TiO₂ Bimetallic Catalysts: Effect of Surface Plasmon ResonanceM. Nadeem^{*1}; A. Maher¹; M. Khan¹; H. Idriss¹; 1. Saudi Basic Industries Corporation, Saudi Arabia

9:40 AM

Break

10:00 AM

(CMCEE-T3-S1-018-2015) Visible-light photocatalytic reduction of CO₂ into CH₄ using ZnTe-based nanocatalysts (Invited)T. He^{*1}; 1. National Center for Nanoscience and Technology, China, China

10:30 AM

(CMCEE-T3-S1-019-2015) A Perylenetetracarboxylic Diimide Modified Zn_{0.7}Cd_{0.3}S Photocatalyst for Hydrogen Production from Water SplittingX. Li^{*1}; 1. China University of Petroleum, China

10:50 AM

(CMCEE-T3-S1-020-2015) Simultaneous adsorption and photo-oxidation for bioaerosol removal using metal doped TiO₂/PU under visible irradiationT. Pham^{*1}; B. Lee¹; 1. University of Ulsan, Korea

Monday, June 15, 2015

T4S2: Additive Manufacturing Technologies

Additive Manufacturing Technologies

Room: Regency E (3rd fl.)

Session Chair: Soshu Kiriwara, Osaka University

1:30 PM

(CMCEE-T4-S2-001-2015) Dense powder beds for powder-based additive manufacturing of ceramics (Invited)

J. Günster*; 1. BAM, Germany

1:50 PM

(CMCEE-T4-S2-002-2015) Additive Manufacturing of SiC Based Ceramics and Composites (Invited)

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

2:10 PM

(CMCEE-T4-S2-003-2015) 3D-macro-cellular SiC structures for ignition and combustion applications

N. Travitzky*; L. Schlier; R. Falgenhauer; M. Weclas; P. Greil; 1. Technische Hochschule Nürnberg Georg Simon Ohm, Germany; 2. University of Erlangen-Nuernberg, Germany

2:30 PM

(CMCEE-T4-S2-004-2015) Micro-structured reactors made by lithography-based ceramic manufacturing (LCM)

E. Schwarzer; U. Scheithauer*; E. Reichelt; H. Richter; W. Beckert; M. Jahn; A. Michaelis; 1. Fraunhofer IKTS Dresden, Germany; 2. Fraunhofer IKTS, Germany; 3. TU Dresden, Germany

2:50 PM

Break

3:10 PM

(CMCEE-T4-S2-005-2015) Additive Manufacture of Ceramics by Direct Inkjet Printing (Invited)

B. Derby*; 1. University of Manchester, United Kingdom

3:30 PM

(CMCEE-T4-S2-006-2015) From Casting Cores to High-Performance Ceramics - Lithography-based Ceramic Manufacturing as a Novel Manufacturing Process

M. Schwentenwein*; J. Homa; 1. Lithoz GmbH, Austria

3:50 PM

(CMCEE-T4-S2-007-2015) Fabrication of three-dimensionally small-sized ceramics by a wet molding technique using a plastic mold prepared by stereolithography (Invited)

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

4:10 PM

(CMCEE-T4-S2-008-2015) Stereolithographic Additive Manufacturing of Solid Electrolyte Dendrites with Ordered Porous Structures for Fuel Cell Miniaturizations

S. Kiriwara*; 1. Osaka University, Japan

4:30 PM

(CMCEE-T4-S2-010-2015) Functionally graded ceramic based materials using additive manufacturing: Review and progress

L. Yang*; H. Miyajiri; J. Ram; A. Zandinejad; S. Zhang; 1. University of Louisville, USA; 2. Indian Institute of Technology, India

4:50 PM

(CMCEE-T4-S2-011-2015) Additive Manufacturing of dense Ceramic Components and Metal-Ceramic-Composites by Thermoplastic 3D-Printing

U. Scheithauer*; E. Schwarzer; T. Slawik; A. Bergner; H. Richter; T. Moritz; A. Michaelis; 1. Fraunhofer IKTS Dresden, Germany; 2. Fraunhofer IKTS, Germany

5:10 PM

(CMCEE-T4-S2-012-2015) Additive Manufacturing of Micro Functional Structures through Diameter Variable Laser Stereolithography and Precursor Sintering Heat Treatments

S. Kiriwara*; 1. Osaka University, Japan

T4S4: Powder Processing Technology for Advanced Ceramics

Advanced Powder Processing to Develop Ceramics and Composites

Room: Regency F (3rd fl.)

Session Chairs: Makio Naito, JWRI, Osaka University; Tetsuo Uchikoshi, National Institute for Materials Science

1:30 PM

(CMCEE-T4-S4-001-2015) Processing, Structure, and Properties of Advanced Glass Composites (Invited)

K. Ewsuk*; 1. Sandia National Laboratories, USA

2:00 PM

(CMCEE-T4-S4-002-2015) Surface modification of GDC and LSGM powders with polyelectrolyte layers to improve their EPD characteristics

T. Uchikoshi*; E. Eto; H. T. Suzuki; C. Matsunaga; K. Kobayashi; T. S. Suzuki; H. Muto; A. Matsuda; 1. National Institute for Materials Science, Japan; 2. Tokyo City University, Japan; 3. Toyohashi University of Technology, Japan

2:20 PM

(CMCEE-T4-S4-003-2015) Boundary Factors of Transition from Methyl Cellulose-contained Al₂O₃ Suspension to Paste

Y. Hotta*; K. Sato; 1. National Institute of Advanced Industrial Science and Technology, Japan

2:40 PM

(CMCEE-T4-S4-004-2015) Facile synthesis of Bi₄Ge₃O₁₂ powder from aqueous solution (Invited)

K. Kobayashi*; T. Ikeda; K. Hirai; S. Mihara; T. Akashi; Y. Sakka; 1. National Institute for Materials Science, Japan; 2. National Institute of Advanced Industrial Science and Technology, Japan; 3. Hosei University, Japan

3:10 PM

Break

3:30 PM

(CMCEE-T4-S4-005-2015) Synthesis and characterization of nanosized oxide ceramic powders with eutectic compositions by heating of alcohol-aqueous salt solutions

J. Ouyang*; Y. Wang; Y. Ma; B. Wang; 1. Harbin Institute of Technology, China

3:50 PM

(CMCEE-T4-S4-006-2015) Bioinspired functional materials for energy and environment templated from nature species (Invited)

D. Zhang*; W. Zhang; J. Gu; T. Fan; H. Su; Q. Liu; 1. Shanghai Jiao Tong University, China

4:20 PM

(CMCEE-T4-S4-007-2015) The Combination of Biological Structures and Optical Materials

J. Gu*; D. Zhang; W. Zhang; 1. Shanghai Jiao Tong University, China

4:40 PM

(CMCEE-T4-S4-008-2015) Characterization and simulation of bioinspired optical ceramics templated from lepidopteran wings

W. Zhang*; W. Wang; J. Gu; D. Zhang; 1. State key lab of metal matrix composites, China

5:00 PM

(CMCEE-T4-S4-009-2015) Processing of Cubic Boron Nitride reinforced SiAlON Nano-Composites by Spark Plasma Sintering

A. S. Hakeem*; A. Ibrahim; T. Laoui; 1. KFUPM, Saudi Arabia

5:20 PM

(CMCEE-T4-S4-010-2015) Effect of carbon nanotubes and carbon black on microstructure and mechanical properties of *in-situ* Ti-TiC composites synthesized by Reactive Spark Plasma Sintering
V. Kombamuthu*; S. R. Bakshi¹; 1. Indian Institute of Technology Madras, India

T4S5: Advanced Materials, Technologies, and Devices for Electro-optical and Biomedical Applications

Piezo/Ferro I

Room: Regency A (3rd fl.)

Session Chairs: QIANG LI, Tsinghua University; Valérie Demange, Institut des Sciences Chimiques de Rennes

1:30 PM

(CMCEE-T4-S5-001-2015) Electrocaloric Properties of PZT-based Ceramics, PVDF Films and PMN-PT Crystals (Invited)
H. Maiwa*; 1. Shonan Institute of Technology, Japan

2:00 PM

(CMCEE-T4-S5-002-2015) Electrical and Mechanical Properties of Gehlenite Single Crystals for High Temperature Sensor Use (Invited)

H. Takeda*; K. Yoshida¹; M. Hagiwara²; T. Hoshina¹; S. Fujihara²; T. Tsurumi¹; 1. Tokyo Institute of Technology, Japan; 2. Keio University, Japan

2:30 PM

(CMCEE-T4-S5-003-2015) Single crystal growth of PLZST antiferroelectric and its field induced phase transition behavior (Invited)

Q. LI*; J. GAO¹; F. ZHUO¹; Q. YAN¹; Y. ZHANG¹; X. CHU¹; 1. Tsinghua University, China

3:00 PM

Break

3:20 PM

(CMCEE-T4-S5-004-2015) Nanostructuring in the lead-free K-Nb-O, K-Ta-Nb-O and K-Na-Nb-O systems: from perovskite thin films to tetragonal tungsten bronze nanorods epitaxially grown by pulsed laser deposition on oxides substrates (Invited)

A. Waroquet¹; V. Demange*; P. Hamoumou²; B. Gautier²; V. Dorcet¹; S. Députier¹; V. Bouquet¹; M. Guilloux-Viry¹; 1. Institut des Sciences Chimiques de Rennes, France; 2. Institut des Nanotechnologies de Lyon, France

3:50 PM

(CMCEE-T4-S5-005-2015) Fabrication of Textured BaZrO₃-modified Na_{0.5}Bi_{0.5}TiO₃ Ceramics by Reactive Templated Grain Growth Method

A. Hussain*; J. Rahman¹; A. Maqbool¹; R. Malik¹; M. Kim¹; T. Song¹; W. Kim¹; J. Kim¹; 1. Changwon National University, Korea; 2. Department of Physics, Changwon National University, Korea

Nano/Film I

Room: Regency A (3rd fl.)

Session Chairs: Claude Delmas, ICMCB - CNRS; Alicia de Andres, Consejo Superior de Investigaciones Científicas

4:10 PM

(CMCEE-T4-S5-006-2015) Electrochemically induced sodium ordering-disordering in the layered Na_xVO₂ system (Invited)
C. Delmas*; M. Guignard¹; C. Didier¹; M. Sucomel²; J. Darriet¹; 1. ICMCB - CNRS, France; 2. APS, USA

4:40 PM

(CMCEE-T4-S5-007-2015) In situ observations of crystal/melt interface during unidirectional growth of silicon (Invited)

K. Fujiwara*; 1. Tohoku University, Japan

5:10 PM

(CMCEE-T4-S5-008-2015) Direction Control of Oriented Assembly for 1D, 2D and 3D Microarrays of Anisotropic Rectangular Nanoblocks (Invited)

H. Imai*; Y. Nakagawa¹; H. Kageyama¹; K. Nakamura¹; Y. Oaki¹; 1. Keio University, Japan

5:40 PM

(CMCEE-T4-S5-009-2015) Synthesis, Structure and Properties of BiFeO₃-Based Multiferroic Solid Solutions

L. Su*; N. Zhang¹; Z. Ye¹; 1. Simon Fraser University, Canada

T4S11: Materials Diagnostics and Structural Health Monitoring of Ceramic Components and Systems

Materials Diagnostics and Structural Health Monitoring of Ceramic Components and Systems

Room: Regency B (3rd fl.)

Session Chair: Joerg Opitz, Fraunhofer IKTS-MD

1:30 PM

(CMCEE-T4-S11-001-2015) Advanced Technologies for Quality Inspection in Ceramic Materials (Invited)

C. Wunderlich*; H. Heuer¹; P. Krüger¹; T. Herzog¹; M. Schulze¹; 1. Fraunhofer IKTS, Germany

2:00 PM

(CMCEE-T4-S11-002-2015) Nondestructive Evaluation of FRP Composite Wrapped Concrete Members Using Infrared Thermography and Digital Tap Testing (Invited)

H. Gangarao¹; U. B. Halabe*; 1. West Virginia University, USA

2:30 PM

(CMCEE-T4-S11-003-2015) Thermographic Characterization of Ceramic Coatings and Structures (Invited)

S. M. Shepard*; 1. Thermal Wave Imaging, Inc., USA

3:00 PM

Break

3:20 PM

(CMCEE-T4-S11-004-2015) Damage Detection of Steel Structures Using Dynamic Responses Data (Invited)

H. Gangarao*; M. Skidmore¹; 1. West Virginia University, USA

3:50 PM

(CMCEE-T4-S11-005-2015) Luminescent glass ceramics activated by supramolecular nanodiamond complexes

V. A. Lapina*; T. A. Pavich¹; P. P. Pershykevich¹; J. Opitz²; 1. Institute of Physics of NAS Belarus, Belarus; 2. Fraunhofer IKTS-MD, Germany

4:10 PM

(CMCEE-T4-S11-006-2015) Tailored metal oxide heterogeneous interfaces for robust photocatalysis (Invited)

C. Dong¹; C. Dinu*; 1. West Virginia University, USA

4:40 PM

(CMCEE-T4-S11-007-2015) In-situ Optical Coherence Tomography Inspection of Thermal Barrier Coatings

C. Wolf*; A. Lehmann¹; G. Unglaube¹; 1. Fraunhofer Institute for Ceramic Technologies and Systems, Branch Material Diagnostics, Germany

5:00 PM

(CMCEE-T4-S11-008-2015) Nanodiamond Based Bio-Ceramics with Improved Thermal, Infrared and Bio-Medical Features

J. Schreiber*; D. Lee¹; H. Kim²; 1. NUGA LAB GmbH, Germany; 2. Yonsei University, Korea

Tuesday, June 16, 2015

T4S1: Computational Design and Modeling

Modeling and Design of Innovative Ceramics I

Room: Regency E (3rd fl.)

Session Chair: Jingyang Wang, Institute of Metal Research

8:30 AM

(CMCEE-T4-S1-001-2015) Accelerated Discovery of Ceramic Materials via Systematic Density-Functional Calculations (Invited)

I. Tanaka*; A. Seko*; Y. Koyama*; A. Togo*; 1. Kyoto University, Japan

9:00 AM

(CMCEE-T4-S1-002-2015) Theoretical predicted magnetic state of a new MAX phases: $(\text{Ti}_{1/3}\text{Cr}_{2/3})\text{AlC}_2$

J. Wang*; J. Wang*; 1. Institute of Metal Research, China

9:20 AM

(CMCEE-T4-S1-003-2015) Structure and cation ordering of ULa_2O_6 , ULaO_6 , UCe_2O_6 , UCeO_4 by first principles calculations

L. A. Casillas Trujillo*; K. Sackafus*; H. Xu*; 1. University of Tennessee, USA

9:40 AM

Break

Modeling and Design of Innovative Ceramics II

Room: Regency E (3rd fl.)

Session Chair: Isao Tanaka, Kyoto University

10:00 AM

(CMCEE-T4-S1-004-2015) Computation and Numerical Analyses of Thermal Properties of Oxides (Invited)

M. Yoshiya*; S. FUJII*; D. KANAYAMA*; Y. AKADA*; R. ISHIMURA*; 1. Osaka University, Japan

10:30 AM

(CMCEE-T4-S1-005-2015) Modeling Ceramics and Soft Matter Interfaces at the Nanoscale: Principles and Applications (Invited)

H. Heinz*; 1. University of Akron, USA

11:00 AM

(CMCEE-T4-S1-006-2015) Theoretical investigations on atomic-scale conduction mechanism of interstitial oxygen ions in apatite-type fast ionic conductors (Invited)

K. Matsunaga*; K. Imaizumi*; S. Ishimoto*; K. Toyoura*; A. Nakamura*; 1. Nagoya University, Japan

11:30 AM

(CMCEE-T4-S1-007-2015) Tailoring phonon behaviors in Y-Si-O silicates

Y. Luo*; J. Wang*; 1. Institute of Metal Research, CAS, China

Modeling and Design of Innovative Ceramics III

Room: Regency E (3rd fl.)

Session Chair: Sean Smith, UNSW Australia

1:30 PM

(CMCEE-T4-S1-008-2015) Structural, mechanical and electronic properties of all transition metal nitrides in 8 different cubic structures: A first-principles investigation (Invited)

S. V. Khare*; T. Z. Liu*; X. Zhou*; D. Gall*; 1. University of Toledo, USA; 2. Rensselaer Polytechnic Institute, USA; 3. University of Maryland at College Park, USA

2:00 PM

(CMCEE-T4-S1-009-2015) Feasible and reliable *ab initio* approach to computation of materials relevant for nuclear waste management

P. Kowalski*; G. Beridze*; Y. Li*; Y. Ji*; 1. Forschungszentrum Juelich, Germany

2:20 PM

(CMCEE-T4-S1-010-2015) Investigation of the elastic and thermal properties quaternary RE-Si-O-N oxynitrides

L. Sun*; J. Wang*; 1. Institute of Metal Research, CAS, China

2:40 PM

(CMCEE-T4-S1-011-2015) Oxygen Vacancy Migration in Bulk SrTiO_3 from Density Functional Theory

L. Zhang*; B. Liu*; H. Zhuang*; P. Kent*; V. Cooper*; P. Ganesh*; H. Xu*; 1. University of Tennessee, USA; 2. Oak Ridge National Lab, USA

3:00 PM

Break

Modeling and Design of Innovative Ceramics IV

Room: Regency E (3rd fl.)

Session Chairs: Masato Yoshiya, Osaka University; Katsuyuki

Matsunaga, Nagoya University

3:20 PM

(CMCEE-T4-S1-012-2015) First principles study of grain boundary diffusion in $\alpha\text{-Al}_2\text{O}_3$ (Invited)

T. Tohei*; Y. Watanabe*; N. Shibata*; Y. Ikuhara*; 1. The University of Tokyo, Japan

3:50 PM

(CMCEE-T4-S1-013-2015) Defect Transport in Oxide Superlattice from Density Functional Theory (Invited)

H. Xu*; L. Zhang*; P. Kent*; P. Ganesh*; V. Cooper*; H. Zhuang*; 1. The University of Tennessee, USA; 2. Oak Ridge National Lab, USA

4:20 PM

(CMCEE-T4-S1-014-2015) Design of TiO_2 photocatalyst with visible-light-response based on DFT calculations

L. Yin*; 1. Institute of Metal Research, China

4:40 PM

(CMCEE-T4-S1-015-2015) Computational Studies of Doped Strontium Cobaltate Perovskites for Electrocatalytic Oxygen Evolution (Invited)

S. C. Smith*; X. Tan*; W. Zhou*; M. Zhao*; Z. Zhu*; H. Tahini*; 1. UNSW Australia, Australia; 2. The University of Queensland, Australia; 3. Shandong University, China

5:10 PM

(CMCEE-T4-S1-016-2015) Evolution of Carbon Vacancy Configurations in Non-stoichiometric ZrC_{1-x} (Invited)

J. Wang*; 1. Institute of Metal Research, CAS, China

T4S3: Novel, Green, and Strategic Processing and Manufacturing Technologies

Novel, Green, and Strategic Processing I

Room: Regency B (3rd fl.)

Session Chairs: Valerie Wiesner, NASA Glenn Research Center; Surojit Gupta, University of North Dakota

8:30 AM

(CMCEE-T4-S3-001-2015) Energy efficient processing of additive-free hot-pressed silicon carbide ceramics (Invited)

P. Sajgalik*; 1. Institute of Inorganic Chemistry, Slovakia

9:00 AM

(CMCEE-T4-S3-002-2015) Novel Silicon Carbide Composites with Particle Dispersion in Matrix (Invited)

T. Hinoki*; K. Shimoda*; 1. Kyoto University, Japan; 2. National Institute for Materials Science, Japan

9:30 AM

(CMCEE-T4-S3-003-2015) Anisotropic properties of textured SiC prepared by slip casting in a strong magnetic field

T. S. Suzuki*; T. UCHIKOSHI*; Y. Sakka*; 1. National Institute for Materials Science, Japan

9:50 AM

Break

10:10 AM

(CMCEE-T4-S3-004-2015) Enhanced properties of alumina-dispersed Cu alloy by modification of interface energy between alumina and Cu matrix (Invited)

K. Kim^{*}; S. Han²; B. Han³; 1. Pusan National University, Korea; 2. Korea Institute of Materials Science, Korea; 3. Yonsei University, Korea

10:40 AM

(CMCEE-T4-S3-005-2015) Processing of diamond particle dispersed aluminum matrix composites in continuous solid-liquid co-existent state by SPS and their thermal properties

K. Mizuuchi^{*}; K. Inoue³; Y. Agari¹; M. Tanaka¹; T. Takeuchi¹; J. Tani¹; M. Kawahara²; Y. Makino²; M. Ito²; 1. Osaka Municipal Technical Research Institute, Japan; 2. Kawahara SPS Technical Office, Japan; 3. University of Washington, USA; 4. Kyoto University, Japan; 5. Osaka University, Japan

11:00 AM

(CMCEE-T4-S3-006-2015) Microstructure Control in SRBSN (Sintered Reaction Bonded Silicon Nitride) (Invited)

H. Kim^{*}; 1. Korea Institute of Materials Science (KIMS), Korea

11:30 AM

(CMCEE-T4-S3-007-2015) The Influence of Fe, Al Impurities Content in Raw Si Powder on the Characteristics of Sintered Reaction Bonded Silicon Nitrides

D. Kusano^{*}; H. Hyuga²; Y. Zhou²; K. Hirao²; 1. Japan Fine Ceramics Co.,Ltd., Japan; 2. National Institute of Advanced Industrial Science & Technology (AIST), Japan

11:50 AM

(CMCEE-T4-S3-008-2015) Agar Gelcasting of Porous α -Al₂O₃ Disk Using Porcelain as Sintering Aid

K. Lertwittayanon^{*}; 1. Prince of Songkla University, Thailand

Novel, Green, and Strategic Processing II

Room: Regency B (3rd fl.)

Session Chairs: Tohru Suzuki, National Institute for Materials Science; Tatsuya Hinoki, Kyoto University

1:30 PM

(CMCEE-T4-S3-009-2015) Advanced Materials via Polymer-to-Ceramic Transformation Processing Technologies (Invited)

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

2:00 PM

(CMCEE-T4-S3-010-2015) Recent development on the green geopolymer composite (Invited)

D. Jia¹; Y. Zhou^{*}; P. He¹; 1. Harbin Institute of Technology, China

2:30 PM

(CMCEE-T4-S3-011-2015) New Approaches to Processing Multiphase Ceramics for Ultrafine Grain Sizes (Invited)

M. McCartney^{*}; K. Phillips¹; O. Graeve²; K. Karandikar²; 1. "University of California, Irvine", USA; 2. University of California, San Diego, USA

3:00 PM

Break

3:20 PM

(CMCEE-T4-S3-012-2015) Stereolithographic Additive Manufacturing of Ceramics Dendrites to Modulate Energy and Material Flows (Invited)

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

3:50 PM

(CMCEE-T4-S3-013-2015) High-gravity combustion synthesis of ceramic and cermet via melt infiltration and rapid solidification (Invited)

J. Li^{*}; G. Liu¹; 1. Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, China

4:20 PM

(CMCEE-T4-S3-014-2015) A Perspective on the Green Body Fabrication and Design for Sustainable Manufacturing

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

4:40 PM

(CMCEE-T4-S3-015-2015) Environmentally-friendly processing of transparent optical ceramics

Y. Wu^{*}; Y. Yang¹; 1. Alfred University, USA

5:00 PM

(CMCEE-T4-S3-016-2015) Production processes for new lightweight kiln furniture

U. Scheithauer^{*}; T. Slawik¹; E. Schwarzer¹; A. Michaelis²; 1. Fraunhofer IKTS Dresden, Germany; 2. Fraunhofer IKTS, Germany

5:20 PM

(CMCEE-T4-S3-017-2015) Effect of biodiesel engine blends on engine performance and toxic emission for diesel dual fuel engine

R. Wang^{*}; 1. National sun yat-sen university, Taiwan

5:40 PM

(CMCEE-T4-S3-018-2015) Hydrogen-gasoline Bifuel Engine System : Performance and greenhouse gases reduction under various vehicle driving condition

S. Jhang^{*}; 1. National Sun yat-sen university, Taiwan

T4S4: Powder Processing Technology for Advanced Ceramics

Particle Design for Advanced Ceramics and Ceramics Matrix Composites

Room: Regency F (3rd fl.)

Session Chairs: Di Zhang, Shanghai Jiao Tong University; Junichi Tatami, Yokohama National University

8:30 AM

(CMCEE-T4-S4-011-2015) Optimization of Grinding Processing by ADEM Simulation (Invited)

J. Kano^{*}; S. ISHIHARA¹; 1. Tohoku University, Japan

9:00 AM

(CMCEE-T4-S4-012-2015) Explaining Mineral Cleavage and the Role of Grinding Aids at the Molecular Level

H. Heinz^{*}; R. Flatt²; R. K. Mishra²; 1. University of Akron, USA; 2. ETH Zurich, Switzerland

9:20 AM

(CMCEE-T4-S4-013-2015) Exfoliation of Laminated h-BN Particles by a Novel Rotating Disk Method

Y. Tominaga^{*}; D. Shimamoto¹; K. Sato¹; Y. Imai¹; Y. Hotta¹; 1. National Institute of Advanced Industrial Science and Technology, Japan

9:40 AM

Break

10:00 AM

(CMCEE-T4-S4-014-2015) Development of management technology of de-NO_x ceramic catalyst in coal fired power plant (Invited)

H. Makino^{*}; K. Tanno¹; 1. Central Research Institute of Electric Power Industry, Japan

10:20 AM

(CMCEE-T4-S4-015-2015) Particle Design and Mechanical Synthesis of Cathode Materials for Lithium-Ion Batteries

T. Kozawa*; E. Nakamura; H. Tarui; A. Kondo; M. Matsuoka; M. Naito; 1. Joining and Welding Research Institute, Osaka University, Japan

10:40 AM

(CMCEE-T4-S4-016-2015) Low magnetic field orientation of graphene coated β -Si₃N₄ seeds for c-axis oriented Si₃N₄ ceramicsT. Takahashi*; J. Tatami²; N. Suigomoto²; M. Iijima²; 1. Kanagawa Academy of Science and Technology, Japan; 2. Yokohama National University, Japan

11:00 AM

(CMCEE-T4-S4-017-2015) Fabrication of Si₃N₄ ceramics by post-reaction sintering technique using nanocomposite particles

J. Tatami*; K. Jeong; T. Takahashi; M. Iijima; 1. Yokohama National University, Japan; 2. Kanagawa Academy of Science and Technology, Japan

11:20 AM

(CMCEE-T4-S4-018-2015) Comparative studies of the oxidation of MoSi₂ based composites**Part 1: Low temperature oxidation (300–900 °C)**

M. Samadzadeh*; C. Oprea; H. Karimi Sharif; T. Troczynski; 1. The University of British Columbia, Canada; 2. Westport Innovations Inc., Canada

T4S5: Advanced Materials, Technologies, and Devices for Electro-optical and Biomedical Applications**Nano/Film II**

Room: Regency A (3rd fl.)

Session Chairs: Hiroaki Imai, Keio University; David Rogers, Nanovation

8:30 AM

(CMCEE-T4-S5-010-2015) Preparation and sensing properties of Flame Spray Pyrolysis processed WO₃ nano-sensor

J. Huang*; P. Gouma; 1. Stony Brook University, USA

8:50 AM

(CMCEE-T4-S5-011-2015) Two-step Growth Using Artificial Peptide for Fabrication of Self-standing Hydroxyapatite Films Consisting of Enamel-like Oriented Nanorods

H. Imai*; K. Aita; Y. Oaki; 1. Keio University, Japan

9:10 AM

(CMCEE-T4-S5-012-2015) The appearance of quasi-liquid layers on ice crystal surfaces (Invited)

G. Sazaki*; H. Asakawa; K. Murata; K. Nagashima; S. Nakatsubo; Y. Furukawa; 1. Hokkaido University, Japan

9:40 AM

Break

10:00 AM

(CMCEE-T4-S5-013-2015) An electrically-driven, ultra-high-speed, on-chip light emitter based on carbon nanotubes and graphene (Invited)

H. Maki*; 1. Keio University, Japan

10:30 AM

(CMCEE-T4-S5-014-2015) Graphene Based Materials for Optical Sensing (Invited)

L. Alvarez-Fraga; E. Climent-Pascual; F. Jimenez-Villacorta; R. Ramirez-Jimenez; C. Prieto; R. Jimenez-Rioboo; A. de Andres*; 1. Consejo Superior de Investigaciones Científicas, Spain; 2. Universidad Carlos III de Madrid, Spain

11:00 AM

(CMCEE-T4-S5-015-2015) Multifunctional Zinc Oxide Thin Films & Nanostructures for Emerging Applications (Invited)

D. Rogers*; F. Hosseini Teherani; E. Sandana; P. Bove; 1. Nanovation, France

11:30 AM

(CMCEE-T4-S5-016-2015) Gallium-zinc oxynitride nanowire prepared from ZnGa₂O₄

Y. Masubuchi*; A. Kamura; T. Motohashi; S. Kikkawa; 1. Hokkaido University, Japan

Semiconductor

Room: Regency A (3rd fl.)

Session Chairs: Didier Chaussende, CNRS; Zlatko Sitar, NCSU

1:30 PM

(CMCEE-T4-S5-017-2015) Carbides as models for the investigation of fundamental growth mechanisms (Invited)

D. Chaussende*; J. Dedulle; T. Ouisse; 1. CNRS, France; 2. Université Grenoble Alpes, France

2:00 PM

(CMCEE-T4-S5-018-2015) Ultra high quality SiC crystal grown by solution method (Invited)

T. Ujihara*; S. Harada; K. Aoyagi; M. Tagawa; T. Sakai; 1. Nagoya University, Japan

2:30 PM

(CMCEE-T4-S5-019-2015) Effect of New Materials for High Quality SiC Crystal Growth by PVT Method (Invited)

H. Lee; H. Shin; M. Park; Y. Jang; W. Lee*; M. Chun; S. Lee; I. Yeo; T. Eun; J. Kim; 1. Donggeui University, Korea; 2. POSCO, Korea; 3. Morgan, Korea; 4. RIST, Korea; 5. DGI, Korea

3:00 PM

Break

3:20 PM

(CMCEE-T4-S5-020-2015) AlGaN-based technology for deep UV lasers (Invited)

Z. Sitar*; 1. NCSU, USA

3:50 PM

(CMCEE-T4-S5-021-2015) UVC LED on high purity single crystal Aluminum Nitride (Invited)

S. P. Rao*; 1. Crystal IS, USA

4:20 PM

(CMCEE-T4-S5-022-2015) Crystal growth of AlN: A single crystalline ceramic material for environmental and energy applications (Invited)

R. Sumathi*; 1. Ludwig-Maximilians-Universität (LMU), Germany

4:50 PM

(CMCEE-T4-S5-023-2015) InGaN-based LEDs on (-201) β -Ga₂O₃ Substrate (Invited)

K. Iizuka*; Y. Morishima; A. Kuramata; Y. Shen; Y. Su; G. Liu; S. Hon; M. C. Hsieh; 1. TAMURA CORPORATION, Japan; 2. EPISTAR CORPORATION, Taiwan

5:20 PM

(CMCEE-T4-S5-024-2015) Laser slicing of few-micron layers and device structures from GaN substrates (Invited)

V. Voronenkov*; V. Kogotkov; M. Virko; Y. Rebane; A. Zubrilov; R. Gorbunov; P. Latyshev; N. Bochkareva; Y. Lelikov; Y. Shreter; 1. Ioffe physical Technical Institute, Russian Federation

T4S10: Bio-inspired and Hybrid Materials**Bio-inspired and Hybrid Materials I**

Room: Regency F (3rd fl.)

Session Chairs: Tadachika Nakayama, Nagaoka Univ of Tech; Roger Narayan, University of North Carolina

1:30 PM

(CMCEE-T4-S10-001-2015) Two Photon Polymerization of Inorganic-Organic Hybrid Materials for Medical Device Applications (Invited)

R. J. Narayan*; 1. NCSU, USA

2:00 PM**(CMCEE-T4-S10-002-2015) Effect of gas addition during superheated steam treatment of carbon fiber on the interfacial shear strength between the fiber and epoxy resin**

M. Wada*; K. Kawai; K. Hayashi; H. Hira; S. Kitaoka; 1. Japan Fine Ceramics Center, Japan; 2. Daido University, Japan

2:20 PM**(CMCEE-T4-S10-003-2015) Enhancement Thermal Conductivity of Hexagonal Boron Nitride / Poly-methylmethacrylate Composite with 3-Dimensional Percolation Structure for Thermal Interface Material**

S. Ryu*; Y. Song; S. Kim; Y. Choa; 1. Hanyang University, Korea

2:40 PM**(CMCEE-T4-S10-004-2015) The fabrication and characterization of Pt-doped SnO₂ thin film for H₂S gas sensing**

N. Eom*; Y. Choi; S. Kim; Y. Choa; 1. Hanyang University, Korea

3:00 PM**Break****3:20 PM****(CMCEE-T4-S10-005-2015) Synthesis of Nanostructured Titania-Polyaniline Nanohybrids and Their Electrical Properties (Invited)**

T. Sekino*; Y. Han; 1. Osaka University, Japan

3:50 PM**(CMCEE-T4-S10-006-2015) Interface control of oxide fibers for improving sensing capability (Invited)**

J. Kim; S. Kim*; 1. Inha University, Korea

4:20 PM**(CMCEE-T4-S10-007-2015) Controlled Synthesis of Hydrophobic Micro/Nanostructured Surface of Alumina on Silicon Substrate**

H. Lim*; N. Eom; S. Kim; Y. Choa; 1. Hanyang University, Korea

4:40 PM**(CMCEE-T4-S10-008-2015) Fabrication of the SiO₂/Resin 3D Sub-Micron Sized Hybrids via Multiphoton Lithography**

H. Akiyama; M. Guadalupe del Rocio Herrera Salazar*; T. Nakayama; H. Suematsu; T. Suzuki; Y. Yoshitake; N. Yamada; T. Takahashi; K. Niihara; 1. Nagaoka Univ of Tech, Japan

Wednesday, June 17, 2015

T4S3: Novel, Green, and Strategic Processing and Manufacturing Technologies

Novel, Green, and Strategic Processing III

Room: Regency B (3rd fl.)

Session Chairs: Yiquan Wu, Alfred University; Soshu Kirihara, Osaka University

8:30 AM**(CMCEE-T4-S3-019-2015) Soft Processing of Functionalized Graphenes and Their Hybrids via Submerged Liquid Plasma : SLP and Electrochemical Exfoliation:ECE under Ambient Conditions (Invited)**

M. Yoshimura*; J. Senthilnathan; K. Sanjeeva Rao; 1. National Cheng Kung University, Taiwan

9:00 AM**(CMCEE-T4-S3-020-2015) Hydrothermal Synthesis of Alkali Titanates for Environmental Applications (Invited)**

D. Edwards*; B. Higgins; 1. Alfred University, USA

9:30 AM**(CMCEE-T4-S3-021-2015) Aqueous Solid Oxide Colloidal Suspensions for Manufacturing of High Temperature Oxygen Permeation Membranes**

J. Gorauskis*; A. B. Haugen; S. Ovtar; A. Kaiser; M. Sogaard; P. Hendriksen; 1. Technical University of Denmark, Denmark

9:50 AM**Break****10:10 AM****(CMCEE-T4-S3-022-2015) The potential of Aerosol Deposition process for the improvement of product value (Invited)**

J. Akedo*; 1. AIST, Japan

10:40 AM**(CMCEE-T4-S3-023-2015) Influence of Thickness of the Boride-Based Thermal Diffusion Coatings on Tribological Properties**

E. Medvedovski*; J. Jiang; M. Robertson; 1. Endurance Technologies Inc., Canada; 2. NRC, Canada

11:00 AM**(CMCEE-T4-S3-024-2015) Thermal cycling test of metallized samples containing aluminum and alumina**

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

11:20 AM**(CMCEE-T4-S3-025-2015) Fabrication and Grain Orientation Control of Nonreducible BaTiO₃-Based Ceramics for Piezoelectric Actuator Applications (Invited)**

W. Sakamoto*; 1. Nagoya University, Japan

11:50 AM**(CMCEE-T4-S3-026-2015) Fractal modification of Curie-Weiss law based improved impedance of doped BaTiO₃-ceramics**

V. Mitic; L. Kocic*; V. Paunovic; 1. Institute of Technical Sciences of Serbian Academy of Sciences and University of Nis, Faculty of Electronic Engineering, Nis, Serbia, Serbia; 2. Faculty of Electronic Engineering, Serbia

T4S5: Advanced Materials, Technologies, and Devices for Electro-optical and Biomedical Applications

Scintillator

Room: Regency A (3rd fl.)

Session Chairs: Edith Bourret, Lawrence Berkeley National Laboratory; John Frank, Saint-Gobain Crystals

8:30 AM**(CMCEE-T4-S5-025-2015) Halide Scintillators: Discovery, Crystal Growth and Engineering (Invited)**

E. Bourret*; 1. Lawrence Berkeley National Laboratory, USA

9:00 AM**(CMCEE-T4-S5-026-2015) Crystal Growth at Northrop Grumman SYNOPTICS (Invited)**

D. Solodovnikov*; K. Stevens; M. Randles; G. Foundos; 1. Northrop Grumman SYNOPTICS, USA

9:30 AM**Break****9:50 AM****(CMCEE-T4-S5-027-2015) New Scintillator Development, Methods of Preparation and Impact On Performance (Invited)**

J. M. Frank*; V. Ouspenski; P. Menge; K. Yang; J. Lejay; 1. Saint-Gobain Crystals, USA; 2. Saint-Gobain Recherche, France

10:20 AM

(CMCEE-T4-S5-028-2015) Czochralski growth and properties of Ce:Gd₃(Ga,Al)₅O₁₂ and Gd_{2-x}La_{x-y}Ce_ySi₂O₇ scintillator crystals (Invited)

Y. Shoji^{*}; S. Kurosawa²; K. Kamada¹; Y. Yokota³; V. Kochurikhin⁴; A. Yoshikawa²; 1. C&A corporation, Japan; 2. Institute for Materials Research (IMR), Tohoku University, Japan; 3. New Industry Creation Hatchery Center (NICHe), Tohoku University, Japan; 4. Prokhorov General Physics Institute, Russian Federation

10:50 AM

(CMCEE-T4-S5-029-2015) Scintillator Material for X-ray CT (Computed Tomography) (Invited)

H. Nitta^{*}; 1. HITACHI METALS, Ltd., Japan

11:20 AM

(CMCEE-T4-S5-030-2015) A Neutron Detector based on Boron-10 Enriched Scintillating Glass

U. Akgun^{*}; 1. Coe College, USA

11:40 AM

(CMCEE-T4-S5-031-2015) Recent Development of Relaxor-based Piezoelectric Crystals for Biomedical Transducer Applications (Invited)

J. Luo^{*}; S. Zhang²; S. Taylor¹; W. Hackenberger¹; 1. TRS Technologies, Inc, USA; 2. Pennsylvania State University, USA

T4S7: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nano-laminated Ternary Carbides and Nitrides (MAX Phases)

UHTC and MAX Phases I

Room: Regency E (3rd fl.)

Session Chair: Johanna Rosen, Thin Film Physics Division

8:30 AM

(CMCEE-T4-S7-001-2015) A current overview of the MAX phases and thin film processing (Invited)

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

9:00 AM

(CMCEE-T4-S7-002-2015) Densification And Selected Properties of Hot-Pressed Ti₃AlN Materials

J. Lis^{*}; L. Chlubny¹; M. M. Bučko¹; D. Zientara¹; K. Chabior¹; P. Chachlowska¹; 1. AGH-University of Science and Technology, Poland

9:20 AM

(CMCEE-T4-S7-003-2015) Phase Evolution Phenomenon During Hot Pressing Of The SHS Obtained Ti₃AlC₂ Precursors Powders

L. Chlubny^{*}; J. Lis¹; M. M. Bučko¹; D. Zientara¹; K. Chabior¹; P. Chachlowska¹; 1. AGH-University of Science and Technology, Poland

9:40 AM

Break

UHTC and MAX Phases II

Room: Regency E (3rd fl.)

Session Chair: Per Eklund, Linköping University

10:00 AM

(CMCEE-T4-S7-005-2015) Magnetic MAX phases from first principles and thin film synthesis (Invited)

J. Rosen^{*}; 1. Thin Film Physics Division, Sweden

10:30 AM

(CMCEE-T4-S7-006-2015) ZrC - a potentially material for ultrahigh temperature heaters

K. Schönfeld^{*}; H. Martin¹; A. Michaelis¹; 1. FHG IKTS, Germany

10:50 AM

(CMCEE-T4-S7-007-2015) Metastable SiBCN ceramic and its matrix composite (Invited)

D. Jia^{*}; B. Liang¹; Z. Yang¹; X. Duan¹; Y. Zhou¹; 1. Harbin Institute of Technology, China

11:20 AM

(CMCEE-T4-S7-008-2015) Thermal and mechanical properties of HfC-SiC Nano composites

S. Lee^{*}; 1. KIMS, Korea

T4S10: Bio-inspired and Hybrid Materials**Bio-inspired and Hybrid Materials II**

Room: Regency F (3rd fl.)

Session Chairs: Masashi Wada, Japan Fine Ceramics Center; Hong-Baek Cho, Nagaoka University of Technology

8:30 AM

(CMCEE-T4-S10-009-2015) Mechanism of Specific Recognition of Pt Nanocrystals by Peptides and of their Formation from Seed Crystals (Invited)

H. Heinz^{*}; H. Ramezani-Dakheil¹; L. Ruan²; Y. Huang²; 1. University of Akron, USA; 2. University of California - Los Angeles, USA

9:00 AM

(CMCEE-T4-S10-010-2015) Orientation of cup-stacked carbon nanotubes fillers in polymer nanocomposite films and electrical property evaluation for an electrode for brain-wave detector application

M. T. Huynh^{*}; T. Nakayama¹; H. Cho¹; H. Suematsu¹; T. Suzuki¹; W. Jiang¹; K. Niihara¹; 1. Nagaoka university of technology, Japan

9:20 AM

(CMCEE-T4-S10-011-2015) Design of electrospun carbon fibers electrodes for enzymatic biofuel cells

A. Both Engel^{*}; A. Cherifi¹; M. Bechelany¹; S. Tingry¹; D. Cornu¹; 1. European Membranes Institut - National Superior School of Chemistry of Montpellier, France

9:40 AM

Break

10:00 AM

(CMCEE-T4-S10-012-2015) Chitosan/Nanodiamond Hybrid Films for Anti-Cancer Drug Delivery by Diffusion-control of Doxorubicin (Invited)

H. Cho^{*}; J. Shin¹; T. Nakayama¹; H. Suematsu¹; T. Suzuki¹; W. Jiang¹; K. Niihara¹; E. Park¹; K. Kim¹; 1. Nagaoka University of Technology, Japan; 2. Pusan National University, Korea

10:30 AM

(CMCEE-T4-S10-013-2015) Ecology, Economy Fabrication and Concept of High Concentrated Cu Nanoparticles by Solid-liquid Microwave Reaction Systems (Invited)

Y. Hayashi^{*}; J. Fukushima¹; H. Takizawa¹; 1. Tohoku university, Japan

11:00 AM

(CMCEE-T4-S10-014-2015) Polymer-ceramic composites incorporating thermomiotic (negative thermal expansion) and near-zero thermal expansion materials

C. P. Romao^{*}; A. de Farias Pereira¹; A. Roberto Soares²; P. Pontón³; L. Mancic³; J. R. d'Almeida⁴; B. A. Marinkovic⁵; M. White¹; 1. Dalhousie University, Canada; 2. Universidade Federal do Rio de Janeiro, Brazil; 3. Centro Universitário de Volta Redonda - UNIFOA, Brazil; 4. Departamento de Engenharia de Materiais, Pontifícia Universidade Católica de Rio de Janeiro, Brazil; 5. Institute of Technical Sciences of SASA, Serbia

11:20 AM

(CMCEE-T4-S10-015-2015) Phase formation and corrosion phenomena of co-sintered metal-ceramic multilayers

A. Bergner^{*}; T. Moritz¹; A. Michaelis¹; 1. Fraunhofer IKTS, Germany

Thursday, June 18, 2015

T4S5: Advanced Materials, Technologies, and Devices for Electro-optical and Biomedical Applications

Optics I

Room: Regency A (3rd fl.)

Session Chairs: Luisa Bausa, Universidad Autónoma de Madrid; Sara Faraj, Fibercryst

8:30 AM

(CMCEE-T4-S5-038-2015) Growth and laser application of Ytterbium doped silicate single crystals (Invited)

L. Zheng*; J. Xu¹; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

9:00 AM

(CMCEE-T4-S5-033-2015) Laser diode for the next generation solid state lighting (Invited)

Y. Moon*; 1. UJL Inc., Korea

9:30 AM

Break

9:50 AM

(CMCEE-T4-S5-034-2015) Engineering approach to improve the solid state lighting characters with translucent poly crystal alumina (Invited)

K. Matsuhira*; 1. NGK INSULATORS, LTD., Japan

10:20 AM

(CMCEE-T4-S5-035-2015) Synthesis and Luminescence properties of Novel Oxide Phosphors by Melt Synthesis Method

S. Kim*; T. Hasegawa¹; H. Nakagawa¹; K. Uematsu¹; K. Toda¹; H. Takaba²; T. Ishigaki¹; M. Sato¹; 1. Niigata University, Japan; 2. Kogakuin University, Japan

10:40 AM

(CMCEE-T4-S5-036-2015) Growth of potassium tantalate niobate (KTa_{1-x}Nb_xO₃: KTN) crystals by the vertical Bridgman method (Invited)

T. Taishi*; K. Hosokawa¹; K. Hoshikawa¹; T. Kojima²; J. Osada²; S. Takekawa²; M. Sasaura²; T. Komatsu³; 1. Shinshu University, Japan; 2. Oxide Corporation, Japan; 3. NTT Advanced Technology Corporation, Japan

11:10 AM

(CMCEE-T4-S5-037-2015) Domain structure and electro-optic effect in silicate glass-ceramics fabricated by perfect surface crystallization (Invited)

Y. Takahashi*; K. Yamaoka¹; Y. Yamazaki¹; N. Terakado¹; T. Fujiwara¹; 1. Tohoku University, Japan

Optics II

Room: Regency A (3rd fl.)

Session Chairs: Luisa Bausa, Universidad Autónoma de Madrid; Sara Faraj, Fibercryst

1:30 PM

(CMCEE-T4-S5-032-2015) Single Crystal Growth of Phosphor Materials by Gas Phase Method (Invited)

K. Toda*; 1. Niigat University, Japan

2:00 PM

(CMCEE-T4-S5-039-2015) Single Crystals Fibers of Cladded Doped-YAG for High Power Laser and Amplifiers Applications (Invited)

G. Maxwell*; 1. Shasta Crystals Inc, USA

2:30 PM

(CMCEE-T4-S5-040-2015) New nonlinear optical crystals of BaTeMo₂O₉ (Invited)

X. Tao*; 1. Shandong University, China

3:00 PM

Break

3:20 PM

(CMCEE-T4-S5-041-2015) Single Crystal Growth of Ferroelectric LaBGeO₅ for Optical Frequency Conversion Devices (Invited)

S. Miyazawa*; M. Sakairi¹; J. Hirohashi¹; M. Matsukura¹; S. Takekawa¹; Y. Furukawa¹; 1. OXIDE Cop., Japan

3:50 PM

(CMCEE-T4-S5-042-2015) Chiroptics of condensed matters (Invited)

T. Asahi*; K. Ishikawa¹; A. Takanabe¹; T. Taniguchi¹; 1. Waseda University, Japan

4:20 PM

(CMCEE-T4-S5-043-2015) Multiple nonlinear processes in two dimensional ferroelectric photonic structures (Invited)

M. O. Ramirez*; M. Luis¹; P. Molina¹; L. E. Bausa¹; 1. Universidad Autonoma Madrid, Spain

T4S6: Multifunctional Coatings for Energy and Environmental Applications

Novel Spray Coatings

Room: Regency B (3rd fl.)

Session Chairs: Jun Akedo, AIST; Kentaro Shinoda, National Institute of Advanced Industrial Science and Technology (AIST)

8:30 AM

(CMCEE-T4-S6-001-2015) Fabrication of Ceramics Films by Plasma Assisted Aerosol Deposition Method (Invited)

M. Mori*; J. Akedo¹; 1. AIST, Japan

9:00 AM

(CMCEE-T4-S6-002-2015) Nanoparticles Paste Injection into Gas Flame Thermal Spray for Speedy Ceramics Coating

S. Kirihara*; 1. Osaka University, Japan

9:20 AM

(CMCEE-T4-S6-003-2015) Plasma Spraying of Nitride Materials

G. Fischer*; 1. Fraunhofer IKTS, Germany

9:40 AM

Break

10:00 AM

(CMCEE-T4-S6-004-2015) Microstructure of Suspension Plasma Sprayed Ceramic Coating

M. Suzuki*; M. Shahien¹; 1. AIST, Japan

YSZ Coatings for TBCs/SOFCs

Room: Regency B (3rd fl.)

Session Chairs: Seiji Kuroda, NIMS; Soshu Kirihara, Osaka University

10:20 AM

(CMCEE-T4-S6-005-2015) Yttria stabilized zirconia electrolyte thin films for SOFC application

T. Suzuki*; T. Suzuki¹; H. Shimada¹; H. Sumi¹; K. Hamamoto¹; T. Yamaguchi¹; Y. Fujishiro¹; W. Shin¹; J. Akedo¹; 1. National Institute of Advanced Industrial Science and Technology, Japan; 2. Gifu University, Japan

10:40 AM

(CMCEE-T4-S6-006-2015) Control of Microstructure and Stress State in Thermal Barrier Coatings through Plasma Spray ProcessesS. Kuroda^{*1}; X. Chen¹; T. Ohnuki¹; M. Gizynski¹; H. Araki¹; 1. NIMS, Japan

11:00 AM

(CMCEE-T4-S6-007-2015) Development of Advanced Thermal Barrier Coating for the Next Generation Gas TurbineR. Wu^{*1}; T. Torigoe¹; Y. Okajima¹; D. Kudo¹; M. Mega¹; I. OKADA¹; J. Masada²; K. Tsukagoshi²; 1. Mitsubishi Heavy Industries, LTD., Japan; 2. Mitsubishi Hitachi Power Systems, Ltd., Japan

11:20 AM

(CMCEE-T4-S6-008-2015) The Optimization of Atmospheric Plasma Spray Process Parameters to Deposit YSZ Coatings on the High-Temperature Sandwich Panels Using Response Surface MethodologyS. Salavati^{*1}; T. W. Coyle¹; J. Mostaghimi¹; 1. University of Toronto, Canada

11:40 AM

(CMCEE-T4-S6-009-2015) Improvement of interfacial strength for thermal barrier coatings by formation of wedge-like thermally grown oxideK. Ogawa¹; S. Hatta^{*1}; H. Yamazaki²; 1. Tohoku University, Japan; 2. Tohoku Electric Power Co., Inc., Japan**Solution-based Coatings**

Room: Regency B (3rd fl.)

Session Chairs: Yoshihiko Imanaka, Fujitsu Laboratories Ltd.; Satoshi Wada, University of Yamanashi

1:30 PM

(CMCEE-T4-S6-010-2015) Advanced functional oxide thin film for green devices by photo assisted-metal organic deposition (Invited)T. Tsuchiya^{*1}; T. Nakajima¹; K. Shinoda¹; T. Nakamura¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

2:00 PM

(CMCEE-T4-S6-011-2015) Ultrafast radiation thermometry for monitoring fabrication process of oxide thin films in excimer laser-assisted metal organic depositionK. Shinoda^{*1}; T. Katsuki¹; A. Yumoto¹; T. Nakajima¹; T. Tsuchiya¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Shibaura Institute of Technology, Japan

2:20 PM

(CMCEE-T4-S6-012-2015) Thermochromic VO₂ composite coatings for building energy efficiencyP. Clem^{*1}; N. Bell¹; R. L. Johnson¹; 1. Sandia National Laboratories, USA

2:40 PM

(CMCEE-T4-S6-013-2015) 2D Oxide Nanosheets: A New Platform for Ceramic Nanocoating (Invited)M. Osada^{*1}; 1. National Institute for Materials Science, Japan

3:10 PM

Break

Functional Materials Coatings

Room: Regency B (3rd fl.)

Session Chairs: Minoru Osada, National Institute for Materials Science; Tetsuo Tsuchiya, National Institute of Advanced Industrial Science and Technology (AIST)

3:30 PM

(CMCEE-T4-S6-014-2015) Low temperature Preparation of Barium Titanate-based Nano-complex Ceramics by Solvothermal Solidification Method and Their Dielectric and Piezoelectric Enhancement (Invited)S. Wada^{*1}; 1. University of Yamanashi, Japan

4:00 PM

(CMCEE-T4-S6-015-2015) Development of next-generation multifunctional metal supported catalystsT. Saeki^{*1}; J. Akedo¹; 1. National Institute of Advanced Industrial Science and Technology, Japan

4:20 PM

(CMCEE-T4-S6-016-2015) Crystal structure of Nanostructured BaTiO₃ Film using Aerosol-type Nanoparticle Deposition (Invited)Y. Imanaka^{*1}; H. Amada¹; F. Kumasaka¹; N. Awaji¹; 1. Fujitsu Laboratories Ltd., Japan

4:50 PM

(CMCEE-T4-S6-017-2015) Fabrication and properties of thermoelectric thick film elements fabricated by aerosol deposition method (Invited)Y. Nakamura^{*1}; K. Shirai¹; M. Inoue¹; 1. Toyohashi University of Technology, Japan**T4S7: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nano-laminated Ternary Carbides and Nitrides (MAX Phases)****UHTC and MAX Phases III**

Room: Regency E (3rd fl.)

Session Chair: Martin Magnuson, Linköping University

8:30 AM

(CMCEE-T4-S7-009-2015) Reaction, solid-solution and phase-separation as dictated by sintering melts in ZrB₂-SiC and HfB₂-SiC based ceramics (Invited)H. Gu^{*1}; 1. Shanghai University, China

9:00 AM

(CMCEE-T4-S7-010-2015) SiC_f/SiC composites made by precursor impregnation and pyrolysis process using different polycarbosilane precursorsS. Lee^{*1}; 1. KIMS, Korea

9:20 AM

(CMCEE-T4-S7-011-2015) Complex Phase Relationship Induced by WC in HfB₂-SiC-based CeramicsD. Hu^{*1}; Q. Zheng²; H. Gu¹; 1. Shanghai University, China; 2. Max Planck Institute for Chemical Physics of Solids, Germany

9:40 AM

Break

UHTC and MAX Phases IV

Room: Regency E (3rd fl.)

Session Chair: Hui Gu, Shanghai University

10:00 AM

(CMCEE-T4-S7-012-2015) Electronic structure and chemical bond investigation of MAX-phases by soft X-ray spectroscopy and *ab initio* calculations (Invited)M. Magnuson^{*1}; 1. Linköping University, Sweden

10:30 AM

(CMCEE-T4-S7-013-2015) A study of the reaction between palladium and silicon carbideM. Gentile^{*1}; T. Abram¹; 1. The University of Manchester, United Kingdom

T4S8: Ceramic Integration Technologies for Energy and Environmental Applications

Ceramic Integration Technologies for Energy and Environmental Application

Room: Regency F (3rd fl.)

Session Chair: Michael Halbig, NASA Glenn Research Center

8:30 AM

(CMCEE-T4-S8-001-2015) TEM Observation of Interfaces and Phase Formation in Diffusion-Bonded Silicon Carbide Ceramics Using Metallic Interlayers (Invited)

H. Tsuda^{*}; S. Mori¹; T. Ozaki²; Y. Hasegawa²; M. C. Halbig³; M. Singh⁴; R. Asthana⁵; 1. Osaka Prefecture University, Japan; 2. Technology Research Institute of Osaka Prefecture, Japan; 3. NASA Glenn Research Center, USA; 4. Ohio Aerospace Institute, USA; 5. University of Wisconsin-Stout, USA

9:00 AM

(CMCEE-T4-S8-002-2015) Low Temperature Air Braze Process for Joining Silicon Carbide Components

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

9:20 AM

(CMCEE-T4-S8-003-2015) Joining of SiC-based materials for high temperature applications

A. Schmidt^{*}; T. Schubert¹; T. Weissgärber¹; B. Kieback¹; 1. Fraunhofer Institute for Manufacturing Technology and Advanced Materials Branch Lab Dresden, Germany

9:40 AM

Break

10:00 AM

(CMCEE-T4-S8-004-2015) Laser induced surface nano-structuring of SiC for adhesive bonding in space applications

C. Wilhelm^{*}; M. Suess¹; M. Funke²; G. Kling²; D. Logut³; F. Levallois³; 1. Airbus Defence and Space GmbH, Airbus Group Innovations, Germany; 2. Airbus Defence and Space, Germany; 3. Airbus Defence and Space, France

10:20 AM

(CMCEE-T4-S8-005-2015) In situ reinforced ZrB₂-SiC brazing joints by TiB whisker

T. Lin^{*}; H. Wei¹; P. He¹; L. Wang¹; 1. Harbin Institute of Technology, China

10:40 AM

(CMCEE-T4-S8-006-2015) Interface Microstructure and Mechanical Properties of the brazed C_f/LAS Composites Joint

D. Liu^{*}; X. Song¹; J. Feng¹; 1. Harbin Institute of Technology, China

11:00 AM

(CMCEE-T4-S8-007-2015) CNTs-reinforced TiNi brazing alloy brazed with SiO₂-BN ceramic and Nb

J. Qi^{*}; J. Lin¹; L. Zhang¹; J. Cao¹; J. Feng¹; 1. Harbin Institute of Technology, China

11:20 AM

(CMCEE-T4-S8-008-2015) Study on the Wettability of Quartz Fiber Reinforced Composite Modified by Growing Carbon Nanotubes

L. Zhang^{*}; Y. A. Zhu¹; J. Qi¹; J. J. Zhang¹; J. Feng¹; 1. Harbin Institute of Technology, China

Friday, June 19, 2015

T4S5: Advanced Materials, Technologies, and Devices for Electro-optical and Biomedical Applications

Piezo/Ferro II

Room: Balmoral (3rd fl.)

Session Chairs: Alain Largeteau, ICMCB-CNRS; Yoshihiko Imanaka, Fujitsu Laboratories Ltd.

8:30 AM

(CMCEE-T4-S5-051-2015) Material Integration for Flexible Electronics Using Nanoparticulated Dense and Stress-Free Ceramic Thick Film (Invited)

Y. Imanaka^{*}; 1. Fujitsu Laboratories Ltd., Japan

9:00 AM

(CMCEE-T4-S5-052-2015) Effect of glass doping on the Initial permeability of microwave sintered MgCuZn Ferrites for possible application of LTCC technology

W. Madhuri^{*}; S. K.V.³; S. Srigrir²; 1. VIT University, Vellore, India; 2. University of New Orleans, USA; 3. Sri Krishnadevaraya University, India

9:20 AM

(CMCEE-T4-S5-053-2015) Recent Developments in High-Performance Piezo-/Ferroelectric Single Crystals for Electromechanical Transducers (Invited)

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

9:50 AM

Break

10:10 AM

(CMCEE-T4-S5-054-2015) Piezoelectric Properties of Doped LGT Single Crystals (Invited)

A. Medvedev^{*}; S. Sakharov¹; A. Zabelin¹; B. Oleg¹; V. Alenkov¹; 1. OAO Fomos-Materials, Russian Federation

10:40 AM

(CMCEE-T4-S5-055-2015) Solid-State Lithium Battery and Thin Film Technology (Invited)

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

11:10 AM

(CMCEE-T4-S5-056-2015) Hydrothermal crystal growth for SiO₂ doped with GeO₂ for piezoelectric applications (Invited)

A. Largeteau^{*}; 1. ICMCB-CNRS, France

11:40 AM

(CMCEE-T4-S5-057-2015) Novel single crystals for electro-optical applications (Invited)

K. Shimamura^{*}; G. VILLORA¹; 1. National Institute for Materials Science, Japan

Optics III

Room: Regency A (3rd fl.)

Session Chairs: Xutang Tao, Shandong University; Mikio Higuchi, Hokkaido University

8:30 AM

(CMCEE-T4-S5-044-2015) Fluoride based Optical Ceramics for potential application in CO₂ Laser Optics (Invited)

I. Manek-Hönninger^{*}; M. Prakasam²; J. Lopez¹; A. Largeteau²; 1. University of Bordeaux, France; 2. ICMCB-CNRS, France

9:00 AM

(CMCEE-T4-S5-045-2015) Magneto-optical spectroscopic study on CeF₃ single-crystal with the Generalized-High Accuracy Universal Polarimeter

K. Nakagawa*¹; G. VILLORA²; K. Shimamura²; T. Asahi¹; 1. Waseda University, Japan; 2. National Institute for Materials Science, Japan

9:20 AM

(CMCEE-T4-S5-046-2015) Sesquioxide transparent ceramics by spark plasma sintering and their characteristics

M. Prakasam*¹; O. Viraphong¹; U. Chung Seu¹; A. Largeteau¹; 1. ICMCB-CNRS, France

9:40 AM

Break

10:00 AM

(CMCEE-T4-S5-047-2015) Effect of localized surface plasmons on the fluorescence and nonlinear response in rare earth doped ferroelectric crystals (Invited)

L. E. Bausa*¹; E. Yraola¹; L. Sanchez-García¹; P. Molina¹; M. O. Ramirez¹; C. de las Heras¹; J. J. Carvajal²; M. Aguiló²; F. Díaz²; 1. Universidad Autónoma de Madrid, Spain; 2. Universitat Rovira i Virgili, Spain

10:30 AM

(CMCEE-T4-S5-048-2015) Growth and Properties of Mid-infrared Nonlinear Optical Chalcogenide Crystals (Invited)

S. Wang*¹; X. Tao¹; 1. Institute of Crystal Materials, China

11:00 AM

(CMCEE-T4-S5-049-2015) Growth of large-size TSLAG single crystal for high power laser optical isolators (Invited)

T. Kizaki*¹; K. Naoe¹; A. Funaki¹; K. Shimamura²; G. VILLORA²; 1. Fujikura Ltd., Japan; 2. National Institute for Material Science, Japan

11:30 AM

(CMCEE-T4-S5-050-2015) Float zone growth of Cr,Nd:CaREAlO₄ single crystals for solar-pumped lasers (RE=Y, La, Gd) (Invited)

M. Higuchi*¹; 1. Hokkaido University, Japan

T4S6: Multifunctional Coatings for Energy and Environmental Applications

Application to Structural Components

Room: Regency B (3rd fl.)

Session Chairs: Javad Mostaghimi, University of Toronto; Masakatsu Kiyohara, Research

8:30 AM

(CMCEE-T4-S6-018-2015) 3-Dimensional Thick Coating using Aerosol Deposition Process (Invited)

J. Park*¹; 1. IONES Co. Ltd, Korea

9:00 AM

(CMCEE-T4-S6-019-2015) Experimental production of industrial roller coated by hard α -Al₂O₃ film using aerosol deposition process

N. Seto*¹; K. Kazuteru Endo¹; N. Honda²; N. Sakamoto¹; S. Hirose¹; J. Akedo¹; 1. National Institute Advanced Industrial Science and Technology, Japan; 2. Honda Seiki Co. Ltd., Japan

9:20 AM

(CMCEE-T4-S6-020-2015) Preparation and microstructure of Cr₂AlC coating by cathodic arc deposition

Y. Qian*¹; M. Li¹; J. Li¹; J. Xu¹; 1. Institute of Metal Research, Chinese Academy of Sciences, China

9:40 AM

Break

10:00 AM

(CMCEE-T4-S6-021-2015) Application of Yttrium Oxide prepared by Aerosol Deposition method (Invited)

M. Kiyohara*¹; 1. Research, Japan

Surface Functionalization

Room: Regency B (3rd fl.)

Session Chairs: Sang Sub Kim, Inha University; Masato Suzuki, AIST

10:30 AM

(CMCEE-T4-S6-022-2015) Solution Precursor Plasma Sprayed Superhydrophobic Surface (Invited)

Y. Cai¹; T. W. Coyle¹; J. Mostaghimi*¹; 1. University of Toronto, Canada

11:00 AM

(CMCEE-T4-S6-023-2015) Contribution to the electrodegradation of Rhodamine B dye onto Cu₂O thin film electrode

M. El Hajji*¹; 1. LISM Laboratory, France

11:20 AM

(CMCEE-T4-S6-024-2015) The synthesis of metal alloying DLC coating for the application on bipolar plates in fuel cell

K. Moon*¹; 1. Korea Institute of Industrial Technology, Korea

11:40 AM

(CMCEE-T4-S6-025-2015) Functionalization of Oxide Nanowires for Sensing Applications

S. Kim*¹; 1. Inha University, Korea

Notes

Tuesday, June 16, 2015

Poster Session

Room: Regency C & D (3rd fl.)

6:00 PM

(CMCEE-H1-P001-2015) Oxidation of Yb²⁺ in YAG:Yb optical ceramicsO. Vovk^{*}; M. Chaika^{*}; R. Yavetskiy^{*}; O. Lopin¹; O. Tolmachov¹; 1. Institute for Single Crystal National Academy of Sciences of Ukraine, Ukraine**(CMCEE-H1-P002-2015) Synthesis of Photoluminescent Nanorods of Tb³⁺-doped rhabdophne Prepared by Hydrothermal Route Assisted by Microwaves**M. T. Colomer^{*}; P. Lopez²; 1. Instituto de Ceramica y Vidrio, Spain; 2. Instituto de Cerámica y Vidrio, Spain**(CMCEE-H1-P003-2015) Design of Tb³⁺-doped LaPO₄nH₂O and Tb³⁺-doped LaPO₄ Hollow Spheres through One-pot Hydrothermal Synthesis without using any Template**M. T. Colomer^{*}; 1. Instituto de Ceramica y Vidrio, Spain**(CMCEE-H1-P004-2015) YSZ Thin Films Prepared from a Novel One-pot Process by Microwave Forced Hydrolysis and Electrophoretic Deposition (EPD)**M. T. Colomer^{*}; 1. Instituto de Ceramica y Vidrio, Spain**(CMCEE-T1-S1-P005-2015) Adsorption of siloxane for biogas cleanup using UCT mesoporous adsorbent**T. Jiang^{*}; T. Jafari^{*}; W. Zhong^{*}; P. Singh^{*}; S. Suib^{*}; 1. University of Connecticut, USA**(CMCEE-T1-S1-P006-2015) Improved Densification and Ionic Conductivity of Sr- and Mg-doped Lanthanum Gallate**E. N. Muccillo^{*}; 1. Energy and Nuclear Research Institute, Brazil**(CMCEE-T1-S1-P007-2015) Preparation and characterization of gadolinium doped barium zirconate for SOFC**D. Z. de Florio^{*}; 1. UFABC, Brazil**(CMCEE-T1-S1-P008-2015) Energy Efficient Ceramic Electrolyte fuel cell system with enhanced Power Density for Intermediate Temperature – Solid Oxide Fuel Cell application**R. Gupta^{*}; 1. Indian Institute of Technology (BHU), Varanasi, India**(CMCEE-T1-S1-P009-2015) Processing methods for manufacture of bi-layer comprising anode support and electrolyte in a metal supported SOFC**V. V. Krishnan^{*}; K. Arpana¹; P. Rupa¹; V. R. Goli¹; K. Bala Subramanian¹; R. Kumar²; R. Tomov²; B. Glowacki²; 1. Non Ferrous Materials Technology Development Center, Hyderabad, INDIA, India; 2. University of Cambridge, United Kingdom**(CMCEE-T1-S1-P010-2015) Effects of Layer Thickness on the Performance of Micro-tubular Solid Oxide Fuel Cells Made by Sequential Aqueous Electrophoretic Deposition**F. Yu^{*}; J. Cherng^{*}; 1. Ming Chi University of Technology, Taiwan**(CMCEE-T1-S2-P011-2015) Systematic Analyses on Reduction of Thermal Conduction through Interfacial Modification in a Layered Cobalt Oxide Ca₃Co₄O₉**S. FUJII^{*}; M. Yoshiya^{*}; M. TADA¹; H. YASUDA¹; 1. Osaka University, Japan**(CMCEE-T1-S2-P012-2015) Synthesis, structure, microstructure, and thermoelectric properties of perovskite-type MLaTiO₄(M = Ag, Cu, Zn) phases**M. Han^{*}; B. Yu¹; S. Kim¹; 1. Ewha Womans University, Korea**(CMCEE-T1-S2-P013-2015) Mechanical and thermoelectric properties of Bi₂Te₃ under deviation from stoichiometry**E. Rogacheva^{*}; A. Budnik¹; A. Fedorov¹; O. Vodoretz¹; O. Nashchekina¹; 1. National technical university "Kharkov polytechnic institute", Ukraine; 2. Institute for Scintillation Materials of NAS of Ukraine, Ukraine**(CMCEE-T1-S2-P014-2015) Thermoelectric Properties of Ga and In Double-Filled CoSb₃-Based Skutterudites**S. Choi^{*}; K. Kurosaki¹; A. Harnwungmoung¹; Y. Ohishi¹; H. Muta²; S. Yamanaka²; 1. Rajamangala University of Technology, Thailand; 2. Osaka University, Japan**(CMCEE-T1-S2-P015-2015) Thermoelectric properties of higher manganese silicide containing small amount of Re**A. Yamamoto^{*}; T. Takeuchi¹; 1. Toyota Technological Institute, Japan**(CMCEE-T1-S2-P016-2015) ZnO-based Oxide Thermoelectric Materials: problems solved and unsolved yet**M. Ohtaki^{*}; T. Tomida¹; T. Kuragaki¹; 1. Kyushu University, Japan**(CMCEE-T1-S3-P017-2015) Photovoltaic Performance of Graphene-Silver Nanoparticle Hybrids Prepared by Microwave-Assisted Process**T. Mahmoudi^{*}; S. Lee¹; Y. Hahn¹; 1. Chonbuk National University, Korea**(CMCEE-T1-S3-P018-2015) Anodized Aluminum Oxide Scaffold based Semi-Transparent Organometal Halide Perovskite Solar Cells**H. Kwon^{*}; A. Kim¹; H. Lee¹; J. Moon¹; 1. Yonsei University, Korea**(CMCEE-T1-S3-P019-2015) Effect of Particle Size on Performance of Low-temperature-synthesized ZnO Electrodes in Plastic Dye-sensitized Solar Cells**H. Ohashi^{*}; M. Hagiwara¹; S. Fujihara¹; 1. Keio University, Japan**(CMCEE-T1-S3-P020-2015) Morphological Control of ZnO Particles for Dye-sensitized Solar Cells by Using Metal-Organic Frameworks as Self-Templates**T. Enomoto^{*}; E. Hosono²; H. Zhou²; M. Hagiwara¹; S. Fujihara¹; 1. Keio University, Japan; 2. National Institute of Advanced Industrial Science and Technology, Japan**(CMCEE-T1-S3-P021-2015) Effects of plasma-enhanced chemical vapor deposition on carrier lifetime of ozone-based-Al₂O₃ passivation stack**H. Chang^{*}; K. Cho¹; 1. Chungnam National University, Korea**(CMCEE-T1-S5-P022-2015) Low Temperature Sintering of Dense Apatite Type Lanthanum Silicate for Use as SOFC Electrolyte from Water Based Sol-Gel Synthesized Powder**C. Yamagata^{*}; D. R. Elias¹; A. M. Misso¹; 1. Nuclear and Energy Research Institute, Brazil**(CMCEE-T1-S5-P024-2015) The effect of stacking parameters on the properties of sputtered MgF₂/TiO₂/SnO₂ and TiO₂/MgF₂/SnO₂ multilayer film**G. Jang^{*}; J. Kim¹; 1. Chungbuk National University, Korea**(CMCEE-T1-S6-P025-2015) Nozzle-Jet Printing of a Mixed-halide Organolead Compound for Perovskite Solar Cells**Y. Wang^{*}; S. Lee¹; H. Yang¹; Y. Hahn¹; 1. Chonbuk national university, Korea**(CMCEE-T1-S6-P026-2015) Nanopatterned Mesoporous TiO₂ Thin Films as Anti-Reflective Layer in Perovskite Solar Cells**H. Yang^{*}; W. Rho¹; Y. Park¹; Y. Hahn¹; 1. Chonbuk National University, Korea**(CMCEE-T1-S6-P027-2015) Fabrication of perovskite solar cells with TiO₂ composite films with nanoparticles and nanotubes for energy conversion efficiency**S. Lee^{*}; W. Rho¹; H. Yang¹; Y. Hahn¹; 1. Chonbuk National University, Korea**(CMCEE-T1-S7-P028-2015) Moisture effect of the high quality cathode materials of LiFePO₄ pouch cells studied by X-ray absorption spectroscopy**G. Fey^{*}; K. Huang¹; Y. Lin¹; 1. National Central University, Taiwan; 2. Better Energy Technology, Inc., Taiwan**(CMCEE-T1-S7-P029-2015) An investigation on the cycle performance of LiFePO₄ pouch cells by a combination of synchrotron based X-ray diffraction and absorption spectroscopy**G. Fey^{*}; Y. Lin¹; 1. National Central University, Taiwan; 2. Better Energy Technology, Inc., Taiwan**(CMCEE-T1-S7-P030-2015) Mechanism Study of Large Polarization in Nonaqueous Li-Oxygen Batteries**Z. Cui¹; W. Fan¹; Y. Li¹; X. Guo^{*}; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China**(CMCEE-T1-S7-P031-2015) Si/C nanocomposite as an anode for high-energy Li-ion batteries**C. Lu^{*}; S. Liao¹; C. Cheng¹; J. Chen¹; J. Huang²; J. Huang²; 1. Industrial Technology Research Institute, Taiwan; 2. Chinese Petroleum Corporation, Taiwan

(CMCEE-T1-S7-P032-2015) High-speed Deposited Amorphous Li-B-W-O Thin Film Electrolytes for All-Solid-State BatteriesS. Jee^{*1}; Y. Yoon¹; 1. Gachon University, Korea**(CMCEE-T1-S7-P033-2015) Exploration of transparent Li(Fe_xMn_{1-x})PO₄ cathode thin films by continuous composition spread sputtering for Lithium ion battery**H. Lee^{*1}; H. Yim¹; K. Kim²; J. Choi¹; 1. Korea Institute of Science and Technology, Korea; 2. Yonsei University, Korea**(CMCEE-T1-S7-P034-2015) Improved electrochemical properties of three-dimensional valley structured Al-Si anode thin films for all-solid-state lithium-ion thin film batteries**J. Jung^{*1}; H. Yim¹; J. Choi¹; 1. Korea institute of science and technology, Korea**(CMCEE-T1-S7-P035-2015) Co-sputtered Si-Al Thin Film Anode on Copper Substrate for Lithium Ion Battery**J. Ha^{*1}; V. Patil¹; S. Yoon¹; A. V. Davydov¹; J. Choi¹; 1. NIST, USA; 2. University of Maryland, USA; 3. Korea Institute of Science and Technology, Korea**(CMCEE-T1-S7-P036-2015) Controlled Synthesis of Cobalt-Substituted Magnetite Nanocubes and Their Assembly into Ferrimagnetic Nanocube Arrays**Y. Yu^{*1}; W. Yang¹; 1. Harbin Institute of Technology, China**(CMCEE-T1-S9-P037-2015) Relationship between Y211 Pre-form Density and Critical Current Density of Liquid Infiltration Growth Processed YBCO Bulk Superconductors**A. Mahmood^{*1}; 1. King Saud University, Saudi Arabia**(CMCEE-T1-S9-P038-2015) Understanding Degradation and Failure in Bi₂Sr₂CaCu₂O_x, (RE)Ba₂Cu₃O_{7-x} and MgB₂ conductors through experiment and computation**J. Schwartz^{*1}; 1. NC State University, USA**(CMCEE-T2-S1-P039-2015) Properties of Tetravalent Oxide doped Yttria Stabilized Zirconia**M. Zhao^{*1}; X. Ren¹; W. Pan¹; 1. Tsinghua University, China**(CMCEE-T2-S3-P040-2015) Enhanced properties of Cu/Sn alloy-matrix composites reinforced with β-silicon nitride whiskers**J. Yin^{*1}; Y. Zeng¹; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China**(CMCEE-T2-S4-P041-2015) Luminescence properties of NaGd(WO₄)₂:Eu³⁺ phosphors prepared by hydrothermal method**P. Cai¹; J. Shim¹; C. Chen¹; S. Kim¹; H. Seo¹; 1. Pukyong National University, Korea**(CMCEE-T2-S4-P042-2015) Synthesis And Characterization of High Brightness SrMgAl₁₀O₁₇: Eu²⁺, Er³⁺ Blue Phosphor Assisted A Hybrid Urea-Sol Combustion Route**L. Wang^{*1}; H. Zhang¹; B. R. Chen¹; D. Luo¹; Y. Li¹; Y. H. Pan¹; Y. Shen¹; T. Wu¹; 1. China Jiliang University, China**(CMCEE-T2-S5-P043-2015) Porous Titania Synthesized through Powder Metallurgy: Microstructure and Mechanical Behavior**A. Kumar¹; Q. Li^{*2}; Q. Li¹; 1. University of Nevada, Reno, USA; 2. Washington State University, USA**(CMCEE-T2-S6-P044-2015) Energy harvesting characteristics of unimorph cantilever generator using 0.69Pb(Zr0.47Ti0.53)O₃-0.31Pb(Ni0.6Zn0.4)1/3Nb2/3) O₃ + 0.5 mol% CuO (PZCN) thick films under various sintering conditions**H. Kim¹; K. Kim^{*1}; T. Sung²; J. Paik³; S. Nahm³; 1. Korea Institute of Industrial Technology, Korea; 2. Hanyang University, Korea; 3. KOREA UNIVERSITY, Korea; 4. Korea Institute of Ceramic Engineering and Technology, Korea**(CMCEE-T2-S7-P045-2015) Dielectric relaxation studies of porous TiO₂ ceramic**R. Ramasamy^{*1}; 1. Anna University, Chennai - INDIA, India**(CMCEE-T2-S7-P046-2015) Research on the curing of high volume fly-ash cement with microwave technology**Y. Wang^{*1}; 1. Henan Polytechnic University, China**(CMCEE-T2-S7-P047-2015) Novel Structural Ceramics by Microstructure Design**R. Lofthus¹; M. Fuka¹; A. Nur¹; D. Hennessey¹; S. Gupta^{*1}; 1. University of North Dakota, USA**(CMCEE-T2-S7-P048-2015) Synthesis and Characterization of Ti₃SiC₂ bonded superhard materials**A. Zhou^{*1}; L. Li²; L. Wang¹; Z. Li¹; 1. Henan Polytechnic University, China; 2. Murooran Institute of Technology, Japan**(CMCEE-T2-S7-P049-2015) Synthesis of Au-Gd₂O₃ Nanoparticles: Structural and Optical Properties**A. Qurashi^{*1}; 1. King Fahd University of Petroleum and Minerals, Saudi Arabia**(CMCEE-T3-S1-P050-2015) Facile hydrothermal Synthesis of large-scale Hierarchical WO₃ Nanostructures: Structural and Optical Properties**A. Qurashi^{*1}; 1. King Fahd University of Petroleum and Minerals, Saudi Arabia**(CMCEE-T3-S2-P051-2015) Catalyst Assisted Growth of Sn-doped In₂O₃ Nanorods: Structural and Optical Properties**A. Qurashi^{*1}; 1. King Fahd University of Petroleum and Minerals, Saudi Arabia**(CMCEE-T3-S1-P052-2015) Highly Visible-Light Absorbing Black TiO₂ Nanocrystals Synthesized by Sol-gel Method Plus Atmospheric Heat Treatment**M. Wu^{*1}; K. Hsiao¹; I. Chang¹; W. Huang¹; 1. Chang Gung University, Taiwan**(CMCEE-T3-S1-P053-2015) Photoactivity of TiO₂ doped with V or Bi obtained using microwave hydrothermal synthesis**A. P. Garcia¹; A. K. Alves¹; F. A. Berutti¹; C. P. Bergmann^{*1}; 1. UFRGS, Brazil**(CMCEE-T3-S1-P054-2015) Photocatalytic degradation of dyes using MWCNT-TiO₂ composites as catalyst**F. A. Berutti^{*1}; A. P. Garcia¹; A. K. Alves¹; S. Da Dalt¹; C. P. Bergmann¹; 1. UFRGS, Brazil**(CMCEE-T3-S1-P055-2015) Effect of structural properties on the photoelectrochemical performance of TiO₂ films**A. K. Alves^{*1}; A. C. Teloken¹; F. A. Berutti¹; C. P. Bergmann¹; 1. UFRGS, Brazil**(CMCEE-T3-S1-P056-2015) Evaluation of Photocatalytic Properties of Portland Cement added with Nanoparticles of Titanium Oxynitride**J. D. Cohen^{*1}; J. I. Tobon¹; 1. Universidad Nacional de Colombia, Colombia**(CMCEE-T3-S1-P057-2015) Synthesis of the TiO₂-Long Lasting Phosphor Composites and their Photocatalytic Reaction Properties**J. Kim^{*1}; B. Kim¹; 1. University of Seoul, Korea**(CMCEE-T3-S1-P058-2015) Effective photocatalytic disinfection of *P. Aeruginosa* using Bi₂WO₆/Ag₃PO₄ heterojunction photocatalysts under visible light irradiation**P. Ju¹; D. Zhang^{*1}; 1. Institute of Oceanology, Chinese Academy of Sciences, China**(CMCEE-T3-S5-P059-2015) Crystal structure and property for high pressure phase of NaBiO₃**O. Naa^{*1}; N. Kumada¹; T. Takei¹; A. Miura²; M. Azuma³; K. Oka³; Y. Kusano⁴; 1. University of Yamanashi, Japan; 2. Hokkaido University, Japan; 3. Tokyo Institute of Technology, Japan; 4. Kurashiki University of Science and the Arts, Japan**(CMCEE-T3-S2-P060-2015) Preparation of Transition Metal-Included Layered Double Hydroxide Hybrid with Polyoxometalate and Its Catalytic Behavior for Conversion of Organics**Y. Mitani^{*1}; T. Takei¹; N. Kumada¹; 1. University of Yamanashi, Japan**(CMCEE-T3-S2-P061-2015) Catalytic combustion of propane on Mn-modified hexagonal YbFeO₃**R. Tada^{*1}; S. Hosokawa²; K. Teramura¹; T. Tanaka¹; 1. Kyoto University, Japan; 2. Elements Strategy Initiative for Catalysts & Batteries (ESICB), Japan**(CMCEE-T3-S2-P062-2015) Advanced oxidation process using zeolite compounds as the inhomogeneous catalyst**M. Kitayama^{*1}; Y. Ohta¹; 1. Fukuoka Institute of Technology, Japan**(CMCEE-T3-S2-P063-2015) Influence of particle morphology on soot oxidation performance of CeO₂/ZrO₂**R. Taguchi¹; M. Hattori¹; M. Haneda^{*1}; 1. Nagoya Institute of Technology, Japan**(CMCEE-T3-S3-P064-2015) Nano-modification of cement paste for enhanced thermal durability**Y. Reches^{*1}; F. Sanchez¹; D. Kosson¹; 1. Vanderbilt University, USA

(CMCEE-T3-S4-P065-2015) Synthesis of sulfated ZrO₂ with ordered mesopores and its surface acid propertiesK. Takamura^{*}; M. Haneda^{*}; 1. Nagoya Institute of Technology, Japan**(CMCEE-T3-S4-P066-2015) Purification of Copper ion contaminated water by Activated carbon prepared from Scrap Rubber Tyres**S. E. Benjamin^{*}; 1. Lahore College for Women University, Pakistan**(CMCEE-T3-S4-P067-2015) Tailored pore architectures of macroporous silicon carbide ceramics**M. Fukushima^{*}; P. Colombo²; Y. Zhou¹; T. Ohji¹; Y. Yoshizawa¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Università di Padova, Italy**(CMCEE-T3-S4-P068-2015) Development of Cooling Building Materials using Evaporative Latent Heat for Heat-Island Effect Mitigation**T. Shirai^{*}; M. Fujii¹; 1. Nagoya Institute of Technology, Japan**(CMCEE-T3-S4-P069-2015) Porous Si₃N₄/SiC ceramics prepared by carbothermal reduction method**Y. Xia^{*}; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China**(CMCEE-T3-S4-P070-2015) Fabrication of Porous Ceramics with Bi-modal Pores in Shape by Unidirectional Solidification process**S. Ueno^{*}; J. Lee¹; 1. Nihon University, Japan**(CMCEE-T3-S5-P071-2015) Sensing Characterization of the MOS Micro Gas Sensor Array on Gas Mixture**J. Kim^{*}; B. Kim¹; 1. University of Seoul, Korea**(CMCEE-T3-S5-P073-2015) Solid State Bi-electrolyte Hydrogen Sensor for molten Aluminum**S. Kim^{*}; C. Park¹; 1. KAIST, Korea**(CMCEE-T3-S5-P074-2015) Development of mobile gas sensor for exhaled breath analysis**K. Park^{*}; 1. KAIST, Korea**(CMCEE-T4-S3-P075-2015) Fabrication of High Thermal Conductivity and High Strength Sintered Reaction Bonded Silicon Nitride Ceramics by using Low Cost Si powder**D. Kusano^{*}; Y. Zhou²; H. Hyuga²; K. Hirao¹; 1. Japan Fine Ceramics Co.,Ltd., Japan; 2. National Institute of Advanced Industrial Science and Technology (AIST), Japan**(CMCEE-T4-S3-P076-2015) Corrected impedance relations for doped BaTiO₃-ceramics based on Heywang model and fractal morphology**V. Mitic²; V. Paunovic²; L. Kocic²; 1. Institute of Technical Sciences of Serbian Academy of Sciences and University of Nis, Faculty of Electronic Engineering, Nis, Serbia, Serbia; 2. Faculty of Electronic Engineering, Serbia**(CMCEE-T4-S3-P077-2015) Processing and Characterization of ZrB₂-HfB₂ Solid Solutions for Magnetohydrodynamic (MHD) Applications**I. Charit¹; C. D. Hill¹; K. Raja¹; S. Sittler¹; 1. University of Idaho, USA**(CMCEE-T4-S3-P078-2015) Novel Multifunctional Composites for Energy Harvesting Applications**S. Swanson¹; T. Colling¹; K. Lindblad¹; A. Eastman¹; S. Banerjee²; M. N. Cavalli¹; S. Gupta^{*}; 1. University of North Dakota, USA; 2. Princeton University, USA**(CMCEE-T4-S3-P079-2015) Fabrication and characterization of macro-porous reaction-bonded SiC derived from SiC/phenolic composite**A. Shimamura^{*}; M. Fukushima¹; M. hotta¹; K. Kita¹; N. Kondo¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan**(CMCEE-T4-S4-P080-2015) Crystal structure characterization of Ga₂O₃ nanoparticles synthesized using controlled precipitation and polymeric complex method**K. Han^{*}; J. Jung¹; W. Cho¹; J. Kim¹; 1. Korea institute of ceramic engineering and technology, Korea**(CMCEE-T4-S4-P081-2015) Effect of Gd³⁺ on the luminescent properties of Lu_{2.94}Al₅O₁₂:0.06Ce³⁺ phosphors**K. Park^{*}; H. Kim¹; 1. Sejong University, Korea**(CMCEE-T4-S4-P082-2015) Effect of processing parameters on the photoluminescence of Lu_{2.94}Al₅O₁₂:0.06Ce³⁺ phosphors**K. Park^{*}; H. Kim¹; 1. Sejong University, Korea**(CMCEE-T4-S4-P114-2015) Comparative studies of the oxidation of MoSi₂ based composites****Part 2: High temperature oxidation (1000–1600 °C)**M. Samadzadeh^{*}; C. Oprea¹; H. Karimi Sharif¹; T. Troczynski¹; 1. The University of British Columbia, Canada; 2. Westport Innovations Inc., Canada**(CMCEE-T4-S5-P083-2015) Photoluminescent properties of Lu_{3-x}(Al_{1-y}Ga_y)₅O₁₂:xCe³⁺ phosphors prepared by sol-gel process**K. Park^{*}; H. Kim¹; 1. Sejong University, Korea**(CMCEE-T4-S5-P084-2015) Simultaneous Reduction of Vanadium (V) and Chromium (VI) in Wastewater by Nanosized ZnWO₄ Photocatalysis**Z. Zhao^{*}; B. Zhang²; Z. Peng¹; 1. China University of Geosciences (Beijing), China; 2. China University of Geosciences, Beijing, China**(CMCEE-T4-S5-P085-2015) Growth of YAG single crystals by the EFG technique using Mo crucibles**T. Tokairin^{*}; J. Hayashi²; G. VILLORA³; K. Shimamura³; 1. Ibaraki University, Japan; 2. Shinko Manufacturing Co.,Ltd., Japan; 3. National Institute for Materials Science, Japan**(CMCEE-T4-S5-P086-2015) Analysis of Magnetic states in a pseudo spin-valve nanostructure**C. Nam^{*}; 1. Hannam University, Korea**(CMCEE-T4-S5-P087-2015) High Polarization and Output Voltage with BSTO Film-Based Flexible Piezoelectric Device for Biomimetic Artificial Cochlea Hair Cells**Y. K. Park^{*}; M. Vaseem¹; W. Rho¹; S. Lee¹; Y. Hahn¹; 1. Chonbuk National University, Korea**(CMCEE-T4-S5-P088-2015) Ultrathin oriented BiFeO₃ films grown by atomic layer deposition with greatly improved leakage and ferroelectric properties**Y. Liu¹; C. Ku¹; H. Lee^{*}; 1. National Synchrotron Radiation Research Center, Taiwan**(CMCEE-T4-S6-P089-2015) The effect of Cu content on the Wear Properties of MoN- Cu Nanocomposite coatings deposited by reactive magnetron sputtering with single alloying target**K. Moon^{*}; 1. Korea Institute of Industrial Technology, Korea**(CMCEE-T4-S6-P090-2015) The Structure and Properties of ICP Assisted Magnetron Sputtered Nanocrystalline NbN Coatings for Proton Exchange Membrane Fuel Cell**S. Chun^{*}; 1. Mokpo National University, Korea**(CMCEE-T4-S6-P091-2015) Electrical and Mechanical Properties of Insulating Ceramic Layers Fabricated by Aerosol Deposition for High Power Electronics**H. Tsuda^{*}; M. Suzuki¹; J. Akedo¹; 1. AIST, Japan**(CMCEE-T4-S6-P092-2015) Advanced Phosphor Thin Film by Photo Induced Chemical Solution Deposition**Y. Uzawa¹; T. Nakajima¹; T. Tsuchiya^{*}; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan**(CMCEE-T4-S6-P093-2015) A Straightforward Blackening Process for TiO₂ toward Efficient Photocatalyst Coatings**T. Nakajima¹; T. Nakamura¹; T. Tsuchiya^{*}; 1. National Institute of Advanced Industrial Science and Technology, Japan**(CMCEE-T4-S6-P094-2015) Hydrophobic Rare-Earth Oxide Films Fabricated by Solution Process**S. Choi¹; K. Park¹; S. Lee²; B. Kim⁴; T. Kim⁴; S. Seo^{*}; 1. Korea Institute of Industrial Technology, Korea; 2. Inha University, Korea; 3. Korean Institute of Industrial Technology, Korea; 4. University of Science and Technology, Korea**(CMCEE-T4-S8-P096-2015) Mechanical characterization of glass-ceramic to metal seals for solid oxide fuel cells applications**F. Smeacetto^{*}; M. Salvo¹; A. Ventrella¹; M. Ferraris¹; 1. Politecnico di Torino, Italy**(CMCEE-T4-S8-P097-2015) Effect of Si-ion irradiation on the structure of glass-ceramics**V. Casalegno^{*}; S. Kondo²; F. Smeacetto¹; T. Hinoki²; M. Ferraris¹; 1. Politecnico Torino, Italy; 2. Institute of Advanced Energy, Kyoto University, Gokasho Uji, Kyoto, Japan**(CMCEE-T4-S8-P098-2015) Brazing of ceramics for high temperature applications**H. Martin^{*}; A. Triebert¹; 1. Fraunhofer IKTS, Germany

CALL FOR PAPERS

Abstracts due July 15, 2015

Jubilee Celebration!

40TH

INTERNATIONAL CONFERENCE AND EXPOSITION ON
**ADVANCED CERAMICS
AND COMPOSITES**

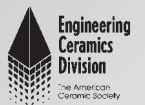
January 24–29, 2016

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

ceramics.org/icacc2016

Organized by The American Ceramic Society and
ACerS Engineering Ceramics Division

The
American
Ceramic
Society
www.ceramics.org



Check out the Top Titles from The American Ceramic Society at the 11th International Symposium on Ceramic Materials and Components for Energy and Environmental Applications



All titles published by John Wiley & Sons on behalf of The American Ceramic Society

Call for Book Authors and Editors

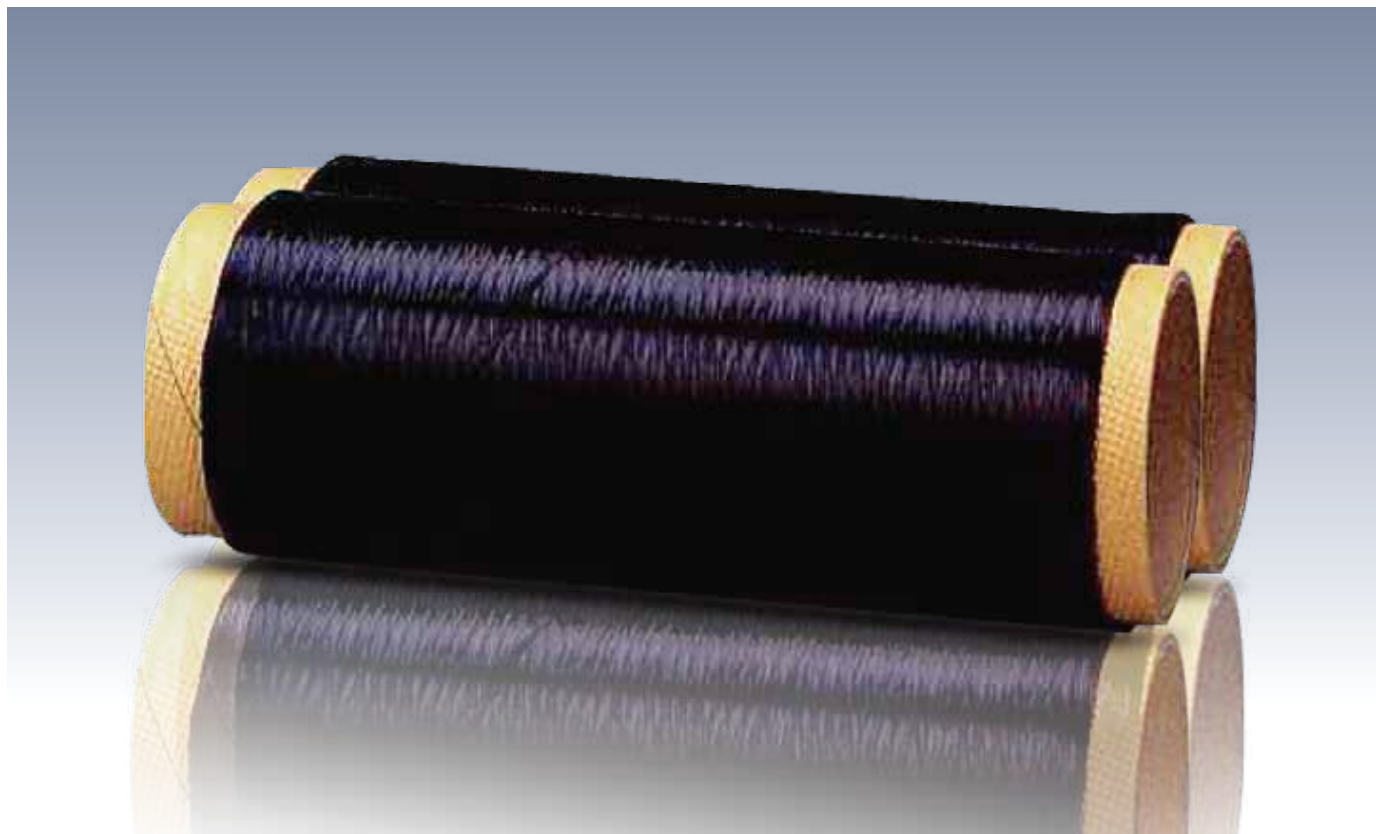
If you are interested in developing a new book in the Wiley-ACerS series, please contact Greg Geiger at ggeiger@ceramics.org

In the Wiley-ACerS partnership, all members of **The American Ceramic Society** receive a **35% discount** on **ALL Wiley** titles

Also, visit www.wileyonlinelibrary.com to check out the three journals of **The American Ceramic Society**

Continuous Silicon Carbide Ceramic Fiber

**TYRANNO
FIBER®**



Developed using our unique technology, Tyranno Fiber® is a continuous ceramic fiber comprising of Si, Ti or Zr, C and O. Advanced composites reinforced by Tyranno Fiber are expected to play an important role in future environmental fields such as ultra high speed transportation, energy efficiency, CO₂ and NO_x reduction, and purification of exhaust fumes.

Reinforcing fibers for these applications require high temperature stability, high strength, and high reliability under extreme environments. Tyranno Fiber possesses excellent properties and is extending its applicability into many areas.



Secondary Products of Tyranno Fiber

- Fabrics, Felts, Ropes
- Plastic Matrix Composites (PMC)
- Metal Matrix Composites (MMC), Ceramic Matrix Composites (CMC)
- Tyranno Fiber Bonded Ceramics (Tyrannohex®)

1500°C
2732°F
Operation

UBE INDUSTRIES, LTD.

Tyranno Fiber Group, Specialty Chemicals & Products Company

Seavans North Bldg, 1-2-1, Shibaura Minato-Ku, 105-8449, Japan

Phone +81 (0) 3-5419-6188 Facsimile +81 (0) 3-5419-6260 e-mail info@upilex.jp

<http://www.upilex.jp>

Apr.2013

H																	He
Li	Be										B	C	N	O	F	Ne	
Na	Mg										Al	Si	P	S	Cl	Ar	
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Uut	Fll	Uup	Lv	Uus	Uuo

Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

Now Invent.™



**AMERICAN
ELEMENTS**

THE MATERIALS SCIENCE COMPANY®

catalog: americanelements.com

©2001-2015, American Elements is a U.S. Registered Trademark.