Symposium 1:
Mechanical Behavior and Performance of Ceramics & Composites

Monday, January 23, 2012
Fracture, Mechanical Properties I

1:30 PM
(ICACC-S1-001-2012) Meeting the Challenges in Thermomechanical Characterization of CMCs (Invited)
Frank Zok*, University Of California, Santa Barbara, USA

2:00 PM
(ICACC-S1-002-2012) Modeling of Delamination and Damage Processes in CMC Components
Rajesh S Kumar*, United Technologies Research Center, USA

2:20 PM
(ICACC-S1-003-2012) High-Temperature Interlaminar Tension Test Method Development for Ceramic Matrix Composites
Todd Engel*, Hyper-Therm HTC, Inc., USA

2:40 PM
(ICACC-S1-004-2012) Electrical Resistivity of a Variety of SiC/SiC Composites
Gregory Morscher*, Jarod Dainoviec, The University of Akron, USA; Craig Smith, Ohio Aerospace Institute, USA

3:00 PM
Break

3:20 PM
Mark D Novak*, Frank W Zok, University of California Santa Barbara, USA

3:40 PM
(ICACC-S1-006-2012) Evaluating the Effect of Embedded Sensors on CMC Mechanical Properties
Craig Smith*, Ohio Aerospace Institute, USA; J. Douglas Kiser, Robert Okojie, Laura Evans, NASA GRC, USA; Anthony Calomino, NASA LARC, USA

4:00 PM
(ICACC-S1-007-2012) Thermal Shock, Microstructure, Ionic Conductivity, and OOF2 Modeling of 8YSZ Composites
Jesse P Angle*, Marvin M Chan, Martha L Mecartney, University of California, Irvine, USA

4:20 PM
(ICACC-S1-008-2012) Measurement of Temperature Dependence of Thermal Stress in Polycrystalline Oxide Ceramics
Yali Dong*, Hideki Kakisawa, Yutaka Kagawa, The University of Tokyo, Japan

4:40 PM
(ICACC-S1-009-2012) Tensile fracture mechanism of silicon impregnated C/C composite
Akio Ohtani*, Ken Goto, Japan Aerospace Exploration Agency, Japan

5:00 PM
(ICACC-S1-010-2012) Effects of Target Support
on Foreign Object Damage in an Oxide/Oxide CMC
David Calvin Faucett*, Matthew Ayre, Jennifer M Wright, Sung R Choi, NAVAIR, USA

5:20 PM
(ICACC-S1-011-2012) Machinability Studies of Al/SiC/B4C Metal Matrix Hybrid Composites using PCD 1600 grade insert
Akshay Maheshwari*, Ashwin Kumar Erode Natarajan, Anuttam S Teja, Sri Venkateswara College Of Engineering, India

Tuesday, January 24, 2012
Fracture, Mechanical Properties II

8:00 AM-12:00 PM
Room: Coquina Salon D
Session Chair(s): Dileep Singh, Andrew Wereszczak

8:00 AM
(ICACC-S1-012-2012) An experimentally-verified and adjustable-parameter-free equation for indentation toughness in the presence of lateral and radial cracking
Richard I Todd*, University of Oxford, United Kingdom; Xiaoxiao Huang, Harbin Institute of Technology, China; Sheng Guo, University of Oxford, United Kingdom

8:20 AM
(ICACC-S1-013-2012) Using the Hertzian Ring Crack Initiation Approach to Measure Surface Flaw Size Densities
Rajan Tandon*, Sandia National Lab, USA

8:40 AM
(ICACC-S1-014-2012) SPM observation of crack propagation behavior of Si₃N₄ ceramics
Junichi Tatami*, Masahiro Ohnishi, Toru Wakahara, Katsutoshi Komeya, Takeshi Meguro, Yokohama National University, Japan

9:00 AM
(ICACC-S1-015-2012) Mixed-Mode Fracture in an R-Curve Material
Karthik Gopalakrishnan*, John J Mecholsky, Jr., University of Florida, USA

9:20 AM
(ICACC-S1-016-2012) Strength Properties of Aged Poled Lead Zirconate Titanate Subjected to Electromechanical Loadings
Kewei Zhang, Hong Wang, Hua-Tay Lin*, Oak Ridge National Lab, USA

9:40 AM
Break

10:00 AM
(ICACC-S1-017-2012) Glass Cracking Near Edges and Interfaces
Rajan Tandon*, Sandia National Lab, USA; David Shahin, Missouri University of Science and Technology, USA

10:20 AM
(ICACC-S1-018-2012) Edge Chip Fracture Resistance of Dental Materials
George Quinn*, Kathleen Hoffman, Janet Quinn, American dental association foundation, USA

10:40 AM
(ICACC-S1-019-2012) Fretting fatigue failure of engineering ceramics
Claudius Woerner*, Karl-Heinz Lang, Insitut fuer Angewandte Materialien - Werkstoffkunde, Germany

11:00 AM
(ICACC-S1-020-2012) Mechanical stability limits of Ba₀.₅Sr₀.₅Co₀.₈Fe₀.₂O₃-δ ceramic membrane material
Juergen Malzbender*, Goran Pecanac,
Controlled Crack Propagation Tests in Novel Alumina-Based Refractories
Erik Skiera*, Rolf W Steinbrech, Juergen Malzbender, Forschungszentrum Juelich, Germany; Christos G Aneziris, Steffen Dudczig, Technical University Bergakademie Freiberg, Germany

Nanoscratch Induced Deformation in Sapphire
Lin Huang*, Cecile Bonifacio, Klaus van Benthem, Amiya K Mukherjee, Julie M Schoenung, UC Davis, USA

Ceramic Fiber Reinforced Composites
1:30 PM-5:10 PM
Room: Coquina Salon D
Session Chair(s): Walter Krenkel, Randall Hay

Ceramic components based on non-oxide fibre composite materials for advanced systems in the high-temperature energy technology
Katrin Schoenfeld*, TU, Germany; Hagen Klemm, Alexander Michaelis, FhG IKTS, Germany

Determination of the true statistical flaw strength parameters for SiC Nicalon fibres
Jacques L Lamon*, Mohamed R'Mili, Nathalie Godin, CNRS, France

Kinetics of Passive Oxidation of Hi-Nicalon-S SiC Fibers in Wet Air: Relationships between SiO2 Scale Thickness, Crystallization, and Fiber Strength
Randall Hay*, Geoff Fair, Air Force Research Laboratory, USA; Allison Hart, University of Cincinnati, USA; Ryan Bouffioux, New Mexico Tech., USA

Optimizing Strength and Toughness of CMCs reinforced with Wavy, Finite-length Carbon Nanotubes
Fabio Pavia*, William A Curtin, Brown University, USA

The growth of carbon nanotubes in three-dimensional carbon felt and the hybrid enhancement to Cf/SiC composites
Hu Jianbao*, Dong Shaoming, Zhang Xiangyu, Hu Zhihui, Yang Jinshan, Li Qinggang, Wu Bin, Lu Bo, Shanghai Institute of Ceramics, China

Investigation of critical fiber length in phenol matrix based short fiber CFRP
Daniel Heim*, Swen Zaremba, Klaus Drechsler, Technical University of Munich, Germany

Processing and Testing of γ-RE2Si2O7 Matrix Composites
Emmanuel E Boakye*, Kristin A Keller, Pavel Mogilevsky, Triplicane Parthasarathy, UES Inc., USA; Michael K Cinibulk, Randall S Hay, AFRL, USA; Mark Ahrens, Wright State University, USA
4:10 PM  
(ICACC-S1-030-2012) Ultra High Toughness Ceramic Composites: Optimising Metal Fibre Reinforced Ceramic Matrix Composites (MFCs)  
Sonya Rachel Pemberton*, University of Cambridge, United Kingdom; Lee Marston, Fiberstone Products Ltd, United Kingdom; T. W Clyne, University of Cambridge, United Kingdom

4:30 PM  
(ICACC-S1-031-2012) Interfacial Studies of Microfibrillated Cellulose Filled CF/Epoxy Composites  
Mohamed Hassan Radwan Gabr*, Kazuyo Okubo, Toru Fujii, Doshisha University, Japan

4:50 PM  
(ICACC-S1-032-2012) The study on the strength prediction of comeld composites joints  
Hongjian Zhang*, Weidong Wen, Haitao Cui, Nanjing University of Aeronautics and Astronautics, China

Symposium 1: Poster Session
5:00 PM-8:00 PM  
Room: Exhibition Hall, Ocean Center

(ICACC-S1-P001-2012) Evaluation of ceramic materials and joints using UT and X-Ray  
Yoshihiro Nishimura*, Takayuki Suzuki, Naoki Kondou, Hideki Kita, Kiyoshi Hirao, National Institute of Advanced Industrial Science and Technology, Japan

(ICACC-S1-P002-2012) Rapid fabrication of a C/SiC Composite with SiC-Powder Slurry Infiltration Method  
Takeki Hara*, Tokyo University of Science, Japan; Takuya Aoki, Toshio Ogasawara, Japan; Aerospace Exploration Agency (JAXA), Japan; Yasuo Kogo, Tokyo University of Science, Japan

(ICACC-S1-P003-2012) Mechanical Behavior of Reaction Bonded Silicon Carbide Exposed to Petroleum and Naptha  
Rodrigo Portavales Silva*, Celio A Costa, Universidade Federal do Rio de Janeiro - UFRJ, Brazil

(ICACC-S1-P004-2012) Mechanical characterization of a transparent spinel ceramic  
Oleg A. Tokariev*, Jürgen Malzbender, Rolf W Steinbrech, Forschungszentrum Jülich GmbH, Germany; Lars Schnetter, CeramTec-ETEC GmbH, Germany

(ICACC-S1-P005-2012) Synthesis of SiC from Silica-Coated Carbon and Oxidized Silicon Powders  
Yeon Hwang*, Doh-Hyung Riu, Hong-Jeon Kang, Seoul National University of Science & Technology, Republic of Korea; Dongil Chun, Youngseok Kim, Inocera Inc., Republic of Korea

(ICACC-S1-P006-2012) Reaction bonded Si/SiB6: effect of carbon additions on composition and properties  
Sam Salamone*, Michael Aghajanian, Oscar Spriggs, M Cubed Technologies Inc., USA; Suzanne E Horner, PM Soldier Protection and Individual Equipment, USA

(ICACC-S1-P007-2012) Sintering behavior of SiC fiber derived from polycarbosilane  
Jun-sung Hong*, Yong-Ryun Cho, Mi-Suk Kang, Hyo-Ryoung Lim, Hong-Jeon Kang, Seoul National University of Science and Technology, Republic of Korea; Kwang-Yeong Cho, Korea Institute of Ceramic Engineering and Technology, Republic of Korea; Doh-Hyung Riu, Seoul National University of Science and Technology, Republic of Korea
(ICACC-S1-P008-2012) Silicon carbide particle growth during carbothermal reduction of SiO2 and C mixture
Hong-Jeon Kang*, Jun-Young Cho, Doh-Hyung Riu, Seoul National University of Science and Technology, Republic of Korea; Dong-Geun Shin, LG Innotek, Republic of Korea

(ICACC-S1-P009-2012) Effect of Ta-doping on Electrical and Dielectric properties of Bi0.5(Na0.5K0.5)0.5TiO3 ceramics
Krishan Kumar*, Crystal Lab, India; Binay Kumar, University of Delhi, India

(ICACC-S1-P010-2012) The study of the variation of mechanical properties with ratio of α/β SiC powders
Hyunick Shin*, Youngseok Kim, Dongil Chun, Inocera inc., Republic of Korea

(ICACC-S1-P011-2012) Slurries with organic and inorganic components
Miriana Vadala*, Doru C Lupascu, University of Duisburg Essen, Germany

(ICACC-S1-P012-2012) Fracture Behavior and Toughness of Short Carbon Fiber Dispersed SiC Matrix Composites
Ryo Inoue*, Yutaka Kagawa, Hideki Kakisawa, The University of Tokyo, Japan

(ICACC-S1-P013-2012) Toughening in Graphene Ceramic Nanocomposites
Victoria R Marotto*, Mario A Valdez, Luke S Walker, Erica L Corral, University of Arizona, USA

(ICACC-S1-P014-2012) Wear Behavior of Ceramic/Metal Composites
Michael Aghajanian*, Brian Givens, Matthew Watkins, Allyn McCormick, Michael Waggoner, M Cubed Technologies, Inc., USA

(ICACC-S1-P015-2012) Weave and fiber volume effects in a PIP CMC material system
Greg Ojard*, Erica Prevost, Pratt & Whitney, USA; Unni Santhosh, Structural Analytics, Inc.Center, USA; Rajiv Naik, Pratt & Whitney, USA; Dave Jarmon, United Technologies Research Center, USA

(ICACC-S1-P016-2012) Mechanical properties of nacre after cyclic loading
Kenjiro Uno*, Hideki Kakisawa, Yutaka Kagawa, The University of Tokyo, Japan

(ICACC-S1-P017-2012) In-situ Boron Nitride Nanotubes on Ceramic powders by Chemical Vapor deposition
Ajay Kumar*, Florida International University, USA; Amit Datye, University of Tennessee, USA; Kuang Hsi Wu, Florida International University, USA; Hua-Tay Lin, Oak Ridge National Laboratory, USA; Janet Hurst, NASA, USA

(ICACC-S1-P018-2012) Study of visualizing of internal defects in ceramic products using UT probe array
Yoshihiro Nishimura, Takayuki Suzuki, National Institute of Advanced Industrial Science and Technology, Japan; Katsumi Fukuda, Naoya Saito*, Tokyo National College of Technology, Japan

(ICACC-S1-P019-2012) Advanced Ceramics Property Measurements
Jonathan Salem, NASA GRC, USA; John D Helfinstine*, Corning Inc Retiree, USA; George Quinn, NIST, USA; Stephen Gonczy, Gateway Materials Technology, Inc, USA

(ICACC-S1-P020-2012) Corrosion of titanium carbonitride cermets with a nickel aluminide binder
Melanie B Holmes*, Zoheir N Farhat, Georges J Kipouros, Kevin Paul Plucknett, Dalhousie
Wednesday, January 25, 2012

In-Situ Evaluations Using X-rays/Neutrons and NDE

8:00 AM-12:00 PM
Room: Coquina Salon D
Session Chair(s): Goffredo de Portu, Jiangang Sun

**8:00 AM**
(ICC-S1-033-2012) In situ Synchrotron Studies of the Tetragonal to Monoclinic Phase Transformation in Hafnia and Zirconia
Ryan P Haggerty, Pankaj Sarin, Zlatomir D Apostolov, Waltraud M. Kriven*, University of Illinois at Urbana-Champaign, USA

**8:20 AM**
(ICC-S1-034-2012) Ferroelastic Phase Transformations in Rare-Earth Niobates
Pankaj Sarin*, Daniel R Lowry, Joachim Angelkort, Zlatomir D Apostolov, Ryan P Haggerty, Waltraud M Kriven, University of Illinois at Urbana-Champaign, USA

**8:40 AM**
(ICC-S1-035-2012) In-situ synchrotron x-ray diffraction and thermal analysis study of the cubic to rhombohedral phase transformation in Y$_6$WO$_{12}$ and its thermal expansion behavior up to 1500°C
Zlatomir Apostolov*, Pankaj Sarin, Ryan P Haggerty, Waltraud M Kriven, UIUC, USA

**9:00 AM**
(ICC-S1-036-2012) Investigation of thermal properties of ZrP$_2$O$_7$ and Zr$_2$P$_2$O$_9$
Joachim Angelkort*, Pankaj Sarin, Zlatomir D Apostolov, Patrick F Keane, Waltraud M Kriven, University of Illinois, USA
9:20 AM
(ICACC-S1-037-2012) Microstructures of La-doped Low Thermal Expansion Cordierite Ceramics
Hiroto Unno*, KROSAKI HARIMA CORPORATION, Japan; Shoichi Toh, Kyushu University, Japan; Jun Sugawara, Kensaku Hattori, KROSAKI HARIMA CORPORATION, Japan; Seiichiro Uehara, Syo Matsumura, Kyushu University, Japan

9:40 AM
Break

10:00 AM
(ICACC-S1-038-2012) CTEAS - A GUI based program to calculate coefficients of thermal expansion of crystalline materials from high temperature powder X-ray diffraction
Zachary Aaron Jones*, Pankaj Sarin, Ryan P Haggerty, Waltraud M Kriven, University of Illinois at Urbana-Champaign, USA

10:20 AM
(ICACC-S1-039-2012) On the response of Ti2SC & Ti3SiC2 to stress studied by in-situ neutron diffraction, nanoindentation and the elastoplastic self-consistent approach
Mohamed M Shamma*, Volker Presser, Drexel University, USA; Bjorn Clausen, Don Brown, Los Alamos National Laboratory, USA; Michel Barsoum, Drexel University, USA

10:40 AM
(ICACC-S1-040-2012) Depth-resolved strains within thermal barrier coatings from in situ thermo-mechanical characterization using high-energy x-rays
Rene Diaz, Melan Jansz, Mitra Mossaddad, Seetha Raghavan*, University of Central Florida, USA; Jonathan Almer, John Okasinski, Argonne National Laboratory, USA; Hugo Palaez-Perez, Peter Imbrie, Purdue University, USA

11:00 AM
(ICACC-S1-041-2012) Nondestructive Evaluation of Thermal Barrier Coatings by Optical and Thermal Imaging Methods
Jiangang Sun*, Argonne National Lab, USA

11:20 AM
(ICACC-S1-042-2012) Investigation of Non-Destructive Evaluation Methods Applied to an Oxide/Oxide Fibre Reinforced Ceramic Matrix Composite
Richard Edward Johnston*, Martin R Bache, Swansea University, United Kingdom; Dimos Liaptsis, TWI Wales, United Kingdom; Ian M Edmonds, Rolls-Royce plc, United Kingdom

11:40 AM
(ICACC-S1-043-2012) 3D Fracture Behavior Monitoring of a Novel Alumina-Based Refractory and other Composites
S. H. Lau*, Xrdia, Inc., USA; E. Skierab, J. Malzbender, Forschungszentrum Jülich GmbH, Germany; C. G Aneziris, TU Bergakademie Freiberg, Germany; R. Steinbrech, Forschungszentrum Jülich GmbH, Germany

Environmental Effects of Ceramics and Composites
1:30 PM-3:20 PM
Room: Coquina Salon D
Session Chair(s): Jacques Lamon

1:30 PM
(ICACC-S1-044-2012) Evaluation of impact damage resistance of SiC/SiC composites in tension and in static fatigue at high temperatures
Jacques L Lamon*, Martin Picard, Emmanuel Maillet, Pascal Reynaud, Nathalie Godin, Mohamed R'Mili, Gilbert Fantozzi, CNRS, France
1:50 PM
(ICACC-S1-045-2012) Tension-compression fatigue of a Hi-NICALON/SiC ceramic matrix composite at 1200°C in air and in steam
Marina Ruggles-Wrenn*, Tyler Jones, Air Force Institute of Technology, USA

fatigue using equivalent energy of acoustic emission sources in ceramic matrix composites
Emmanuel Maillet*, Nathalie Godin, Mohamed R'Mili, Pascal Reynaud, Jacques Lamon, Gilbert Fantozzi, INSA-Lyon MATEIS, France

2:10 PM
(ICACC-S1-046-2012) Notch Sensitivity of Fatigue Behavior of a Hi-NICALON/SiC Ceramic Composite at 1200°C in Air and in Steam
Marina Ruggles-Wrenn*, Garrett Kurtz, Air Force Institute of Technology, USA

2:30 PM
(ICACC-S1-047-2012) High Temperature Strength and Corrosion Resistance of Silicon Carbide to Silicon Carbide Joints Used in Heat Exchangers and Other Joining Arrays
Hyrum Anderson*, Joseph R Fellows, Charles A Lewinson, Merrill A Wilson, Ceramatec, Inc., USA

2:50 PM
Break

Reliability
3:20 PM-5:00 PM
Room: Coquina Salon D
Session Chair(s): Dietmar Koch

3:20 PM
(ICACC-S1-048-2012) Prediction of mechanical behavior of continuous fiber reinforced ceramics (Invited)
Dietmar Koch*, Severin Hofmann, Kamen Tushtev, Institute of Structures and Design, German Aerospace Center, Germany

3:40 PM
(ICACC-S1-049-2012) Prediction of lifetime in fatigue using equivalent energy of acoustic emission sources in ceramic matrix composites
Emmanuel Maillet*, Nathalie Godin, Mohamed R'Mili, Pascal Reynaud, Jacques Lamon, Gilbert Fantozzi, INSA-Lyon MATEIS, France

Thursday, January 26, 2012
Processing-Microstructures-Properties Correlations I
8:00 AM-12:00 PM
Room: Coquina Salon D
Session Chair(s): Yanchun Zhou, Yu Zhou

8:00 AM
(ICACC-S1-052-2012) Experimental and numerical study on application of a CMC nozzle for high temperature gas turbine
Kozo Nita*, Yoji Okita, Chiyuki Nakamata, IHI Corporation, Japan
China

8:30 AM
(ICACC-S1-054-2012) Microstructure Evolution from Mechanically Alloyed Amorphous SiBCN Powder to Hot Pressed Nanocrystalline Ceramic
Pengfei Zhang*, Dechang Jia, Zhihua Yang, Xiaoming Duan, Yu Zhou, Harbin Institution of Technology, China

8:50 AM
(ICACC-S1-055-2012) Effect of AlN content on the microstructure and mechanical properties of BN-based composites
Zhuo Tian, Dechang Jia*, Zhihua Yang, Xiaoming Duan, Yu Zhou, Harbin Institute of Technology, China

9:10 AM
(ICACC-S1-056-2012) Utilizing Pressure-Induced Transformations for Toughening of Ceramics
Subramanian Ramalingam*, Ivar E Reimanis, Corinne E Packard, Colorado School of Mines, USA

9:30 AM
Break

9:40 AM
(ICACC-S1-057-2012) Microstructural Variations in Bulk Monoclinic Y2O3 Transformed under High Pressure
Stuart Deutsch*, Jafar F Al-Sharab, Bernard H Kear, Stephen D Tse, Rutgers University, USA

10:00 AM
(ICACC-S1-058-2012) Mechanical Properties of Zirconia Toughened Alumina with 10-24 vol-% 1Y-TZP Reinforcement
Frank Sommer*, Richard Landfried, Frank Kern, Rainer Gadow, University of Stuttgart, Germany

10:20 AM
(ICACC-S1-059-2012) Tailoring microstructures in mullite for toughness enhancement
Daniel Glymond*, Imperial College London, United Kingdom; Mike Vick, Ming-Jen Pan, Naval Research Laboratory, USA; Finn Giuliani, Luc Vandeperre, Imperial College London, United Kingdom

10:40 AM
(ICACC-S1-060-2012) Microstructural, Thermal, Electrical and Mechanical Characterisation of Silica Matrix Composites reinforced with Carbon Nanotubes
Tayyab Subhani*, Imperial College London, United Kingdom; Mirza Mackovic, Erdmann Spiecker, Aldo R Boccaccini, University of Erlangen-Nuremberg, Germany; Milo S Shaffer, William E Lee, Imperial College London, United Kingdom

11:00 AM
(ICACC-S1-061-2012) Influence of Carbon Doping on the Mechanical Properties of Alumina
Noor Azlin Yahya*, Richard I Todd, University of Oxford, United Kingdom

11:20 AM
(ICACC-S1-062-2012) Relationship between the number density of coarser defects and strength and their fluctuations in dry-pressed ceramics
Satoshi Tanaka*, Shota Goi, Ryoichi Furushima, Keizo Uematsu, Nagaoka University of Technology, Japan

11:40 AM
(ICACC-S1-063-2012) The Preparation and microstructure of ZrC based ceramics
Rong Zhidan*, Liu Yufu, Southeast University, China
Processing-Microstructure-Properties Correlations II

1:30 PM
(ICACC-S1-064-2012) Investigation of the Mechanical Properties of an Oxide/Oxide Fibre Reinforced Ceramic Matrix Composite
Richard Edward Johnston*, Martin R Bache, Swansea University, United Kingdom; Daniel Thompson, Umecko Composite Structural Materials, United Kingdom; Philip J Withers, Steven Van Boxel, Manchester University, United Kingdom; Ian M Edmonds, Rolls-Royce plc, United Kingdom

1:50 PM
(ICACC-S1-065-2012) Stochastic models of fragmentation of brittle fibers or matrix in ceramic matrix composites
Jacques L Lamon*, CNRS, France

2:10 PM
(ICACC-S1-066-2012) Oxide Fiber Composites with cellular YAG/ZrO2-matrices
Thomas Wamser*, Jürgen Lehmann, Sven Scheler, Walter Krenkel, Ceramic Materials Engineering, Germany

2:30 PM
(ICACC-S1-067-2012) Mechanical and microstructural characterization of C/C-SiC manufactured via triaxial and biaxial braided fiber preforms
Fabian Breede*, Martin Friess, Dietmar Koch, Heinz Voggenreiter, Institute of Structures and Design, German Aerospace Center (DLR), Germany; Virginia Frenzel, Klaus Drechsler, University of Stuttgart, Germany

2:50 PM
(ICACC-S1-068-2012) Influence of Fiber Fabric Density and Matrix Fillers as well as Fiber Coating on the Properties of OXIPOL Materials
Sandrine Hoenig*, Enrico Klatt, Martin Friess, Dietmar Koch, Cedric Martin, Ibrahim Naji, German Aerospace Center, Germany

3:10 PM
Break

3:20 PM
(ICACC-S1-069-2012) Innovative clay-cellulosic biosourced composite: formulation and processing
Gisele Laure Lecomte-Nana*, ENSCI - GEMH, France; Olivier Barré, Catherine Nony, Société Bibliotek, AVRUL Dpt Incubateur, France; Gilles Lecomte, ENSCI - GEMH, France

3:40 PM
(ICACC-S1-070-2012) Shape-memory effect in glassy carbon
Yutaka Shinoda*, Takashi Akatsu, Fumihiro Wakai, Tokyo Institute of Technology, Japan

4:00 PM
(ICACC-S1-071-2012) Novel Silicon Carbide Composites without Interface Layer
Tatsuya Hinoki*, Kazuya Shimoda, Yi-Hyun Park, Kyoto University, Japan

4:20 PM
(ICACC-S1-072-2012) Bonding of Silicon Carbide Ceramics to Metals using Particulate Reinforced Ag-Cu-Ti Alloys
Michael C Halbig*, NASA Glenn Research Center, USA; Bryan P Coddington, University of Wisconsin-Madison, USA; Rajiv Asthana, University of Wisconsin-Stout, USA; Mrityunjay Singh, Ohio Aerospace Institute, USA
4:40 PM
(ICACC-S1-073-2012) Biaxial Flexure tests of Carbon Fiber - SiC Matrix Hybrid Ceramics
Narihito Nakagawa*, Japan Ultra-High Temperature Materials Research Center, Japan; Shinichiro Aonuma, Covalent Materials Co., Japan; Shuqi Guo, National Institute for Materials Science, Japan; Ken Goto, Japan Aerospace Exploration Agency, Japan; Yutaka Kagawa, University of Tokyo, Japan

5:00 PM
(ICACC-S1-074-2012) Strategies to Optimize the Strength and Toughness of Ceramic Laminates
Raul Bermejo*, Montanuniversitaet Leoben, Austria; Lucie Sestakova, Oldrich Sevecek, Materials Center Leoben Forschung GmbH, Austria; Zdenek Chlup, Academy of Sciences of the Czech Republic, Czech Republic; Robert Danzer, Montanuniversitaet Leoben, Austria

5:20 PM
(ICACC-S1-075-2012) High Pressure Seawater Impingement Resistance of High Purity Aluminum Oxides
Timothy Scott Dyer*, Energy Recovery Inc, USA; Ralph Quiazon, Energy recovery Inc, USA; Mike Rodgers, Rio Tinto Alcan, France

5:40 PM
(ICACC-S1-076-2012) Production and study of stability ofCa2AlNbO6 ceramics in crude petroleum for their application in petroleum extraction industry
Yogendra Prasad Yadava*, Marilaine M Lima, José Carlos S Oliveira, Ricardo A Sanguinetti Ferreira, Universidade Federal de Pernambuco, Brazil

Friday, January 27, 2012
Tribological Applications
8:30 AM-10:40 AM
Room: Coquina Salon D
Session Chair(s): Oyelayo Ajayi

8:30 AM
(ICACC-S1-077-2012) Tribological Behaviour of Ceramics Laminates Containing Residual Stresses (Invited)
Goffredo de Portu*, ISTEC-CNR, Italy

9:00 AM
(ICACC-S1-078-2012) Real time performance of carbide based cermets versus hardened/alloy steels for cutting tool applications
Ali Ozer, Yahya K Tur, Gebze Institute of Technology, Turkey; Waltraud M Kriven*, University of Illinois at Urbana-Champaign, USA

9:20 AM
(ICACC-S1-079-2012) Use of ceramic sliding systems in a prototype gasoline pump with operating pressures of up to 80 MPa
Christophe Pfister*, Heiko Kubach, Ulrich Spicher, Karlsruhe Institute of Technology, Germany

9:40 AM
(ICACC-S1-080-2012) Grain Size Dependence of Nanoindentation and Nanoscratch Behavior in Polycrystalline Alumina Fabricated by Spark Plasma Sintering
Lin Huang*, Wenlong Yao, Yuhong Xiong, Amiya K Mukherjee, Julie M Schoenung, UC Davis, USA
10:00 AM
(ICACC-S1-081-2012) The fretting wear response of TiC and Ti(C,N) cerments prepared with a ductile Ni3Al binder
Stephen Buchholz, Zoheir N Farhat, Georges J Kipouros, Kevin Paul Plucknett*, Dalhousie University, Canada

10:20 AM
(ICACC-S1-082-2012) Development of Nickel Coated Carbon Fiber Reinforced Stellite Alloy Based Composites
Alireza Khoddamzadeh*, Rong Liu, Carleton University, Canada; Ming Liang, University of Ottawa, Canada

Characterization
10:40 AM-12:20 PM
Room: Coquina Salon D
Session Chair(s): Monica Ferraris

10:40 AM
(ICACC-S1-083-2012) Torsion tests on joined SiC
Monica Ferraris*, Andrea Ventrella, Milena Salvo, Massimiliano Avalle, Politecnico di Torino, Italy

11:00 AM
(ICACC-S1-084-2012) Investigation of Compression Strengths of SiC(0001) and ZrC(001) Micropillars
Sara Kiani*, Jenn-Ming Yang, Suneel Kodambaka, UCLA, USA

11:20 AM
(ICACC-S1-085-2012) Micromechanical properties of aligned and continuous multi-walled carbon nanotube/aluminoborosilicate glass composites
Geoffrey Otieno*, Antal Koos, Frank Dillon, Noor Yahya, Nicole Grobert, Richard I Todd, University of Oxford, United Kingdom

11:40 AM
(ICACC-S1-086-2012) Quantification of Grinding-Induced Phase Changes in Y-TZP
Matthew Strasberg*, Allyson A Barrett, Kenneth J Anusavice, John J Mecholsky, Juan C Nino, University of Florida, USA

12:00 PM
(ICACC-S1-087-2012) Study on the stiffness of comeld composites joints
Hongjian Zhang*, Weidong Wen, Haitao Cui, Nanjing University of Aeronautics and Astronautics, China