

Program

Novel and Emerging Ceramics and Composites

June 25-30, 2006

Outrigger Keauhou Beach Resort

Kona Coast, Island of Hawaii, USA

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Sunday, June 25, 2006

16:00 – 18:00	Registration
17:00 – 18:00	Meeting of Organizing Committee, Session Chairs and Keynote Speakers
18:00 – 19:00	Opening Reception
19:00 – 21:00	Dinner

NOTES FOR CONFERENCE PARTICIPANTS

- **Participants should observe no smoking at ECI technical and social events.**
- **During technical sessions please keep cell phones on vibrate or shut off. Take any telephone conversations out of the session room.**
- **Sunday Social/Dinner: Halau Lawn**
- **All Breakfasts-Per Voucher -in restaurant Kama'aina Terrace**
- **General Sessions: Kahalu'u 2 & 3**
- **Lunches : Kama'aina Terrace**
- **Dinners: Kahalu'u 1 except Wed. is Kalanikai Bar and Grille**
- **Thursday night's dinner will be a Luau – meet in Luau Gardens outside**

Monday, June 26, 2006

07:30 – 08:15	Breakfast Buffet
08:15 -08:30	Welcome and Opening Remarks Raj Singh (Conference Chair) Jules Routbort (Conference Liaison)
Session I: State of Ceramics and Composites Session Chairs: J.P. Singh and W. Krenkel	
08:30 – 09:10	Frontiers in Nanostructured Materials (Keynote) J. Narayan, North Carolina State University, USA
09:10 – 09:40	Thermostroctural Ceramics and their New Evolution (invited) Toshihiro Ishikawa, UBE Industries, Japan
09:40 – 10:10	Carbon Fiber Reinforced Composites for High Performance Brake Systems (invited) Walter Krenkel, University of Bayreuth, Germany
10:10 – 10:30	Coffee Break
10:30 – 11:00	Nano-Scaled Fabrication of Optoelectonic Ceramics using Pulsed Laser Ablation Technique (Invited), K. B. Shim, Hanyang University, Korea
11:00 – 11:30	Materials Research Opportunities at AFOSR/AOARD (Invited) J. P. Singh, AFOSR/AOARD, Japan
11:30 – 12:00	TBD
12:00 – 13:30	Lunch
13:30 – 17:00	Ad hoc sessions / free time

Session II: Processing Session Chair: Jules Routbort	
17:00 – 17:30	Synthesis of Dense Metal-Ceramic Composite by Aluminothermic Reactions (Invited) Rolf Janssen, Technical University Hamburg, Germany
17:30 – 18:00	Fabrication of the Single-nanosized Intermaterials Comosites and Its Application (Invited) T. Nakayama, Extreme Energy Research Institute, Nagaoka University, Japan
18:00 – 18:30	Directionally-solidified Eutectic Ceramic Oxides (Invited), Victor Orera, ICMA, Spain
18:30 – 19:00	Silicon Nitride Ceramics for Product and Process Innovation, Karl Berroth, FCT Ingnieurkeramic GmbH, Germany
19:00 – 19:30	Short presentations by presenters of posters
19:30 – 21:00	Dinner
21:00 – 22:30	Poster Session and Social Hour

Tuesday, June 27, 2006

07:30 – 08:30	Breakfast Buffet
Session III: Processing Session Chair: Y. Waku	
08:30 – 09:00	Development of Shape Casting by Using Phase Transformation from the Metastable System to the Equilibrium Eutectic System Through Undercooled Melt Formation (<i>Invited</i>) H. Yasuda, Osaka University, Japan
09:00 – 09:30	Synthesis and Optoelectrical Properties of Novel ZnO-based Nanostructures, (<i>Invited</i>) Jow-Lay Huang, National Cheng Kung University, Taiwan ROC
09:30 – 10:00	Design of Ceramic Matrix Composites, (<i>Invited</i>) W.H. Tuan, National Taiwan University, Taiwan ROC
10:00 – 10:20	Coffee Break
Session IV: Composites Session Chair: W.H. Tuan	
10:20 – 10:50	Process-Structure-Property Relationships for Advanced High-Temperature SiC/SiC Composites, (<i>Invited</i>), J. A. DiCarlo, NASA-GRC, USA
10:50 – 11:20	High Temperature Characteristics of Melt Growth Composites, (<i>Invited</i>) Y. Waku, HPGT Research Association, Japan
11:20 – 11:50	Mechanical Properties and Oxidation of BN with the Addition of Sintering Aids, T.B. Do, University of Michigan, USA
11:50 – 12:20	TBD
13:00 – 14:30	Lunch Buffet
14:30 – 18:00	Ad hoc sessions / free time
18:30 – 20:00	Dinner

Session V: Polymer Derived Composites Session Chair: Raj Singh and R. Bordia	
20:00 – 20:30	Polymer Derived Composite Ceramics (<i>Invited</i>) R. Bordia, University of Washington, USA
20:30 – 21:00	Modeling Geopolymer Formation, (<i>Invited</i>) John Provis, University of Melbourne, Australia
21:00 – 23:00	Poster Session and Social Hour

Wednesday, June 28, 2006

07:30 – 08:30	Breakfast Buffet
Session VI: Polymer Derived Ceramics Session Chair: V. Jayaram	
08:30 – 09:10	Multifunctional High Temperature Carbon Based Ceramics Prepared from the Polymer Route (<i>Keynote</i>) Rishi Raj, University of Colorado at Boulder, USA
09:10 – 09:40	Geopolymers: New Ceramic Materials Made by Gel Formation (<i>Invited</i>) Trudy Kriven, University of Illinois-UC, USA
09:40 – 10:10	Synthesis and Surface Modification Issues in Nano-scale and Multiscale Materials, (<i>Invited</i>) Sharmila Mukhopadhyay, Wright State University, USA
10:10 – 10:30	Coffee Break
Session VII: Mechanical Properties Session Chair: W. Kriven	
10:30 – 11:00	Effect of Rare Earth Oxides on the Creep Behavior of Silicon Nitride (<i>Keynote</i>) Sheldon Wiederhorn, NIST, USA
11:00 – 11:30	Synthesis and Deformation of Bulk Amorphous and Nanocrystalline Phases in Precursor Derived Alumina-Zirconia and Alumina-Yttria (<i>Invited</i>) Vikram Jayaram, Indian Institute of Science, India
11:30 – 12:00	Re-establishment of Mechanical Performance and Database of NT154 Silicon Nitride (<i>Invited</i>) H.-T. Lin, ORNL, USA
12:00-12:30	A Miniaturized Oxygen Sensor with an Integral Reference Sealed by Plastic Deformation (<i>Invited</i>) Jules Routbort, Argonne National Lab, USA
12:30-13:00	High Temperature Deformation Behavior of Strontium Titanate Ceramics (<i>Invited</i>) D. Singh, Argonne National Lab, USA
13:00 – 14:30	Lunch Buffet
14:30 – 18:30	Ad hoc discussions / free time
18:30 – 21:00	Conference Banquet

Thursday, June 29, 2006

07:30 – 08:30	Breakfast Buffet
Session VIII: Interfaces and Mechanical Properties of Composites Session Chairs: A. Lopez and Y. Kagawa	
08:30 – 09:00	Fiber-Matrix Interface Development for Oxide Oxide Ceramic Matrix Composites (<i>Invited</i>) Mike Cinibulk, WPAFB, USA
09:00 – 09:30	Measurement of Interfacial Phenomena in a Novel Ceramic Composite (<i>Invited</i>) Raj Singh, University of Cincinnati, USA
09:30 – 10:00	Nondestructive Evaluation of Damage Evolution in SiC/SiC Composite by Microwave Sensing Method (<i>Invited</i>) Y. Kagawa, Tokyo University, Japan
10:00 – 10:30	High Temperature Deformation and Joining of a YTZP Hydroxiapatite Composite M. Cinta Lorenzo-Martin, University of Seville, Spain
10:30 – 10:50	Coffee Break
10:50 – 11:20	Microstructure and High Temperature Mechanical Behavior of Directional Solidified Eutectic Ceramics J. Ramirez-Rico, University of Seville-CSIC, Spain
11:20 – 11:50	Fabrication and Property Evaluation of Translucent α-Sialon Ceramics , Q. Liu, Shanghai Institute of Ceramics, China
11:50 – 12:20	Optimization of the Fabrication Route of Biomorphic SiC from Artificial Wood , (<i>Invited</i>) Antonio Ramirez de Arellano Lopez and M.A. Bautista, University of Sevilla, Spain
12:20 – 12:50	TBD
13:00 – 14:30	Lunch Buffet
14:30 – 18:00	Ad hoc discussions / free time
18:00-20:00	Dinner – Luau, Participants meet outside in Luau Gardens at 5:45pm

Friday, June 30, 2006

07:30 – 08:30	Breakfast Buffet
Session IX: Nanoceramics and Composites Session Chairs: C. Baudin and N. Padture	
08:30 – 09:00	Novel 1-D and 3-D Ceramic Nanocomposites for Functional and Structural Applications (<i>Invited</i>) Nitin Padture, Ohio State University, USA
09:00 – 09:30	Alumina-Aluminum Titanate Structural Ceramics (<i>Invited</i>) Carmen Baudin, Instituto de Ceramica y Vidrio, Spain
09:30 – 10:00	Investigation of Chromium Carbide/Alumina Nanocomposite Prepared via MOCVD in a Fluidized Bed , D.F. Li, Cheng Shiu University, China
10:00 – 10:30	TBD
10:30 – 10:50	Coffee Break
10:50 – 11:20	TBD
11:20 – 11:50	TBD
11:50 – 13:00	Lunch Buffet