Announcement and Call for Papers

IMAPS/ACerS 7th International Conference and Exhibition on

Ceramic Interconnect and Ceramic Microsystems Technologies

The Westgate Hotel
San Diego, California - USA
April 5 - 7, 2011

The official Ceramic Interconnect and Ceramic Microsystems Technologies website is www.cicmt.org.

Co-sponsored by:

The International Microelectronics And Packaging Society (**IMAPS**)	The American Ceramic Society (**ACerS**)

General Chairs:

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Goal

The Ceramic Interconnect and Ceramic Microsystems Technologies (CICMT) conference brings together a diverse set of disciplines to share experiences and promote opportunities to accelerate research, development and application of ceramic interconnect and ceramic microsystems technologies. This international conference features ceramic technology for both Microsystems and Interconnect applications in a dual-track technical program. The Ceramic Interconnect track focuses on cost effective and reliable high performance ceramic interconnect products for hostile thermal and chemical environments in the automotive, aerospace, defense/ security, and communication industries. The Ceramic Microsystems track focuses on emerging applications and new products that exploit the ability of 3-D ceramic structures to integrate interconnect/packaging with microfluidic, optical, micro-reactor and sensing functions. Tape casting, thick film hybrid, direct write and rapid prototyping technologies are common to both tracks, with emphasis on material, processes, prototype development, advanced design and application opportunities.

Ceramic Interconnect Track

Ceramic Interconnect technology has a long history of meeting the requirements of the most demanding applications. Conventional thick and thin film ceramic technologies are being revolutionized and extended through the development of low temperature co-fired ceramics, photo patterning, and embedded passive component materials and processes. These have contributed to increased circuit density, enhanced functionality, and improved performance that are being adopted for leading edge applications in wireless and optical communications, automotive, MEMS, sensors, and energy. Data communications and the Internet are driving the demand for bandwidth, sparking demand for optical communication equipment and new interconnect and packaging applications that perform at 40 Gb/sec and beyond. In under-the-hood electronics for automotive, engine/transmission control, communications, and safety applications continue to drive the growth of ceramic interconnect technology, while collision avoidance systems are creating interest in low loss ceramic materials for frequencies approaching 100 GHz.

Ceramic Microsystems Track

Enabled by the availability of commercial ceramic, metal and embedded passives materials systems, and the rapid prototyping capabilities of the well established multilayer ceramic interconnect technology, three dimensional (3-D) functional ceramic structures are spawning new microsystems applications in MEMS, sensors, microfluidics, bio-devices, microreactors and microenergy. These new devices and applications exploit the ability to make microchannels and embed fluidic device functions (e.g., valves, pumps, switches, light pipes, and reaction chambers).

In addition, the Ceramic Microsystems track of the CICMT conference targets new developments in microsystems that include fabricating 3-D micro device structures enhanced with sol-gel, advanced printing and patterning technologies, high temperature materials technologies, and emerging applications like energy harvesting. Many of these innovative applications are taking advantage of the unique ability to integrate the thermal, chemical, mechanical and electrical properties of these multicomponent ceramic-metal systems.

Special Features

- Invited keynote and international presentations on the current status of ceramic technology and future system directions.
- A focused exhibition for suppliers who support the use of the technologies.
- A technical poster session to promote student participation.
- Social events to promote new contacts.

Planned Session and Paper Topics Include

Ceramic Microsystems

Markets and Applications
- MEMS Technology and Markets
- Energy and Fuel Cells
- Biological and Medical
- Chemical and Biochemical
- Photonics

Materials and Properties
- Materials Integration & Nano-materials
- Thermal Management and Reliability
- Piezoelectric Materials
- Optoelectronics

Processing and Manufacturing
- MEMS Manufacturing Technology
- Industrial Automation and Rapid Prototyping
- Nano-Technology/Integration
- High Temperature Microsystems

Devices
- Sensors and Actuators
- Micro-Reactors
- Fluidic Devices
- Biomolecular and Cell Transport Systems
- Energy Conversion Systems

Characterization and Reliability
- Materials and Process Characterization
- Systems Reliability, Lifetime, and Failure Estimation
- Reliability of High-Performance Microsystems

Design, Modeling, and Simulation
- Thermal and Heat Transfer
- Computational Fluid Dynamics

Ceramic Interconnect

Markets and Applications
- Automotive
- Aerospace
- Wireless/Communication
- Medical Electronics

Materials and Properties/Functions
- Dielectric and Magnetic Materials
- Embedded and Integrated Passives
- Microwave/mm Wave Characterization
- Zero-Shrink Ceramic Systems

Processing and Manufacturing
- Green Tape Manufacturing
- Multilayer Ceramics
  - Via and Pattern Generation
  - Metallization Processes
  - Lamination
  - Binder Burnout and Co-Firing
- Laser Trimming and Deposition
- Advanced Thick Film Processing
- Fine Structuring Technologies
- Rapid Prototyping

Devices
- Circuits, Antennas, and Filters
- Embedded Structures and Components
- Optical Devices and Optoelectronics

Characterization and Reliability
- Characterization of Green Tapes
- Life Testing, Quality Issues
- RF Performance

Design, Modeling, and Simulation
- High Frequency Design Software
- Design Rules

Integrated Ceramic Technology

Advanced Packaging Technology
- Next Generation Packaging Technologies
- Packaging and Integration in BioMEMS
- Packaging Issues for MEMS Devices
- Technologies for Microsystems Components and Substrates
- Packaging Standard for Microsystems
- Environmental Issues: Lead-Free Systems
- Cost Reduction

Abstract Cut-off Date: November 12, 2010

Notice of Acceptance: January 7, 2011

Final Manuscript Due: February 11, 2011

Please send your 250-300 word abstract **electronically only by November 12, 2010**, using the on-line submittal form at: www.cicmt.org. **All papers will be presented and published in English.** If you are having problems with the on-line submittal form, please email Jackki Morris-Joyner jmorris@imaps.org or call +1-305-382-8433 (USA). **All speakers are required to pay a reduced registration fee.**