

# Announcement and Call for Papers

## IMAPS/ACerS 8<sup>th</sup> International Conference and Exhibition on Ceramic Interconnect and Ceramic Microsystems Technologies

**Radisson Blu Hotel  
Erfurt, Germany  
April 16 - 19, 2012**

The official Ceramic Interconnect and Ceramic Microsystems Technologies website is [www.cicmt.org](http://www.cicmt.org).

*Co-organized by:*

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| <p>The International<br/>Microelectronics And<br/>Packaging Society (IMAPS)</p>  | <p>IMAPS Germany</p>  | <p><i>th</i><br/>ILMENAU UNIVERSITY OF<br/>TECHNOLOGY</p> | <p>Centre for Innovation<br/>Competence</p>  |
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| <p>The American Ceramic<br/>Society (ACerS)</p>  | <p>German Ceramic Society<br/>(DKG)</p>  |
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*General Chairs:*

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| <p>Jens Mueller, Ilmenau University of Technology<br/><a href="mailto:jens.mueller@tu-ilmenau.de">jens.mueller@tu-ilmenau.de</a></p> | <p>Richard Eitel, University of Kentucky<br/><a href="mailto:reitel@engr.uky.edu">reitel@engr.uky.edu</a></p> |
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*Technical Program Chairs:*

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*Local Organizing Committee*

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| <p>Andreas Roosen (University of Erlangen-Nuremberg), Heinz Osterwinter (HS Esslingen), Jörg Töpfer (FHS Jena),<br/>Torsten Rabe (BAM Berlin), Sebastian Brunner (EPCOS), Thomas Bartnitzek (Via Electronic GmbH), Rubén Perrone (MSE GmbH)</p> |
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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

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 presentations on the current status and future direction of the technologies.
- 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
- 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 Standards for Microsystems
- Environmental Issues: Lead-Free Systems
- Cost Reduction

**Abstract Cut-off Date: October 28, 2011**

**Notice of Acceptance: December 16, 2011**

**Final Manuscript Due: February 6, 2012**

Please send your 250-300 word abstract **electronically only by October 28, 2011**, using the on-line submittal form at: [www.cicmt.org](http://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](mailto:jmorris@imaps.org) or call +1-305-382-8433 (USA). **All speakers are required to pay a reduced registration fee.**