

Advance Information on
MICRONANORELIABILITY 2007

1st International CONGRESS
on Microreliability and Nanoreliability
in Key Technology Applications
Berlin (D), Sept. 2-5, 2007

The event is the first world congress in the field of reliability issues of advanced micro- and nanotechnology research and applications. Materials aspects, simulation, testing and the combined theoretical and experimental approach will be dealt with.

Leading specialists from industry and research institutes from all over the world are invited to present papers, posters and explain new approaches, techniques and experimental equipment in reliability of materials, components and systems as well.

TOPICS

1. **Reliability of MEMS, Microsystems, Sensors, Mechatronic Systems**
2. **Reliability of Microelectronic Components and Systems**
3. **Reliability in Nanoelectronics**
4. **Reliability in Automotive Electronics**
5. **Reliability in IT Applications**
6. **Reliability - Experiments, Testing Methods and Techniques**
7. **Design for Reliability**
8. **Physics-of-Failure Methods**
9. **Reliability Concepts on Micro- and Nanoscale**
10. **Reliability Simulation**
11. **Reliability Monitoring and Diagnostics**
12. **Fracture, Cracks (e.g. Interface Cracking)**
13. **Creep, Fatigue, Thermal Fatigue and Combined Loading**
14. **Coupled Field Reliability Applications**
(Mechanical, Thermal, Electrical, Diffusion, Vibration etc.)
15. **Mechanical and Thermal Reliability, Thermal Mismatch**
16. **Short-term and Accelerated Reliability Tests**
17. **Micromaterials, Nanomaterials and Related Reliability Issues**
18. **RFID and Reliability**
19. **EMC Reliability Problems**
20. **Security – Safety – Reliability, a special workshop is planned**
21. **Nanostructures - Identification and Authentication**
22. **High Resolution Stress and Strain Analysis**
23. **Micro- and Nano Packaging, Reliability Strategies**
24. **Advanced Micro- and Nanomaterials Testing**
25. **Risk Potential of Nanotechnologies**
26. **Nanobiotechnology and Reliability Issues**
27. **Nanoparticle-reinforced Materials, Structural Modification**
28. **Reliability and Standardization in the Micro-Nano Region**
29. **Smart Systems Engineering and Reliability**
30. **Reliability Research for “Moore”, “More Moore” and “More than Moore”**

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EUCEMAN

European Center for
Micro- and Nanoreliability



250 Papers received

Papers were invited on the topics outlined and others falling within the scope of the conference.

More than 250 abstracts from 32 countries have already been submitted.

Late paper submission is still possible.

SPECIAL WORKSHOPS

1. **Security – Safety – Reliability**
("Microsecurity – Nanosecurity")
2. **Aerospace Applications**
3. **Interface Reliability in the Micro-nano Region**
4. **MEMS Reliability**
5. **Aging and Shelf Life of Micro and Nano Devices**

Furthermore, a **poster exhibition** and **project progress meetings** will take place.

TUTORIALS (current status)

E. Suhir (University of California):
Thermal stress failures in micro- and opto-electronic systems

H. Walter (Fraunhofer IZM):
Micro and nano testing methods

V. Girault (STMicroelectronics):
Microelectronics reliability in advanced Copper/low k interconnects

G. Georgakos (Infineon):
Failure mechanisms at semiconductor devices caused by ionising radiation

B. Wunderle (Fraunhofer IZM):
Thermal management – Reliability and design

J. Morris (Portland State Univ.):
Reliability issues of ICAs and ACAs

Desmulliez, M. (Hariat-Watt-Univ.):
Taxonomy of failures of MEMS

E. Zschech (AMD Dresden):
Advanced CMOS – Technology, materials, reliability

J. Auersperg (Fraunhofer IZM):
Design of Experiments (DoE) for reliability and optimization

R. Dudek (Fraunhofer IZM), S. Wiese (TU Dresden), S. Rzepka (Quimonda):
Lead-free solder performance

COMMITTEE

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RANG, T. Tallinn Techn. Univ., EST
REINIKAINEN, T. Nokia Research Center, Helsinki, FIN
RZEPKA, S. Qimonda AG, Dresden, D
SABATE, N. Centro Nacional de Micro-electronica, Barcelona, ESP

SCHACHT, R. Univ. of Technology of Lausitz, Senftenberg, D
SCHUCH, B. Conti TEMIC AG, Nuremberg, D
SEDMAK, S. Univ. of Belgrade, SCG
SENNHAUSER, U. EMPA Duebendorf, SUI
SENSKE, W.F. DaimlerChrysler AG, Sindelfingen, D
SIH, G.C. Lehigh Univ. Bethlehem, USA, and East China Univ. Sci. Techn., Shanghai, CN
STAUBER, R. BMW AG Munich, D
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TOTZAUER, W. University of Technology, Mittweida, D
TRAENKLE, G. Ferdinand Braun Institute, Berlin, D
TUMMALA, R. Georgia Inst. of Technology, Atlanta, USA
TURBINI, L. Univ. of Toronto, CDN
VILLAIN, J. University of Technology, Augsburg, D
WEISS, B. University of Vienna, A
WERNER, M. NMTC Berlin, D
WILLIAMS, J.G. Imperial College, London, U.K.
WINKLER, T. CWM GmbH, Chemnitz, D
De WOLF, I. IMEC, Leuven, B
WOLTER, K.-J. Univ. of Technology, Dresden, D
WUNDERLE, B. Fraunhofer IZM Berlin, D
XUEJUN FAN Intel Corporation, Chandler, USA
YU, S. Tsinghua University, Beijing, CN
ZIMPRICH, P. University of Vienna, A
ZSCHECH, E. AMD Dresden, D

Presenting Institutions (Selection)

AMD	AIST
BMW	BOSCH
CALCE	CEA-LETI-MINATEC
CEIT	CiS
CNR-INFM	Conti Temic
DaimlerChrysler	EMPA
ETHZ	GKSS
Georgia Tech	FZK
Fraunhofer IFAM, IWM, IWS, IZFP, IZM, LBF	
Freescale Halbleiter Deutschland	
Lawrence Berkeley Nat'l Lab	
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Infineon	Imperial College
MPD	Nanyang TU
NIST	NXP Semiconductors
PANalytica	Philips
Qimonda	RHE
Sandia Nat'l Labs	SIEMENS
STMicroelectronics	Tokyo Inst. Technol.
Universities	Beijing, Berlin, Bordeaux, Chemnitz, California, Dayton, Delft, Dresden, Edinburgh, Freiburg, Hanover, Gothenburg, Hong Kong, Ilmenau, Loughborough, Modena, Prague, Portland State, Rostock, Sendai, Stanford, Stuttgart, Tel Aviv, Tallinn, Thessaloniki, Torino, Vienna, Wroclaw, etc.

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LANGUAGE

The official language of the presentations is English.

SPECIAL AWARDS

- Best paper and poster awards (in different topics)
- EUCEMAN award

CONFERENCE PUBLICATIONS

An **abstract volume** will be handed out during the conference.

Selected papers will be published in special issues of

„*Microsystem Technologies*“

and

„*Micro- and Nanomaterials*“

CONFERENCE HOTEL

The conference hotel **Courtyard by Marriott Berlin-Köpenick** is located in the greenest part of Berlin, capital of D, on the banks of the river Dahme and provides pleasant accommodation and conference facilities (see www.marriott.com/bercy)

ACTUAL INFORMATION

Regularly updated information on the conference will be available on the conference website
www.micronanoreliability.com

REGISTRATION

Pre-registration can be done via the conference website.
Official registration for participation will be possible from April 1, 2007.

ORGANIZERS

EUCEMAN European Center for Micro- and Nanoreliability e.V. Berlin (www.euceman.com)

in cooperation with:

MMCB Micro Materials Center Berlin at Fraunhofer Institute for Reliability and Microintegration (www.micromaterialscenter.com)

Technical organizer

Nanotest Berliner Nanotest und Design GmbH (www.nanotest.org)

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