TECHNICAL PROGRAMME

The conference will concentrate on two main areas of interest in electronics concerning designers, manufacturers and users:

EQUIPMENT EXHIBITION

The Symposium will feature the latest in service providers, equipment manufacturers and suppliers. Large exhibit rooms will give the opportunity to key-vendors to represent the core business area in these fields. For further information concerning the equipment exhibition, please contact: Carmine Abbate esref2010@unicas.it

SCOPE OF PAPERS

Papers are requested on the following topics:
- Quality and Reliability assessment techniques and methods for Devices and Systems
- Design for reliability, Built-in reliability, Virtual qualification, Reliability simulation, Extreme environments, Advanced models for Reliability prediction, Reliability test structures, Limits to accelerated tests, Screening methods, Yield/reliability relationship.
- Physical Modeling and Simulation for Reliability Prediction
- Characterization of defects, Defect models, Numerical simulation, Simulation of reliability in integrated circuits.
- Advanced Failure Analysis: Defect Detection and Analysis
- Electron, ion and optical beam techniques, Scanning probe techniques, Static or dynamic techniques, Backside techniques, Acoustic microscopy, Electric or magnetic field based techniques, Electrical, thermal and thermo-mechanical characterization, Sample preparation, construction analysis, Failure analysis: case studies.
- Failure Mechanisms in New Materials and Transistors
- Process-related issues, Passivation stability, Hot carriers injection, NBTI, TDD, High-K dielectrics and gate stacks, Low-K dielectrics and Cu interconnects, ESD-EOS, Metal migration: mechanical and thermal aspects, Radiation impact on circuits and systems reliability.
- Failure analysis and Reliability of Advanced and Nanoscale electronics
- Non-volatile and programmable cells, Silicon on Insulator devices, Wide bandgap semiconductors, Microwave and compound semiconductor devices, Photonic devices: Optoelectronics, lasers and solar cells, Optical and NTC Interconnects, MEMS and MOEMS, MEMS and nano-objects.
- Power Devices Reliability

DEADLINES

Submission of summaries: 30 April 2010
Notification of acceptance: 30 May 2010
Submission of final manuscripts: 30 June 2010

Conference Chair: G. BUSATTO - University of Cassino (I)
Conference Vice-Chair: A. SANSEVERINO - University of Cassino (I)
Technical Programme Chairs: F. FANTINI, F. IANNUZZO - University of Cassino (I), G. MENEGHESSO - University of Padova (I)

STEEERING COMMITTEE

X. AYMERICH - University of Barcelona (Spain)
L.J. BALK - University of Wuppertal (Germany)
J. BISSCHOP - NXP Semiconductors (Netherlands)
M. CIAPPA - ETH Zurich (Switzerland)
Y. DANTO - IME, University of Bordeaux (France)
F. FANTINI - Univ. of Modena and Reggio Emilia (Italy)
W. GERLING - Infineon (Germany)
G. GRESENENKEN - IMEC (Belgium)
J.R. LLOYD - IBM (USA)
V. LOLL - Nokia (Denmark)
L. LONZI - ST Microelectronics (Italy)
A.J. MOUTHAAN - University of Twente (The Netherlands)
P. PERDU - CNES (France)
N. STOJADINOVIC - University of Nis (Serbia)
A. TOUBOUL - IMS, University of Bordeaux (France)
W. WONDRAK - Daimler Chrysler (Germany)
**TECHNICAL SUBCOMMITTEE CHAIRS**

**Reliability of Photovoltaic and Organic devices: Thin Film, concentration, OLED, TFT** (HOT topic)

Carlos ALGORA (ETSIT, Spain)
Roberta CAMPESATO (CESI, Italy)

**Quality and Reliability Techniques for Devices and Systems**
Francesco SVELTO (ASI, Italy)
Christopher BAILEY (University of Greenwich, UK)

**Characterisation of Failure Mechanisms: Hot carriers, high K, gate materials**
Giuseppe CURRO' (STMicroelectronics, Italy)
Ninoslav D. STOJADINOVIC (University of Nis, Serbia)

**Characterisation of Failure Mechanisms: low K, Cu Interconnects**
Cora SALM (MESA+ Research Institute/ University of Twente, The Netherlands)
Cher Ming TAN (Nanyang Technological University, Singapore)

**Characterisation of Failure Mechanisms: ESD, Latch-up**
Gianluca BOSELLI (Texas Instruments, USA)
Gernot LANGGUTH (Infineon, Germany)

**Advanced Failure analysis: Electron and Optical Beam Testing**
Ralph HEIDERHOFF (Bergische Universität Wuppertal, Germany)
Paolo SPIRITO (University of Napoli, Italy)

**Advanced Failure analysis: Other advanced characterisation techniques**
Philippe PERDU (CNES, France)
Massimo VANZI (University of Cagliari, Italy)

**Failures in Microwave, Wide Band-Gap and Photonic Devices**
Nathalie LABAT (IMS, University of Bordeaux)
Roberto MENOZZI (University of Parma, Italy)

**Packaging, Assemblies, Passive Components and MEMS**
Fabio COCCETTI (Novamems/ LAAS-CNRS, France)
Augusto TAZZOLI (University of Padova, Italy)

**Extreme environments: Power, Automotive and industrial applications**
Mauro CIAPPA (ETH Zürich, Switzerland)
Eckhard WOLFGANG (Siemens, Germany)

**Extreme environments: Aeronautic and spatial electronics**
Jean-Luc LERAY (CEA, France)
Alessandro PACCAGNELLA (Università di Padova, Italy)

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**TECHNICAL EVENTS**

Tutorials by experts will provide review presentation of relevant topics and Invited papers will introduce the mainstream topics. Workshops organized in correlation with the ESREF conference will give the opportunity to exchange the know-how and field returns on specific topics.

**INVITED TALKS**

A confirmed list of the invited talks is:

- "How future automotive functional safety requirements will impact microprocessors design" by Marco BELLOTTI – Engineering&Design Electrical Electronics department, Fiat Group Automobiles (Italy)

- "MEMS technology integrated in the CMOS back-end" by Roberto GADDI – Cavendish Kinetics (The Netherlands)

- "Advanced Packaging yields to Higher Performance and Reliability in Power Electronics" by Reinhold BAYERER – Infineon Technologies AG (Germany)

- "Soft-Errors induced by terrestrial neutrons and natural alpha-particle emitters in advanced memory circuits at ground level" by Jean-Luc AUTRAN – Aix-Marseille University, IM2NP-CNRS (France)

- "High-k related reliability issues in advanced Non-Volatile Memories" by Luca LARCHER – University of Modena and Reggio Emilia (Italy)

- "Reliability of III-V concentrator solar cells" by Carlos ALGORA – Solar Energy Institute, Polytechnic University of Madrid (Spain)

- "Overview of the recent progress in high-k reliability, i.e. breakdown and PBTI, including results on fully-depleted devices.” by James H. STATHIS – IBM Research (NY, USA)

- "Application of TEM Analysis and holography to GaN-based devices" by David J. SMITH – Arizona State University, Tempe (AZ, USA)

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**LAST CALL FOR PAPERS**

21st EUROPEAN SYMPOSIUM ON RELIABILITY OF ELECTRON DEVICES, FAILURE PHYSICS AND ANALYSIS

Gaeta – Italy
11 - 15 October 2010

Organized by:

with the technical co-sponsorship of:

**Organisation Secretariat**

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http://www.esref.org

**Extended deadline:**
April, 2nd