ESREF 2010, the 21st European Symposium on Reliability of Electron Devices will take place in Gaeta and Monte Cassino Abbey (Italy) from 11th to 15th October 2010.

This international symposium continues to focus on recent developments and future directions in Quality and Reliability Management of materials, devices and circuits for micro, nano, and optoelectronics. It provides a European forum for developing all aspects of reliability management and innovative analysis techniques for present and future electronic applications.

LOCATION OF THE CONFERENCE (143 km from the Fiumicino international airport of Rome and 105 km from Capodichino international airport of Naples):

SUMMIT HOTEL
Via Flacca, Km 23
04024 GAETA (LT) – Italy

SUBMISSION GUIDELINES

The deadline for the submission of summaries **has been extended to 24:00 GMT of April 2nd, 2010**. Abstracts are Adobe™ PDF documents, three pages long maximum. Such documents must include: the title of the paper, the list of the Authors, their affiliations and physical addresses, a 75-200 words abstract, tables, figures and essential bibliography.

Extended deadline: April, 2nd

Please, note that:
- the limit of three pages is mandatory;
- abstract must be written in English;
- the page size is the standard ISO-A4;
- only PDF files are allowed.

Abstract templates are available in PDF format and DOC format on the conference web site: **http://www.esref2010.unicas.it**
Submission of the abstracts requires a preliminary registration to the paper service system site. Please, before proceeding to submission, keep within reach the following information:
- the e-mail address you used to confirm the registration, for future references;
- the title of the paper;
- the category of the paper (Invited/Regular): only regular papers should be submitted before March 14th, 2010;
- the topic(s) the paper belongs to (list of topics); up to two topics are allowed;
- the preference for Oral, Poster or <no preference> presentation;
- a list of at least two keywords;
- the list of the Authors and their Affiliations, complete addresses, phone and fax numbers, and e-mail addresses;
- the indication of the corresponding author;
- the text form of the abstract of the submitted work;
- the PDF file.

DEADLINES

~~14 March 2010~~ **2 April 2010**	**Submission of summaries**
30 April 2010	**Notification of acceptance**
30 May 2010	**Submission of final manuscripts**

Elsevier Science will publish the ESREF 2010 proceedings as a special issue of the Microelectronics Reliability journal.

30 June 2010	**Receipt of final papers at the Publisher Elsevier Science (UK)**

TECHNICAL PROGRAMME

The conference will concentrate on two main areas of interest in electronics concerning designers, manufacturers and users:
- Strategy for Quality and Reliability Assessment during Product Development and Life Cycle.
- Advanced Analysis Techniques for Technologies and Product Evaluation.

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, TDDB,
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,
NEMS and nano-objects.

Power Devices Reliability
Smart-power devices, IGBT, thyristors,
High voltage devices,
Thermal management.

Packaging and Assembly Reliability
Failure mechanisms and environmental constraints,
MCM, CSP, BGA, SiP, WLP, QFN, advanced PCB,
Bonding, solders and joints, Connectors,
Passive elements.

Photovoltaic Devices and System Reliability
III-V Semiconductors, Thin Films, Concentration PV

Organic Electron Devices Reliability
TFT, OLEDs, Organic photovoltaic cells

STEERING COMMITTEE

X. AYMERICH	- University of Barcelona (Spain)
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PROGRAMME COMMITTEE

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Conference Vice-Chair:

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F. IANNUZZO	- University of Cassino (I)
G. MENEGHESSO	- University of Padova (I)

Conference Scientific Support:

G. CURRO'	- STMicroelectronics, Catania (I)
M. VANZI	- University of Cagliari (I)
F. SVELTO	- ASI, Roma (I)

Industrial Exhibition:

C. ABBATE, A. PORZIO	- University of Cassino (I)

Journal edition chairs:

G. BUSATTO	- University of Cassino (I)
F. IANNUZZO	- University of Cassino (I)

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)

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)

More international leaders in the reliability field have given their availability for invited speeches. Please, check the website for updates.

Organisation Secretariat

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http://www.esref2010.unicas.it
http://www.esref.org

LAST CALL FOR PAPERS

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

Gaeta – Italy
11 - 15 October 2010

Extended deadline: April, 2nd

Organized by:

and

with the technical co-sponsorship of :

Department of Automation, Electromagnetism, Information Engineering and Industrial Mathematics University of Cassino

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