

## CONFERENCE VENUE

The conference will be held at the Barceló Hotel Renacimiento, in the Isla de la Cartuja, an island between two branches of the Guadalquivir river that it's today home to the Cartuja 93 technology business park. Seville's downtown (El Centro) is very close and, from there, visitors will find Seville's major monuments and shopping facilities just two steps away.

### The Cathedral and the Giralda

"Let us create such a building that future generations will take us for lunatics". That's what churches authorities reputedly agreed back in 1401. And they certainly got themselves the big and magnificent Cathedral, one of the largest catholic churches in the world: the main building is 126m long and 83m wide. The original mosque's beautiful minaret (for the cathedral was built over the main mosque that fell to the christians in 1248), La Giralda, still stands on its eastern side, but the cathedral's bulky exterior gives few other hints of the treasures within.

### Alcázar

Residence of many generations of kings and caliphs, the not-to-be-missed Alcázar is an intriguing, beautiful complex of gardens, patios, and royal rooms, and it is intimately associated with the lives and loves of many Muslim and Christian rulers, above all Pedro I of Castilla, who was known as Pedro El Cruel and Pedro El Justiciero (the Cruel and the Justice-dispenser) depending which side of him you were on.

### Santa Cruz, the Centro and the Arenal

Santa Cruz is Seville's medieval Judería (Jewish quarter), today a tangle of quaint, winding streets and lovely plant-decked plazas perfumed with orange blossom. Plaza de Santa Cruz, Plaza Doña Elvira, the 17th-century Hospital de los Venerables Sacerdotes, are spots the visitor won't want to miss here. The real centre of Sevilla, El Centro, is densely packed with narrow streets and broken up by squares and streets (Calle Sierpes, Casa Pilatos, Plaza del Salvador, ...) around which the city's life has revolved for aeons. The Arenal, a short walk from the Cathedral, brings the visitor to the Río Guadalquivir. Seville's most interesting sights here include the Torre del Oro (a 13th-century islamic watch tower), Plaza de Toros (the bullring, one of the most handsome in Spain and probably the oldest), the Hospital de la Caridad and the Museo de Bellas Artes (Fine-Arts Museum), which is the second Art Gallery in the country.

### The contemporary Seville

It preserves the spirit of the old city but in last years, it has moved to a modern city, refurbished for the Universal Exposition Expo'92, being the capital of the most populated region in Spain.



Cathedral (Sevilla)



Universidad  
de Granada

## CONTACT INFORMATION

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## ORGANIZATION COMMITTEE

Conference Chairs	José L. Huertas Díaz Ángel Rodríguez-Vázquez	IMSE-CNM/CSIC IMSE-CNM/CSIC
ESSCIRC TPC Chairs	Ángel Rodríguez-Vázquez Manuel Delgado Restituto	IMSE-CNM/CSIC IMSE-CNM/CSIC
ESSDERC TPC Chair	Francisco Gámiz Andrés Godoy	University of Granada University of Granada
Tutorials & Workshops Chairs	Manuel Delgado Restituto Andrés Godoy	IMSE-CNM/CSIC University of Granada

## SCHEDULE AT A GLANCE

Monday, Sept. 13 <sup>th</sup> , 2010	Tutorials
Tuesday, Sept. 14 <sup>th</sup> , 2010	Conference Opening Technical Sessions Welcome Reception
Wednesday, Sept. 15 <sup>th</sup> , 2010	Technical Sessions Conference Dinner
Thursday, Sept. 16 <sup>th</sup> , 2010	Technical Sessions
Friday, Sept. 17 <sup>th</sup> , 2010	Workshops

## KEY DATES

Submission deadline	April 10 <sup>th</sup> , 2010
Notification of acceptance	June 4 <sup>th</sup> , 2010
Early registration deadline	July 20 <sup>th</sup> , 2010



# essderc 2010

Second Call for Papers

40<sup>th</sup> European  
Solid-State Device Research  
Conference

13-17 September 2010  
Sevilla, Spain

Paper submission deadline:  
April 10<sup>th</sup>, 2010  
Electronic submission

Organization committee at:



Technical co-sponsorship:



www.essderc2010.org

## GENERAL SCOPE OF THE CONFERENCE

The aim of the ESSDERC conference is to provide an annual European forum for the presentation and discussion of recent advances in solid-state devices and technologies. ESSDERC and its sister conference ESSCIRC, which deals with solid-state circuits, are governed by a single Steering Committee. The increasing level of integration for system-on-chip design made available by advances in silicon technology is stimulating more than ever before the need for deeper interaction among technologists, device experts, and circuit and system designers. While keeping separate Technical Program Committees, ESSDERC and ESSCIRC will share Plenary Keynote Presentations and Joint Sessions bridging both communities. Attendees registered for either conference are encouraged to attend any of the scheduled parallel sessions. The main themes for original contributions to be submitted to ESSDERC 2010 include, but are not limited to the following:

### Advanced CMOS Devices

Ultimate CMOS scaling, high performance, low power and low voltage devices, novel MOS device architectures, high-mobility channel engineered devices, SOI, SGOI, and SION devices; SiGe, Ge, and strained devices. 3D integrated circuits.

### Process & Integration

Front-end and back-end processes for fabrication of logic memory and 3D integrated circuits, advances in integration for ULSI, advanced/novel memory process integration, logic and mixed-mode IC manufacturing, RF integration, photonics integration.

### Telecommunication

RF CMOS, analog and mixed signal devices, passives, antennas, filters, RF MEMS, Bipolar, BiCMOS, compound semiconductors and alloys, optoelectronic devices, integrated RF components: inductors, capacitors, and switches.

### Power Devices

Smart power devices, high-voltage, high power devices, high temperature operation, SiC devices, CMOS compatible power devices, IC cooling. Discrete and integrated high power/current voltage devices.

### Modeling and Simulation

Numerical, analytical and statistical modeling of solid-state electronic and optoelectronic devices, compact circuit modeling for devices and interconnects, simulation of front-end and back-end fabrication processes, electro-thermal modeling.

### Characterization, Reliability and Yield

Characterization techniques, parameter extraction, advanced test structures and methodologies, reliability issues for new materials and devices; reliability of advanced interconnects, ESD, soft errors, noise and mismatch behavior.

### Memories

Novel memory cell concepts, embedded and stand-alone memories, DRAM, FeRAM, MRAM, PCRAM, CBRAM, Flash, SONOS, nanocrystal memories, single and few electron memories, 3D IC stacks, organic memories, 3D integration, reliability and modeling.

### MEMS, Displays and SoC

Design, fabrication, modeling, reliability and packaging of all physical sensors and MEMS categories: bio-sensors for chemical, molecular and biological applications, devices and technologies for lab-on-chip, integration of detectors, sensors, and actuators, CCDs and CMOS imagers, optical on chip communication.

### Emerging non-CMOS Devices and Technologies

Nanotubes, nanowires and nanoparticles for electronic, optoelectronic and sensor applications. New device characterization techniques and performance evaluation methodologies.

## PLENARY TALKS

A total of twelve Plenary Sessions will be selected where distinguished invited speakers will discuss issues of interest for the attendees of both conferences. Preselected topics include:

### 3D Integration Technology: Status and Application Development

### Energy Harvesting - from Devices to Systems

### Carbon Electronics

### Technical and Economical Trends in Wireless Applications

### FDSol: From Materials to Devices and Circuit Applications

### High Performance Mixed Signal: Business and Technology

### Terahertz Imaging with CMOS/BiCMOS Process Technologies

### Mixed-Signal SoCs in Advanced Digital CMOS Processes

### Medical Electronics

### Electrical Characterization and Reliability of Advanced CMOS Devices

### Solid State Lighting and Optoelectronics

### Future of GaN-HEMT for High Power and High Frequency Applications

## TUTORIALS AND WORKSHOPS

A Tutorial Day will be organized on Monday, September 13<sup>th</sup>, 2010, while a Workshop Day will take place on Friday, September 17<sup>th</sup>, 2010.

## BEST PAPER AWARDS

Papers presented at the conference will be considered for the Best Paper Award and for the best "Young Scientist" Paper Award. The selection will be based on the results of the paper selection process and the judgment of the conference participants. The award delivery will take place at ESSDERC 2011.

## JOINT ESSDERC/ESSCIRC SESSIONS

To further emphasize the interactions between the devices and circuits communities the conference will offer joint sessions. These sessions will focus on topics at the frontier between devices and circuits in all conference themes. Contributions are solicited in all potential boundary areas including (but not limited to) emerging technologies, medical electronics, sensors, design in deep submicron CMOS, microwave components, handling of variability in nm-scale technologies, etc.

## FRINGE POSTER SESSION

A fringe poster session will be scheduled to run parallel to the conference sessions. This is basically open to Master and PhD students and suited for the submissions of original ideas and developments which may not be proven on silicon and hence not ready for a regular conference submission. All papers submitted to the fringe session will be subjected to review and selected on the basis of their originality and completeness

## PAPER SUBMISSION

The 2010 ESSDERC conference will allow only electronic submission of papers in PDF format. Prospective authors must submit their paper(s) via the conference web site.

Papers must be submitted in the final format to be published in the proceedings. They must not exceed four A4 pages with all illustrations and references included. The size of the PDF files submitted must not exceed 2 MBytes. Manuscript guidelines as well as instructions on how to submit electronically will be available on the conference web site.

Conference Web site  
<http://www.essderc2010.org>

All paper submissions must be received by April 10<sup>th</sup>, 2010.

After selection of papers, the authors will be informed about the decision of the Technical Program Committee by e-mail at the beginning of June 2010. At the same time, the complete program will be published on the conference web site.

The working language of the conference is English, which must also be used for all presentations and printed material.

Fringe poster submissions close at June 25<sup>th</sup>, 2010.

## REVIEW PROCESS

Papers submitted for review must clearly state:

- The purpose of the work
- How and to what extent it advances the state-of-the-art
- Specific results and their impact

The degree to which the paper deals with the above issues is fundamental to a successful review and selection of the paper. The most frequent cause of rejections of submitted papers is a lack of new results. Only work that has not been previously published at the time of the conference will be considered. Submission of a paper for review and subsequent acceptance is considered by the committee as a commitment that the work will not be placed in the public domain prior to the conference.

## ESSDERC / ESSCIRC STEERING COMMITTEE

William Redman-White (Chair)	NXP
Sorin Cristoloveanu (Vice-Chair)	ENSERGI-IMEP
Cor Claeys (permanent secretary)	IMEC
Stephen Hall	University of Liverpool
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