

44th European Solid-State Device Research Conference



**Proceedings of the 44th European
Solid-State Device Research Conference**

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Organized by
Department of Information Engineering
Università degli Studi di Padova

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Technical Co-Sponsorship



44th European Solid-State Device Research Conference

Proceedings of ESSDERC

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Welcome to ESSDERC 2014

On behalf of the Organizing Committees of ESSDERC 2014, it is our pleasure to welcome you to the 44th European Solid-State Device Research Conference. ESSDERC 2014 runs in parallel to its sister conference ESSCIRC 2014, covering all aspects of modern solid-state systems, circuits and devices at a single event. The increasing level of integration for system-on-chip design made available by advances in the integration technology is stimulating more than ever before the need for deeper interaction among technologists, device experts, circuit designers and system architects. As a participant at ESSDERC and ESSCIRC, you will have the opportunity to learn of the latest advances in these fields, and to meet those who have dared, pioneered and succeeded.

The conferences will take place in Palazzo del Casinò on the beautiful Lido di Venezia, a thin and long island in front of Venice, separating the Lagoon from the sea and famous for its quiet beach and “belle époque” architecture. The Lido represents the perfect place for those who want to meet colleagues and at the same time mix cultural tourism and a vacation by the sea. Palazzo del Casinò since the early 30's has hosted some of the most famous people of all times as its guests and it is still used for the Venice Film Festival; the imposing architecture is characterized by elegant rooms in Venetian style, with great care for detail and precious interior.

This year, a total of 203 submissions originating from 30 countries were received for ESSDERC coming from the following area: 131 papers from Europe, 53 from Asia-Pacific, 13 from North-America, 4 from Latin America and 2 from Middle East. This is a proof of the truly international nature of ESSDERC. The Technical Program Committee with 103 world-class experts from academia and industry selected 86 papers for oral presentations. Twelve plenary presentations (six of them together with ESSCIRC) by outstanding guest speakers enhance the program by focusing on highly relevant topics selected by the Technical Program Committees of both conferences. Two ESSDERC Focus Sessions have also been organized this year for the first time: one on Flexible Electronics and one on Manufacturing of Advanced Semiconductor Devices. In addition to the conference programs, a pre-conference day, with introductory tutorials, and a post-conference day, with workshops showcasing work currently being carried out by European research consortia, will also be held.

We are extremely proud to have the collaboration of an exceptional team of the Organizing Committee and of the Technical Program Committee, who have all worked very hard. We are hugely indebted to all these volunteers. Our warm thanks to all of them for their dedication, enthusiasm and professionalism.

Moreover we would like to thank the ESSDERC/ESSCIRC Steering Committee for giving us the opportunity to organize this important European event.

Last but not least, we would like to express our greatest appreciation to all the authors who submitted papers to the conference and to all delegates, tutorial lecturers and plenary speakers who have travelled to Venice to interact and share their thoughts during the conference.

Enjoy the 2014 edition of ESSDERC/ESSCIRC and your visit to Venice, and we hope to see you all back next year in Graz, Austria, for ESSDERC/ESSCIRC 2015!

Welcome, Benvenuti!

Gaudenzio Meneghesso
Conference Chair – ESSDERC/ESSCIRC 2014

Roberto Bez, Paolo Pavan
TPC Chairs – ESSDERC 2014

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