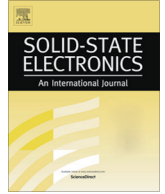


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# Solid-State Electronics

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## Editorial

### Extended papers selected from ESSDERC 2015



This special issue of Solid State Electronics includes **28** papers which have been carefully selected from the best presentations given at the 45th European Solid-State Device Research Conference (ESSDERC 2015) held from September 14–18, 2015 in Graz, Austria. These papers cover a wide range of topics related to the research on solid-state devices. These topics are used also to organize the conference submissions and presentations into 7 tracks: CMOS Processes, Devices and Integration; Opto-, Power- and Microwave Devices; Modeling & Simulation; Characterization, Reliability & Yield; Advanced & Emerging Memories; MEMS, Sensors & Display Technologies; Emerging Non-CMOS Devices & Technologies.

ESSDERC 2015 received a total of 119 submissions originating from 23 countries from the following areas: 75 papers from Europe, 29 from Asia, and 8 from the Americas. This underlines the truly international nature of ESSDERC. Based on the submitted papers, the Technical Program Committee with 106 world-class experts from academia and industry selected 59 papers for oral presentations. Twelve plenary presentations (six of them together with the sister conference on circuits, ESSCIRC) by outstanding guest speakers enhanced the program by focusing on highly relevant topics selected by the Technical Program Committees of both conferences. Three ESSDERC Focus Sessions were organized this year: the first one on “Between FinFETs and Bulk CMOS: The role of FDSOI for current and future SoCs”, the second one on “Modeling for the Future and its Design Interpretation”, and a third one on “Sensors and Smart Systems”, where the latter two were joint sessions together with ESSCIRC. Furthermore, three invited sessions were organized, with the first one focused on “Yield and Manufacturing”, the second one on “Sensors and MEMS Applications”, and the third one on “Advanced Bio Medical Devices”, with again the latter two being joint sessions with ESSCIRC. In addition to the conference program, a pre-conference day with introductory tutorials and a post-conference day with workshops showcasing work currently being carried out by European research consortia were also held.

ESSDERC 2015 was organized with the Technical co-sponsorship of the IEEE – Electron Devices Society by Joanneum Research and the support of the federal-state of Styria and the city of Graz. The event received fundamental and invaluable support of four Platinum Patrons (ams, Infineon, NXP, and TU Graz), seven Silver Patrons (AVL, Cadence, Dialog Semiconductors, GlobalTCAD Solutions, ECSEL, Intel, and Toshiba), as well as five Bronze Patrons (ChipDesign, ECSEL Austria, EVG, MCL, IV Steiermark). We are extremely grateful to the support of our patrons, without whom such events would be impossible to organize.

This Special Issue is clearly different from the actual Proceedings of the Conference. Papers for this Special Issue were carefully selected by the Guest Editors based on the ranking they obtained during the review process and on the feedback they obtained after the conference sessions. These selected papers have been substantially extended in their content and have undergone a rigorous review process by independent referees.

As Guest Editors of this Special Issue of Solid State Electronics devoted to the 45th ESSDERC, we thank the authors for their contributions, the reviewers for their time and effort, and Elsevier Publishing for supporting the publication. This issue was arranged with the dedicated support of the Editor of Solid State Electronics, Professor Sorin Cristoloveanu.

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