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Foreword

The 2007 International Semiconductor Device Research Conference (ISDRS 2007) was held at the Stamp Union of the University of Maryland at College Park, Maryland on December 12–14, 2007. This year more than 360 attendees representing 25 states and 27 countries participated and presented their work. There were three plenary, 189 invited and contributed oral presentations, and 139 poster presentations in four parallel sessions. Three excellent plenary talks were presented by Dr. Robert Chau of Intel Corporation, on “The Challenges and Opportunities of Emerging Nanotechnology for Future VLSI Nanoelectronics”, Dr. Mark S. Lundstrom, of Purdue University on “The Ultimate MOSFET and the Limits of Miniaturization” and Dr. Mark Rosker of the Defense Advanced Research Projects Agency (DARPA), on “The Coming Revolution in RF”. Invited and contributed presentations covered a broad and diverse range of device, nanotechnology, and electronic materials topics, including wide band-gap devices and materials, novel devices and phenomena, optoelectronics, novel dielectrics, nanoelectronics, sensors, advanced silicon devices and processing, high frequency devices, MEMS, materials and device characterization, and simulation and modeling. Such a range of topics fostered a cross-fertilization of the different fields related to futuristic semiconductor devices and the materials technology necessary to develop them.

Dr. Dieter Schroder, Professor of Electrical Engineering at the University of Arizona was the winner of the “van der Ziel” award for his distinguished career as an educator and researcher. The award was presented to Dr. Schroder at the Symposium.

Participants were invited to submit full manuscripts for the Special Issue of Solid State Electronics. A total of 106 manuscripts were submitted, which were sent out for review by both the ISDRS Guest Editors and the Editor of Solid-State Electronics. This fourth ISDRS Special Issue of Solid State Electronics contains the manuscripts selected through this rigorous review process.

As the Guest Editors of the fourth ISDRS Special Issue of Solid-State Electronics we would like to thank the authors for their contributions, the reviewers for their time and effort, Elsevier Publishing for supporting the publication, and the Editor of Solid-State Electronics, Professor Alexander Zaslavsky, for his enthusiasm, help, and encouragement that made this Special Issue a successful one.

On behalf of the Symposium we would like to thank and acknowledge the sponsorship of the National Science Foundation, the Army Research Office, the Electrical and Computer Engineering Department of the University of Maryland, the NanoCenter of the University of Maryland, the Air Force Office of Scientific Research, and the National Institute of Standards and Technology.

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