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IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is less rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is in information may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

Jürgen Becker Marcelo Johann
Ricardo Reis (Eds.)

VLSI-SoC: Technologies for Systems Integration

17th IFIP WG 10.5/IEEE International Conference
on Very Large Scale Integration, VLSI-SoC 2009
Florianópolis, Brazil, October 12-14, 2009
Revised Selected Papers



Springer

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Preface

This book contains extended and revised versions of the best papers that were presented during the 17th edition of the IFIP/IEEE WG10.5 International Conference on Very Large Scale Integration, a global System-on-a-Chip Design and CAD conference. The 17th conference was held at the Jurerê Beach Village Hotel, Florianópolis, Brazil (October 12–14, 2009). Previous conferences have taken place in Edinburgh, Trondheim, Vancouver, Munich, Grenoble, Tokyo, Gramado, Lisbon, Montpellier, Darmstadt, Perth, Nice, Atlanta and Rhodes.

The purpose of this conference sponsored by IFIP TC 10 Working Group 10.5, the IEEE Council on Electronic Design Automation (CEDA) and by IEEE Circuits and Systems Society, with the In-Cooperation of ACM SIGDA, is to provide a forum to exchange ideas and show industrial and academic research results in the field of microelectronics design. The current trend toward increasing chip integration and technology process advancements brings about stimulating new challenges both at the physical and system-design levels, as well in the test of these systems. VLSI-SoC conferences aim to address these exciting new issues.

The 2009 edition of VLSI-SoC maintained the traditional structure, which has been successful at the previous VLSI-SoC conferences. The quality of submissions (81 papers) made the selection process difficult, but finally 27 papers and 18 posters were accepted for presentation at VLSI-SoC 2009. Out of the 27 full papers presented at the conference, 8 regular papers were chosen by a Selection Committee to have an extended and revised version included in this book. The book also includes two chapters related to the keynote talks of the conference. The chapters of this book have authors from Brazil, France, Germany, Portugal, Spain, Switzerland and the USA.

VLSI-SoC 2009 was the culmination of many dedicated volunteers: paper authors, reviewers, Session Chairs, invited speakers and various Committee Chairs, especially the local arrangements organizers. We thank them all for their contribution.

This book is intended for the VLSI community mainly to those that did not have the chance to take part in the VLSI-SoC 2009 conference. The papers were selected to cover a wide variety of excellence in VLSI technology and the advanced research they describe. We hope you will enjoy reading this book and find it useful in your professional life and toward the development of the VLSI community as a whole.

June 2011

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Eugenio Villar

Table of Contents

Emerging Technologies and Nanoscale Computing Fabrics	1
<i>Ian O'Connor, Junchen Liu, Jabeur Kotb, Nataliya Yakymets, Renaud Daviot, David Navarro, Pierre-Emmanuel Gaillardon, Fabien Clermidy, Maïmouna Amadou, and Gabriela Nicolescu</i>	
Challenges and Emerging Technologies for System Integration beyond the End of the Roadmap of Nano-CMOS	21
<i>Sergio Bampi and Ricardo Reis</i>	
Thermal Modeling and Management of Liquid-Cooled 3D Stacked Architectures	34
<i>Ayşe Kuvulcim Coşkun, José L. Ayala, David Atienza, and Tajana Simunic Rosing</i>	
Performance and Energy Evaluation of Memory Organizations in NoC-Based MPSoCs under Latency and Task Migration	56
<i>Gustavo Girão, Daniel Barcelos, and Flávio Rech Wagner</i>	
Crosstalk Fault Tolerant NoC: Design and Evaluation	81
<i>Alzemi H. Lucas, Alexandre M. Amory, and Fernando G. Moraes</i>	
From Assertion-Based Verification to Assertion-Based Synthesis	94
<i>Yann Oddos, Katell Morin-Allory, and Dominique Borrione</i>	
Power Macro-Modeling Using an Iterative LS-SVM Method	118
<i>António Gusmão, Luis Miguel Silveira, and José Monteiro</i>	
Enhancing Electromagnetic Attacks Using Spectral Coherence Based Cartography	135
<i>Amine Dehbaoui, Victor Lomne, Philippe Maurine, Lionel Torres, and Michel Robert</i>	
A Multistep Extrapolated S-Parameter Model for Arbitrary On-Chip Interconnect Structures	156
<i>Petru B. Bacinschi and Manfred Glesner</i>	
Techniques for Architecture Design for Binary Arithmetic Decoder Engines Based on Bitstream Flow Analysis	181
<i>Dieison Antonello Deprá and Sergio Bampi</i>	
Author Index	199