VLSI-SoC: ADVANCED TOPICS ON SYSTEMS ON A CHIP

IFIP – The International Federation for Information Processing

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.

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IFIP TC 10/WG 10.5 and IEEE/CEDA
A Selection of Extended Versions of the Best Papers of the Fourteenth International Conference on Very Large Scale Integration of Systems on Chip (VLSI-SoC2007), October 15-17, 2007, Atlanta, USA

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PREFACE

This book contains extended and revised versions of the best papers that were presented during the fifteenth edition of the IFIP/IEEE WG10.5 International Conference on Very Large Scale Integration, a global System-on-a-Chip Design & CAD conference. The 15th conference was held at the Georgia Institute of Technology, Atlanta, USA (October 15-17, 2007). Previous conferences have taken place in Edinburgh, Trondheim, Vancouver, Munich, Grenoble, Tokyo, Gramado, Lisbon, Montpellier, Darmstadt, Perth and Nice.

The purpose of this conference, sponsored by IFIP TC 10 Working Group 10.5 and by the IEEE Council on Electronic Design Automation (CEDA), 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 2007 edition of VLSI-SoC maintained the traditional structure, which has been successful at the previous VLSI-SoC conferences. The quality of submissions (109 papers) made the selection process difficult, but finally 46 papers and 13 posters were accepted for presentation in VLSI-SoC 2007. Out of the 46 full papers presented at the conference, 16 regular papers were chosen by a selection committee to have an extended and revised version included in this book. These selected papers have authors from Brazil, France, Germany, Italy, Israel, The Netherlands, Portugal, Serbia, Spain, Switzerland and the United States of America.

VLSI-SoC 2007 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 whom that did not have the chance to take part in the VLSI-SOC 2007 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 to the development of the VLSI community as a whole.

The Editors

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