Introduction to the Special Section on the 2007 Asian Solid-State Circuits Conference (A-SSCC'07)

FOR this issue of the IEEE JOURNAL OF SOLID-STATE CIRCUITS, we completed the best collection of presentations from the 2007 Asian Solid-State Circuits Conference (A-SSCC'07) and invited authors to extend their conference articles to full-length papers to entertain readers of the JOURNAL.

The A-SSCC'07 is the third A-SSCC conference sponsored by the IEEE Solid-State Circuits Society (SSCS). It was held at the Ramada Plaza Hotel in Jeju Island, Korea, on November 12–14, 2007. The A-SSCC uniquely features significant achievements in the IC design and technology/application area. The Conference is held every year in an Asian region with rapidly growing IC research, production, and sales, such as in Taiwan (2005), China (2006), and Korea (2007). The Conference provides a rare opportunity for IC design experts as well as leaders in technology/application and business areas to gather in Asia and to exchange ideas and information.

The theme of the A-SSCC'07 is "The Blossoming of IC Design and Business in Asia." In 2006, IC sales in Asia reached ~US$135 billion, approximately 65% of the worldwide IC market. From 1996 to 2006, Asia's IC sales increased by 10% in a compound annual growth rate (CAGR). The production value of the worldwide IC industry in 2006 was about US$213 billion, with US$82 billion, or 38%, created in Asia. The CAGR of Asia's production value was 6% from 1996 to 2006. In 2007, the IC business in Asia has grown by 8% (the above data are based on WSTS, May 2008). Along with this business growth, research and development on IC circuits design have also been blossoming, as evidenced by the substantial growth of papers submitted from Asia to this Conference.

The A-SSCC'07 received 345 paper submissions, from which only 111 papers were selected for presentation. Therefore, the paper quality is well maintained and the presentations were stimulating and valuable. The distribution of the paper submissions is listed here (the number of presentations is shown in parentheses): Korea 109 (28), Taiwan 60 (24), China 53 (8), Japan 39 (27), US 23 (11), Iran 19, Hong Kong 9 (5), India 7, Belgium 5 (4), Canada 4 (1), Malaysia 3, France 3 (1), Germany 3, Austria 2 (2), Spain 2 (2), Australia 1, Bangladesh 1, Egypt 1, Singapore 1, Thailand 1, and Tunisia 1. The Technical Program Committee (TPC) consisted of a balanced mix of more than 100 experts from both industry and academia, all volunteers fully dedicated to our conference. The TPC not only covered the interests of attendees from most IC product segments, but also raised the reputation of the A-SSCC.

After hearing presentations of all the papers in the A-SSCC'07, the TPC selected the top 17 papers and among these, eight papers were finally accepted for this JOURNAL's special issue. During this process, over 20 reviewers provided critical comments, which the authors used to revise their manuscripts to the current versions.

We would like to express our deepest appreciation to both the reviewers and authors for their efforts and valuable time. We also want to give our special thanks to the Conference Steering Committee Chair, Professor Chorng-Kuang Wang, all the members of the Technical Program Committee, and the Organizing Committee of the A-SSCC'07 for making the conference such a success and working towards this special issue. Finally, we would like to thank JOURNAL editors for their continued guidance and the IEEE TRANSACTIONS AND JOURNALS staff for their invaluable assistance in publishing this issue.

We are proud to be guest editors of the JOURNAL's special issue on the A-SSCC'07, and hope our efforts will stimulate your interest and participation in future A-SSCCs.

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Nicky Lu (M'76–SM'88–F'91) received the B.S. degree in electrical engineering from National Taiwan University and the M.S. and Ph.D. degrees in electrical engineering from Stanford University. As researcher, design architect, entrepreneur, and chief executive, Dr. Lu has dedicated his career to the worldwide IC design and semiconductor industry. He is the founder and CEO of Etron Technology, Inc. since 1991, and has co-founded several other high-tech companies, such as Global Unichip Corp. and Ardentec Corp., which are now public in Taiwan. He worked for the IBM Research Division and then the Headquarters from 1982 to 1990 and won numerous IBM recognition awards, including an IBM Corporate Award. He holds over 24 U.S. patents and has published more than 50 technical papers.

Dr. Lu was elected a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), awarded the IEEE Solid State Circuits Technical Field Award in 1998, and honored with membership of National Academy of Engineering of the United States. In the early 1990s, as a co-architect leading the 8″ wafer and DRAM technology development success for Taiwan's semiconductor industry, he was awarded the National Medal of Excellence in Science and Technology by the Premier of the Republic of China. Since 1999, he has pioneered several Known-Good-Die Memory products, enabling customers' stacked-die system chips. This trend summoned the new rise of an IC Heterogeneous Integration era as described in his plenary talk in the International Solid-State Circuits Conference (ISSCC) in 2004.

Dr. Lu has been Chair Professor and outstanding alumnus of National Chiao-Tung University, Fellow of the Chinese Society for Management of Technology, and outstanding alumnus of National Taiwan University's EE College. Dr. Lu serves as Board Director and Asia-Pacific Leadership Council Chairman of the Global Semiconductor Alliance (GSA, the former FSA: Fabless Semiconductor Association). He served as the Technical Program Committee Chair of the Asian Solid-State Circuits Conference (A-SSCC) in 2007, and is a Technical Program Committee member of ISSCC and VLSI Circuits Symposium.

Shyh-Jye Jou (M'88–SM'99) received the B.S. degree in electrical engineering from National Chen Kung University in 1982, and the M.S. and Ph.D. degrees in electronics from National Chiao Tung University in 1984 and 1988, respectively.

He joined Electrical Engineering Department of National Central University, Chung-Li, Taiwan, from 1990 to 2004 and became a Professor in 1997. Since 2004, he has been Professor of Electronics Engineering Department of National Chiao Tung University and became the Chairman from 2006. He was a visiting research Associate Professor in the Coordinated Science Laboratory at University of Illinois at Urbana-Champaign during 1993–1994 academic years. In the summer of 2001, he was a visiting research consultant in the Communication Circuits and Systems Research Laboratory of Agere Systems, USA.

Dr. Jou has served on the technical program committees of CICC, A-SSCC, ICCD, ISCAS, ASP-DAC, VLSI-DAT and other international conferences. His research interests include design and analysis of high speed, low power mixed-signal integrated circuits, and communication integrated circuits and systems.