Foreword

Welcome to VTS 2016, the thirty-fourth in a series of annual symposia that focus on innovation in the field of testing of integrated circuits and systems.

The VTS 2016 program will be kicked off with a very exciting Opening Keynote presentation, delving into the challenges and opportunities in electrical characterization and test for 14nm technologies and below, which will be offered by a very prominent and influential speaker, Dr. Andrzej J. Strojwas, Chief Technologist of PDF Solutions, Inc. and Joseph F. and Nancy Keithley Professor of Electrical and Computer Engineering at Carnegie Mellon University. This will be followed by our customary invited keynote address, which this year will be in the form of a keynote tribute to the late Prof. Edward J. McCluskey and will be delivered by three prominent speakers belonging to three different generations, from senior to freshly-graduating: Professor Jacob Abraham, Cockrell Family Regents Chair in Engineering, University of Texas at Austin, Dr. Hong Hao, Senior Vice President, Samsung, and Mr. Max Shulaker from Stanford University.

The core of VTS 2016, the three day technical program, responds to the many trends and challenges in the semiconductor design and manufacturing industries, with papers and contributions covering a diverse and seminal set of topics including: Analog, Mixed-Signal & RF Test; ATPG & Test Compression; Memory Testing; Test Quality and Yield Optimization; Delay and Performance Testing; Reliability; Low Power, SOC Testing; Test Applications: Hardware Security, Microfluidics, and BioChips; Thermal Issues in Test; Emerging Technologies for Hardware Security; Test Implications and Challenges in Near-Threshold Computing; Cell Aware Testing; Post Production Tuning in RF Circuits; Innovations in Board Testing; Managing Lifetime in Many-core Systems; New Emerging Topics in Hardware Security; System Validation and Silicon Debug; Test and Fault Tolerance in Approximate Computing; 3D IC Test and IEEE 1687 Implementations.

In addition to the three-day regular research paper sessions, VTS 2016 features several special sessions including four panels, one new topic session, one student activity session, six hot topic sessions and one embedded tutorial. The spotlight falls particularly on the Monday Evening Plenary Panel, a popular event of the past, which is reinstated this year and wherein a number of very prominent industry and academia representatives will ponder the questions “What is the next big thing for test? What are you doing about it?” in a lively, interactive, and engaging discussion with the audience.

VTS 2016 also continues the tradition of featuring the Innovative Practices track. The sessions that make up this track highlight cutting-edge challenges faced by test practitioners, along with innovative solutions employed to address them. Three Innovative Practice sessions specifically dedicated to Automotive Test and Methods are scheduled on the second day of the conference.

Prior to the core of VTS 2016, four half-day tutorials will also be offered on a variety of topics, covering Diagnosis-Driven Yield Analysis, Fallout Analysis of Cell-Aware Testing, as well as Testing of Automotive ICs, both from a DFT and from an Engineering and Product Planning perspective.
Alongside the technical activities of VTS 2016, an exciting social program combining sightseeing, exposure to the historical part of Fremont Street in Old Las Vegas and a dinner experience at the Mob Museum will provide an opportunity for informal discussions among participants in a relaxed setting.

VTS is the result of the work of many dedicated volunteers: the reviewers, the best paper award judges, the Program Committee, the Organizing Committee, and the Steering Committee. We wholeheartedly thank them all. We also wish to thank all the authors who submitted their work to VTS 2016, and the program participants for their contributions to the Symposium. We thank the IEEE Computer Society, the IEEE Philadelphia Section and the IEEE Computer Society Test Technology Technical Council for the continued technical sponsorship and support. Furthermore, we are indebted to Cisco, the Elite corporate sponsor for VTS 2016, as well as ams, IBM, Intel, Mentor Graphics, Qualterra, and Synopsys, the Premier corporate sponsors for VTS 2016, for their partnership and continued support of this symposium.

We hope that you will find VTS 2016 enlightening, thought-provoking, rewarding, and enjoyable. We wish you all a fun-filled and productive week in the Las Vegas area and we hope that you will keep making VTS a success by actively participating in it, assisting in its organization, and letting us always know how we can improve the symposium experience and increase its value for its audience.

Thank you all for coming!

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