

FOREWORD

On behalf of the ICCAD 2004 Executive and Technical Program Committee, we would like to welcome you to the International Conference on Computer Aided Design. We hope you enjoy the conference and learn about all the latest advances in electric design technology and automation.

The core of the conference is the technical program. This year, ICCAD received 520 submissions, the highest number in our history. Based on the result of a rigorous and thorough review followed by a full day face-to-face discussion, 127 papers were selected and compiled into an exciting final program which will be further enriched by multiple special sessions and events. Besides technical sessions, we will have social hours every evening beginning Sunday and running through Wednesday. This is an opportunity to meet your colleagues and develop your network for information exchange or for you to further discussion in a relaxed atmosphere.

As in the previous two years, some of the conference activities begin on Sunday, November 7th. There will be a workshop entitled "IC Design in 65 nm and beyond: Evolution or Revolution?". This is a forum where leading experts from industry and academia will present their visionary view on the challenges and solutions for 65 nm design and beyond. There are two parallel tracks of three presentations each, focusing on system-oriented and physical-implementation-oriented topics.

Following the workshop, participants will be invited to a concluding panel and the ICCAD Opening Reception. All conference registrants are welcome to attend the workshop, panel, and reception. For the students on Sunday, ACM/SIGDA is sponsoring a CADathlon, a programming contest that challenges students in their CAD knowledge and their skills in problem solving, programming, and teamwork.

The main part of the ICCAD 2004 conference begins on Monday morning with the opening keynote speaker, Peter Rickert, Director of Platform Technology Development, Texas Instruments, entitled: "Problems or Opportunities? Beyond the 90nm Frontier". The technical program follows with 38 regular paper sessions and five embedded tutorials on "Statistical STA", "Variability Impact on Design", "Formal Verification", "Design-Manufacturing Interface", and "Transaction Level Modeling". The Monday night panel, entitled "Divine for Dollars," will focus on the next EDA innovations that can change the way chips are developed.

Multiple side events complement the technical program and enhance the overall ICCAD schedule. The Technology Fair on Tuesday will provide a forum where conference attendees can meet industrial R&D colleagues to discuss technical challenges and solutions, or to simply meet new contacts for future relationships. The Technology Fair Reception will follow in the evening and will be a perfect opportunity to network with the vendors and your colleagues.

The conference concludes on Thursday, November 11th, with the 2004 Tutorial Program. This year, we are introducing a new format for the tutorials. We will offer six half-day tutorials. Attendees will receive the full set of notes and they can freely choose any morning and afternoon sessions. Special care has been taken in the selection of topics and speakers so that there will be a good balance of theoretical aspects and real industrial practices. The Tutorial Program covers the topics: "Power Reduction Techniques", "Industrial Power Reduction Experiences", "Physical Design at 90nm", "Signal Integrity and Reliability", "Clock Distribution", and "New Algorithm for CAD".

On behalf of the organizers of ICCAD, we would like to thank all people involved in the 2004 event. In particular, we would like to thank the members of the Executive and Technical Program Committees, everyone at MP Associates, and the many volunteers from our sponsoring societies. Also, we would like to express our sincere thanks to all the authors who submitted papers with valuable results, since their contributions form the basis of our technical excellence.

As we are going into the era of nano scale integrated circuits, many issues will confront us such as complexity, manufacturability, and power dissipation. These issues can be overcome by tighter collaboration than ever among EDA researchers, designers, manufacturers, and application engineers. ICCAD 2004 offers an ideal place for all these people to meet and exchange ideas about the challenges and solutions for the future. We hope ICCAD 2004 will be a valuable and enjoyable professional experience.



Hidetoshi Onodera
General Chair



Majid Sarrafzadeh
Technical Program Chair