Message from the General Chair

I welcome you to the 2013 IEEE International Conference on Microelectronic Systems Education (MSE ’13). Since its inception in 1997, the goal of the MSE conference has been to provide a venue where university educators with an interest in the design, implementation, and testing of microelectronic systems can share their experiences, learn about best practices, and explore future trends in both technology and educational methods. MSE is held during odd years in coordination with our European partner conference the European Workshop on Microelectronics Education (EWME), which is held in even years.

As the MSE Conference meets for the ninth time, it is interesting to reflect on the dramatic changes in both technology and microelectronics education that have taken place in the last 16 years. Continued improvements in semiconductor technology have enabled a host of new computing, communication, and consumer electronics products. At the same time, these improvements have greatly increased the complexity of the design process due both to the increasing size of designs and the increasingly exotic methods of rendering these designs in advanced silicon processes. Design methods have expanded beyond a focus on custom and ASIC chip design to include intellectual property cores, programmable logic devices, embedded systems, multicore chips, and GPU-based computing.

The challenge of microelectronics systems education is to bring these rapid technological changes into the classroom and laboratory while enhancing both students’ motivation to learn and their ability to creatively deal with complexity.

Our conference program describes both the opportunities and challenges of microelectronics education. Our regular papers, invited presentations, and keynote address cover a range of topics that we hope will inspire participants to continue driving for further improvements in the education of microelectronic systems.

The continuing success of the MSE Conference is due to the tireless efforts of many people. I would particularly like to acknowledge the contributions of the program committee, under the leadership of Program Chair Matt Guthaus, for putting together an exciting program and the many members of the Organizing Committee for handling the logistical details of the conference. I would particularly like to thank Don Bouldin (Steering Committee Chair) for his continued guidance of MSE. Finally, I would like to acknowledge the financial support of our industrial patrons which has helped make this conference possible.

I hope that you enjoy MSE ’13 and Austin.

General Chair
John A. Nestor
Lafayette College
Welcome to the 2013 IEEE International Conference on Microelectronic Systems Education (MSE’13). Our conference program includes 15 papers contributed by microelectronics educators and practitioners from around the world. These papers were selected from submitted manuscripts after rigorous review by our Program Committee.

The MSE Conference has a tradition of inviting most authors to present papers as posters while inviting a smaller number of authors of top papers to present papers orally. This year we selected 5 papers for oral presentation, and 10 papers for poster presentation. This year we also invited four prominent figures in the field to present invited talks and abstracts. Two of these are from industry and two are from academia.

The theme of this year’s conference is “The Future of Microelectronics Education”. With the rapidly shifting requirements of microelectronic systems due to challenges associated with Moore’s law, microelectronics education needs to adapt. This year’s program includes a lunch-time table discussion on this topic and ends with a panel of industry and academic experts to discuss the problems and solutions to this dilemma.

Our Keynote Speaker is Dr. Bob Colwell, the Director of the Microsystems Technology Office (MTO) at the Defense Research Projects Agency (DARPA). Dr. Colwell will open the conference’s theme with a talk on “Microelectronics Education at the End of Moore’s Law” in which he addresses this topic from the perspective of the US government needs.

I would like to conclude by to thanking our Program Committee for their efforts to rigorously review papers and ensure the high quality of our technical program, and the Organizing Committee for their efforts in putting together the entire conference. In particular I would like to thank Proceedings Chair Tina Hudson and Steering Committee member Mark Johnson for their help in taking the technical program from the initial call for papers to the assembled proceedings. Finally, I would like to thank General Chair John Nestor and Steering Committee Chair Don Bouldin for giving me the opportunity to serve as Program Chair and for all of their efforts to make this conference a success.

Program Chair
Matthew R. Guthaus
University of California, Santa Cruz