Foreword

We are very pleased to present the proceedings of *EMSOFT 2005, the Fifth ACM Conference on Embedded Software.* Embedded computing systems perform critical operations and are designed to very aggressive specifications. Designing correct, efficient, high-performance embedded systems requires science, craft, and talent. EMSOFT is dedicated to the advancement of all aspects of embedded software.

2005 sees the establishment of a new tradition in embedded computing, Embedded Systems Week. EMSOFT is co-locating with CODES+ISSS, another major embedded systems conference, to form a large, unified event that fully conveys the richness of this field. We plan to continue Embedded Systems Week as a yearly event that will serve as a major forum for embedded computing research and practice.

This year's EMSOFT introduced two new aspects to the technical program. First, we accepted both regular papers and short papers to increase the diversity of opinions presented at the conference. Both regular and short papers will be represented at the conference by presentations and poster discussions. We also introduced special sessions that feature invited papers on topics of interest to the EMSOFT community: languages, methodologies, and software testing.

The call for papers attracted 88 submissions from around the world. The program committee accepted 25 regular papers and 20 short papers. These papers span topics including communication and devices, modeling, languages, scheduling, optimization, semantics, low power, clocks and time, formal methods, dynamic properties, and real-time properties.

This year's keynote for EMSOFT is titled "Multiprocessor SOC Design: Revolution Now!" and is given by Chris Rowen, CEO of Tensilica. Embedded Systems Week will hold two joint panels, one chaired by Dan Gajski titled "What Will System Design Be When It Grows Up?" and one chaired by Janos Sztipanovitz titled "Grand Challenges in Embedded Systems."

Putting together *EMSOFT 2005* was a team effort. First of all, we would like to thank the authors and panelists for providing the content of the program, as well as Ian Harris for organizing the special session on software testing. We would like to express our gratitude to the program committee and external reviewers, who worked very hard in reviewing papers and providing suggestions for their improvements. The program committee would in particular like to thank these additional reviewers: Kathryn Bergmann , Paul Caspi, Arvind Easwaran, Jad El-khoury, Aaron Evans, Sebastian Fischmeister, Johan Fredriksson, Susanne Graf, Daniel Hagimont. Radu Iosif, Oleg Kiselyov, Ola Larses, Theresa Maxino, Jen Morris, Laurent Mounier, Pars Mutaf, Thomas Nolte, Emir Pasalic, Justin Ray, Usa Sammapun, Martin Sanfridson, Kristian Sandström, Insik Shin, Oleg Sokolsky, Jean-Bernard Stefani, and Stavros Tripakis.

We would like to thank our sponsor, ACM SIGBED, for its support and nurturing of EMSOFT. We would also like to thank our industrial sponsors: VaST Systems, the ARTIST consortium, and Microsoft.

We hope that you will find this program interesting and thought-provoking and that the symposium will provide you with a valuable opportunity to share ideas with other researchers and practitioners from institutions around the world.

Wayne Wolf
EMSOFT 2005 Chair
Princeton University