Message from the Program Chair

This volume contains the papers presented at the *Fourth ACM International Conference on Embedded Software (EMSOFT 2004),* held in Pisa, Italy, on September 27-29, 2004. The purpose of the conference is to bring together researchers and developers from academia, industry, and government to advance the science, engineering, and technology in embedded software development. EMSOFT was started in 2001 with focus on principles of embedded software development and aims at covering all aspects of embedded software.

The typical subjects treated in the conference are traditionally related to system design and integration methodologies, programming languages and software engineering, hardware/software co-design and systems-on-chip, operating systems and scheduling, hardware/software interfaces, models of computation, formal methods, compilers, execution time analysis, and networked embedded systems. During the last few years, the field of embedded systems quickly expanded towards new application areas, including multimedia computing, wireless networks and mobile distributed systems. Such new domains gave rise to new challenges and stimulated research in novel directions, such as quality of service management, energy-aware computing, stochastic scheduling, and feedback-based techniques for adaptive operating systems. The papers contained in this volume reflect such a trend and describe the work of leading research groups from all over the world. This year's conference attracted 87 submissions from 15 different countries, including the United States, South American, and Asian countries, showing a net increased interest in this conference from the international community. Among the submissions, 31 papers have been selected for publication and appear in this volume.

In addition to the main technical sessions, this year we have organized the following special events: the First International Workshop on Power-Aware Real-Time Computing (PARC 2004), chaired by Daniel Mossé (University of Pittsburgh, USA) and Luca Benini (University of Bologna, Italy), and the First International Workshop on Probabilistic Analysis Techniques for Real-Time and Embedded Systems (PARTES 2004), chaired by Guillem Bernat (University of York, UK) and Alessandro Bogliolo (University of Urbino, Italy).

The program also includes five keynote addresses, given by Richard Newton (University of California at Berkeley, USA), Hideyuki Tokuda (Keio University, Japan), Krithi Ramamritham (IIT Bombay, India), Nevin Heintze (Agere Systems USA), and Alan Kay (HP, USA).

I would like to thank all the Reviewers who gave up their valuable time to read the submissions and ensuring the high quality of the program. Special thanks go to the Steering Committee members, for their guidance, to Ettore Ricciardi, for his excellent job in local arrangements, to Rigoletto Bartoli, for his support for handling on-line registrations, and to the ACM staff for the administrative support.

Giorgio Buttazzo
Real-Time Systems Research Group
Department of Computer Science
University of Pavia, Italy