

Welcome to DATE 1999

DATE99 is the single unified European event bringing together researchers, users and vendors in the field of electronic systems design engineering. It is the successor of the very successful DATE98 which attracted close to 4,000 participants from industry and academia.

DATE99 consists of a conference with tutorials and a commercial EDA tool exhibition. The **conference** is divided into a scientific part, and a user's forum. This volume constitutes the proceedings of the scientific part, which addresses all aspects of research into technologies for electronic systems engineering. It covers the design process, test, and tools for design automation of electronic products ranging from integrated circuits to distributed large-scale systems. The user's forum, which includes a *PCB symposium*, focuses on design experience and industrial methodologies; identified as track D in the program; its proceedings are edited in a separate volume.

The **DATE99** *keynote session* entitled *Embedded System Design — The European Technology Driver* focuses on system design. Jouko Junkkari, VP of Nokia Mobile Phones, gives an overview of mobile electronic systems engineering while Peter Thoma, General Manager of BMW, outlines the different world of automotive electronic systems engineering. Finally, Tom W Williams, Chief Scientist of Synopsys, looks at test problems in very deep submicron systems.

The main part of **DATE99** consists of original scientific contributions which were selected according to the highest international standards. The Technical Programme Committee of two hundred members, with the help of some tens of added experts, selected the superior quality papers of this volume. The essential role of the sixteen track chairs deserves particular recognition. Sessions on high-level design, on verification and on formal methods constitute track A; low power design, analog circuit design and physical design share track B; embedded system design, IP and reuse are discussed in track C; the test community will find their sessions in track E. This year, poster presentations are tightly integrated into the regular tracks, and are reported in these proceedings as short two-page papers.

These regular sessions are complemented by an exciting mix of *special sessions* on hot topics, panel sessions on controversial developments in the field as well as educational embedded tutorials which provide background knowledge in emerging topics, all presented by technical leaders in the respective fields; these were organized by a Special Session Committee chaired by Ivo Bolsens.

We wish to acknowledge our sponsors for their continued support to DATE: EDAA, EDAC, IEEE CS-TTTC, ACM SIGDA, ECSI, IFIP WG10.5, the RAS. We thank all the members of the DATE Steering Board, of the Conference Organizing Committee and of the Program Committee, for their hard work in preparing the very high quality edition of DATE that concludes this millenium.

We hope that you will find these **DATE99** proceedings a valuable source of information, and a reference for many years.

Rolf Ernst, General Chair

Dominique Borrione, Technical Program Chair