

Foreword

On behalf of the Executive and Technical Program Committees, we take great pleasure in welcoming you to the proceedings of **DATE 04**, the most comprehensive European Conference and Exhibition event bringing together academic researchers, industry specialists, users and vendors in the fields of Design, Automation and Test of electronic circuits and systems.

The endless quest for faster, less consuming, cheaper and safer electronic products, particularly for the growing consumer and communications markets, dictate that increasingly complex designs be generated in continuously shrinking time scales. Design automation is a strategic technology for modern electronic systems, from simple ASICs via embedded IP cores to large systems on chip made of heterogeneous processors communicating via on-chip networks. The use of embedded processors in SoCs requires an ever-increasing emphasis on embedded software development techniques as part of the design process of state-of-the-art electronic systems. Testing of these complex electronic systems is becoming a key factor in enabling the final quality goals and has a growing impact in the overall cost of product development.

DATE has become the pre-eminent European conference addressing research and development activities in the field of design technology. World leading companies in multimedia, wireless communications, and automotive industries have led to the emergence of recognised European strengths in System-on-Chip Technologies, particularly Embedded Systems with a strong analogue and mixed-signal content. **DATE** is a unique event where the latest scientific and technological developments are brought to the public from the leading players in the field. **DATE**, therefore, offers a once-in-a-year occasion to find out more about the technical and architectural trends of circuits and systems, small and large, and the design automation and test challenges they bring to users, tool providers and PCB companies as well as semiconductor and IP providers alike.

A total of 780 submissions were received for **DATE 04**, a significant increase over the previous edition. After careful consideration, the Program Committee has selected 181 papers for regular oral presentation in 53 sessions — an acceptance rate of 27 percent — and 73 papers as interactive presentations (a new format started at DATE 04 to present novel ideas of “ongoing work” of high quality in an interactive one-to-one format). An additional 52 regular papers and 5 interactive presentations are presented in the Designers’ Forum, a technical program track devoted to the presentation and discussion of practical, industry-oriented design experiences and methodologies using state of the art design tools. In addition, 12 Special Sessions (embedded tutorials, panels, etc.) have been chosen to bring stimulating insights and vibrant discussions in state-of-the-art topics. In complement to the main technical and scientific program, there are a number of valuable education activities in the days before and after the conference. These are the Pre-Conference Tutorials and Industrial Tutorials on Monday and 3 full-day Master Courses and 4 Workshops on Friday. The organisation of a PCB Symposium, a University Booth, fringe meetings and social events during the conference offer a wide variety of extra opportunities to meet and exchange information on relevant issues for the design, automation and test communities.

DATE continues its tradition of grouping presentations and activities related to Special Themes on specific focus days. This year’s Special Days are dedicated to **ULTRA LOW POWER** (Wednesday) and **TRENDS IN MULTIMEDIA** (Thursday). In addition to the keynote address presented at the Tuesday Opening Plenary this year we will have two keynotes related to these Special Days. The Wednesday lunch plenary keynote is devoted to Ultra Low Power and the Thursday lunch keynote to Trends in Multimedia.

The one-day Executive Track, comprising of three sessions and one executive panel, is one of the new initiatives in **DATE 04** designed to offer the technical/business views of high-level executives from EDA and related fields. Presentations by leading company CEOs, CTOs, VPs and other senior executives from EDA vendors, IP suppliers, semiconductor and system houses and test technology suppliers takes place on Tuesday.

Also as a new initiative, **DATE 04** offers Workshops on Friday as a complement to the regular conference running throughout the week. Four workshops will run in parallel showing research results, keynotes on advanced technologies and discussion panels of a different nature. The four Workshops will deal with aspects and technologies not directly covered by the technical program.

Following its successful implementation last year, the **DATE** Focus on Business and Industry, a presentation theatre located on the exhibition floor, offers exhibition visitors and conference delegates a fresh view on some key technical and strategic issues in the current electronic systems design market.

Many volunteers have given their best efforts to make this Conference and Exhibition an outstanding event. We would like to thank all the members of the Sponsors Committee, the Executive Committee, the Technical Program Committee, the Vendors Committee and the Exhibitors, and specially our recognition goes to all the Authors, Speakers, Session Organisers, Session Chairs, and Reviewers for their continued interest, energy and support to **DATE**. We hope that you enjoy the **DATE 04** Conference and Exhibition as much as all of us have enjoyed organising it for you, and that you find much scientific value in reading these proceedings.

Joan Figueras
General Chairman



Georges Gielen
Program Chairman

