SBCCI 99–XII on IC and Systems Design

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As fundamental as microelectronics is to the advancement of basic technologies for the information society, it is crucially important for the research community in Latin American countries to work to expand the forum for technical exchanges in this rapidly advancing field. This is the goal of SBCCI, launched in 1983 as the Latin American forum for discussing topics related to CAD, synthesis, and design and test of integrated circuits and systems. The symposium, held annually in Brazil, relies on the sponsorship of the Brazilian Computer Society (known as SBC) and the cosponsorship of the Brazilian Microelectronics Society. The International Federation for Information Processing Working Group 10.5 has recently joined as a cosponsor.

This year's symposium took place in Natal at the convention center of the Pirâmide Hotel, one of the nicest sea resorts in northeastern Brazil. SBCCI 99 was organized by the Federal University of Rio Grande do Norte and by Potiguar University and was supported by the CNPq Brazilian Research Agency.

SBCCI has grown significantly over the years in both size and quality. This year the symposium attracted 110 participants from 10 countries. Most attendees were from Brazilian academia, but representatives of universities and research labs in Portugal, France, the United States, Switzerland, Spain, Colombia, Finland, the Netherlands, and Italy added to the increasing international participation. Industry was also represented. Motorola, Stream Logic, Cadence, Lucent Technologies, SIDSA, and LogicVision made valuable contributions to this year's symposium.

The program committee, cochaired by Vladimir Castro Alves (UFRJ, Brazil) and Marcelo Lubaszewski (UFRGS, Brazil) and comprising professionals from different continents, received a record 70 submissions and selected 44 papers for presentation. The final program featured 13 sessions covering

- microprocessor design
- modeling
- codesign
- analog design
- high-level synthesis
- mixed-signal design and test
- digital design (two sessions)
- synthesis and reconfiguration
- digital testing (two sessions)
- CAD tools
- IP cores

Fabian Vargas, chair of the Latin America division of the IEEE Test Technology Technical Council (IEEE LA-TTTC), organized the testing sessions.

The program also included two exciting panels, four embedded systems tutorials, and two fringe meetings. The panels "Is Open Source CAD Software the Way for Innovation?" organized by Meryem Marzouki (LIP6, France) and "Latin America's Leadership in Microelectronics Education and R&D: LatinChip" organized by Wilhelmus Van Noije (USP, Brazil) both generated very heated discussions. The tutorials "Microprocessors for the Years 2001 and 2008: Where Will We Be in 2001? What Will Still Need To Be Done for 2008?" presented by Yale Patt (Univ. of Texas at Austin, USA), "Symbolic Model Checking in Practice," given by Sérgio Campos (UFMG, Brazil), "Power Optimization Using Dynamic Power Management," presented by José Monteiro (IST/INESC, Portugal), and "Testing Semiconductor Chips: Trends and Solutions," given by Yervant Zorian (LogicVision, USA), were all very well received. SBC and IEEE LA-TTTC organized fringe meetings.

Detailed information on SBCCI 99's technical program appears in the symposium proceedings, published by the IEEE Computer Society Press. The best papers presented at the symposium will appear in *IEEE Design & Test.*

Next year's symposium

SBCCI 2000 will be held in Manaus, the gateway to the Amazon Rain Forest. The main conference location will be the Tropical Manaus Hotel (www.tropicalhotel.com.br/manaus/), a five-star resort and convention center. Technical activities will run from Monday, 18 September, to Friday, 22 September. Monday and Tuesday mornings will be devoted to tutorials. Selected papers will be presented from Tuesday afternoon through Friday morning.

The final part of the conference will be held at Ariaú Amazon Towers Hotel (www.ariautowers.com.br), a Tree Top Lodge located 35 miles northwest of Manaus, along the Rio Negro. Friday, 22 September, after lunch, boats will transport conference participants to the Ariaú Hotel for two special invited sessions at the Ariaú Towers Amphitheater Saturday and Sunday mornings.

The social program will include a reception, a conference dinner, a concert at the Manaus Opera House, and a jungle excursion. Besides the traditional tutorials, regular technical sessions, roundtables, working groups, and exhibition, several activities are being

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planned to encourage high-quality contributions and further enrich the meeting.

Prospective authors should submit papers in English. Electronic submission in PDF format via the conference Web page is strongly recommended. The program committee also welcomes proposals for tutorials, panels, special topic sessions, and tool demonstrations. Submission deadline is 28 April 2000. For more information, visit www.sbc.org.br/sbcci.

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DATE is ramping up

During the week of 27 March 2000, the new facilities of the Palais des Congres in the center of Paris will host the Third Design, Automation, and Test in Europe (DATE 2000). This is the main European event bringing together design automation researchers, users, and vendors and specialists in the design, test, and manufacture of electronic systems and circuits.

The four-day event will include plenary keynotes, regular papers, posters, panels, tutorials, and a commercial exhibition.

The conference 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 and embedded systems to distributed large-scale systems. Both hardware and embedded software design issues are included. Also included is the elaboration of design requirements and new architectures for application fields such as wireless communications, multimedia, and automotive systems.

Keynote sessions will include presentations of cutting-edge technologies by industry leaders such as Wind River Systems CEO Jerry Fiddler and Xilinx CEO Wim Roelants.

The conference is complemented by the largest EDA exhibition in Europe, presenting the most recent commercial electronic design automation tools and test products.

A PCB symposium, user group meetings, a university booth, hands-on tutorials, vendor presentations, fringe meetings, and social events offer a wide variety of extra opportunities to exchange information on relevant issues in the design and test community.

New communication technologies such as XDSL, cable modems, and UMTS (universal mobile telephone service) are emerging. Higher bandwidth capabilities are driving the market for set-top boxes, handheld computers, networked home devices, and Internet appliances, which in turn drive the evolution of chip design tools.

Future design methodologies will be driven by the exponentially growing demand for information appliances requiring a short time-to-market. Designers will increasingly have to transition from CPU and memory design to the world of wireless network components that require sophisticated low-power architectures running real-time embedded software. As a consequence, semiconductor companies are rapidly evolving into system-on-a-chip (SoC) companies. Chip designers must deal with problems such as hardware/software codesign, low-power design, and system IP that includes not only digital functions and embedded memories but also added value functionality (such as sensors) and analog and RF functions. The complexity of this emerging system chip technology poses challenges for adequate and cost-effective test, measurement, diagnosis, and repair.

Reconfigurable information appliances will proliferate far more rapidly than traditional personal computers, creating a more diverse landscape. This shift presents tremendous opportunities and new challenges for suppliers of design technology.

European industry's high profile in the wireless telecommunications and automotive electronics markets has made embedded system design a European specialty. Last year DATE attracted 4,000 visitors, 75 percent of whom classified themselves as embedded system engineers.

Exhibitor product presentations will run in parallel with conference sessions and include comprehensive hands-on tutorials for tools in new product areas. This year's theme for hands-on sessions will be system design based on C/C++, a technology on the verge of becoming a commercial reality to support SoC design flow.

Ray Bingham, Cadence CEO, Aart De Geus, Synopsys CEO, and Walden Rhines, Mentor Graphics CEO, will participate in a CEO Forum. Questions can be posted at www.date-conference.com to be forwarded to these industry leaders for discussion at the forum.

DATE offers a unique opportunity to tap into a large reservoir of research and development in the field of design technology.