

CALL FOR PAPERS

FOR INFORMATION CALL: 303-530-4333

40th DESIGN AUTOMATION CONFERENCE®

Anaheim Convention Center, Anaheim, CA • June 2-6, 2003



DAC is the premier conference devoted to Design Automation (DA) and the application of DA tools in designing electronic systems. Five types of submissions are invited: regular papers, special topic sessions, panels, tutorials, and design contest entries. Submissions should be submitted electronically to www.dac.com. Panel and Tutorial suggestions are due **NO later than November 4, 2002, 5:00 PM MST**; all others are due **NO later than December 6, 2002, 5:00 PM MST**.

TOPICS OF INTEREST

Authors are invited to submit original technical papers describing recent and novel research or engineering developments in all areas of design automation. Topics of interest include, but are not limited to:

DESIGN TOOLS TRACK:

The Design Tools track (T) is devoted to contributions to the research and development of design tools and their supporting algorithms. Focus is on innovation of specific modeling, analysis and optimization techniques.

- T0.1 Fundamental CAD Algorithms, e.g., BDDs, SAT, graph coloring, partitioning
- T1.1 Electrical-level circuit and timing simulation
- T1.2 Discrete simulation
- T1.3 Static timing analysis and timing verification
- T1.4 Power estimation
- T2.1 Testing, fault modeling and simulation, TPG, test validation and DFT
- T2.2 Transaction-level, RTL and gate-level modeling and validation: simulation, equivalence checking, functional formal (and semi-formal) verification.
- T3.1 Floorplanning and placement
- T3.2 Global and detailed routing
- T3.3 Module generation and compaction, transistor sizing and cell library optimization, layout verification
- T4.1 Technology-independent, combinational logic synthesis
- T4.2 Technology-dependent logic synthesis, library mapping, cell-based-design, interactions between logic design and layout
- T4.3 Sequential and asynchronous logic synthesis and optimization
- T4.4 System, logic and physical synthesis techniques for reconfigurable computing
- T4.5 High-level synthesis
- T5.1 Interconnect and package modeling and extraction
- T5.2 Signal integrity and reliability analysis
- T5.3 Analog and mixed-signal design tools and RF
- T5.4 Microsensor and microactuator design tools
- T5.5 Statistical design and yield maximization
- T6.1 IP protection and watermarking techniques for designs, tools, and algorithms
- T6.2 Frameworks, intertool communication, WWW-based tools and databases

DESIGN METHODS TRACK:

The Design Methods track (M) deals with innovative methodologies for the design of electronic circuits and systems, as well as creative experiences with design automation in state-of-the-art designs. Submissions for this track will be judged on how innovatively tools are combined into a new methodology that is effectively applied to real-world design problems. Papers focusing on algorithmic advances in modeling, analysis and optimization should be submitted to the design tools track.

Design methodologies and case studies for specific design tasks

- M1.1 Design entry and specification
- M1.2 Electrical-level simulation and modeling
- M1.3 Discrete simulation and modeling
- M1.4 Static timing and performance analysis
- M1.5 Functional design verification
- M1.6 Testing, test generation and debugging
- M1.7 Physical design, module generation, design for manufacturing
- M1.8 Logic synthesis, including interaction with physical synthesis
- M1.9 High-level and architectural synthesis

Design methodologies and case studies for specific application domains and platforms

- M2.1 Overall design flows and methodologies for specific design applications
- M2.2 Configurable computing, FPGAs and rapid prototyping
- M2.3 Deep sub-micron: signal integrity, interconnect modeling and extraction
- M2.4 High-performance design: timing, clocking and power distribution
- M2.5 Low power design
- M2.6 Analog, mixed signal, and RF design
- M2.7 Process technology development, extraction, modeling and new devices
- M2.8 MEMS, sensors, actuators

Integration and management of DAsystems

- M3.1 Management of DAsystems, design interfaces, standards
- M3.2 Distributed, networked, and collaborative design
- M3.3 Intellectual property, design re-use and design libraries

Sponsored by:



EMBEDDED SYSTEMS TOPICS:

Embedded Systems are characterized by mixed hardware and software components with limited processing, I/O and storage resources. The increasing role played by software components and their associated support introduces a host of new system design issues. To focus on these, the 40th DAC will have embedded systems sessions covering both the "tools" and the "methods" aspects of the following topics:

- E1 Low-power design: compilation, scheduling and partitioning
- E2 Embedded software: retargetable compilation, memory/cache optimization, real-time single-processor scheduling
- E3 HW/SW co-design: specification, modeling, co-simulation and performance analysis, system-level scheduling and partitioning
- E4 Hardware and software platform design: IP-based design, communication design, embedded HW
- E5 Case studies

REQUIREMENTS FOR SUBMISSIONS

All DAC Submissions must be made electronically using PDF format NO later than December 6, 2002, 5:00 PM MST. Reference the DAC web page (www.dac.com) for instructions on electronic submissions. Please submit 1 PDF file:

1) The paper should contain an abstract of approximately 60 words clearly stating the significant contribution, impact and results of the submission. The paper should be formatted in double columns with a minimum 10pt font, not to exceed 6-pages including all figures, tables and references (format templates are available on the DAC web site for your convenience, they are not required). Submissions exceeding the 6 page limit, fonts smaller than 10pt, or identifying the authors or their affiliation will be automatically rejected.

The following information will be needed when submitting your paper:

- Name, affiliation, and complete address for each author
- A designated contact person including his/her phone #, fax #, and email address
- A designated presenter, should the paper be accepted
- A list of topic numbers preceded by the letter T (Tools Track), M (Methods Track), or E (Embedded Systems Topic) ordered by relevancy, most clearly matching the content of the paper
- The following statement: "All appropriate organizational approvals for the publication of this paper have been obtained. If accepted, the author(s) will prepare the final manuscript in time for inclusion in the Conference Proceedings and will present the paper at the Conference".
- Authors of accepted papers must sign a copyright release form for their paper. Authors must also provide MP Associates a copy of their presentation materials and grant permission for the publication of the presentation and presentation materials on the DAC web site.

To permit a blind review, do not include name(s) or affiliation(s) of the author(s) on the manuscript, abstract or bibliographic citations. The papers will be reviewed as finished papers. Preliminary submissions will be at a disadvantage. Notice of acceptance will be emailed to the contact person by February 28, 2003.

PANELS, TUTORIALS, SPECIAL TOPICS

Panel and tutorial suggestions should not exceed two pages, should describe the topic and intended audience, and should include a list of suggested participants. Tutorial suggestions must include a bulleted outline of covered topics. DAC reserves the right to restructure submitted panel and tutorial suggestions, including participants. Panel and tutorial suggestions may be electronically submitted by **November 4, 2002**.

UNIVERSITY DESIGN CONTEST

Students are invited to submit descriptions of original electronic designs, either circuit level or system level. Submissions should contain the title of the project, a 60-word abstract and a complete description of the design, not exceeding 4000 words. The submission should clarify the originality, distinguishing features, and measured performance of the design. Two categories of designs are eligible for awards, operational and conceptual. For operational designs, proof-of-implementation is required, while for conceptual designs, complete simulation is necessary. Designs must have taken place as part of the students' work at the university and must have been completed after June 2001. Submitted designs should not have received awards in other contests. Selected designs will be presented at the conference. These submissions must be electronically submitted **NO LATER THAN December 20, 2002 (5:00pm MST)**.