



1st IEEE International Workshop on Design and Test of Nano Devices, Circuits and Systems (NDCS)

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Hyatt Regency Hotel
Cambridge (MA), USA

Sponsored by the IEEE Computer Society and Test Technology Technical Council

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Call for Papers

Over the last few years emerging technologies, such as CNT, SET, QCA, spin and molecular electronics, have asserted a prominent role for future innovation in the electronics and computer industry at nanometer scale. As breakthrough technologies, their potential is wide-ranging and expected to eventually supersede at least some of the CMOS limitations, as predicted at the end of the Technology Roadmap. Novel computational paradigms (such as quantum and reversible computing) and new manufacturing/fabrication processes (based on DNA-like self-assembly) are being introduced to the technical community. Nano-device, circuit and system implementations for diverse applications are currently being investigated to implement the next generation of electronics and digital computers. This workshop will provide an open forum for presentations in this field. All aspects of design, manufacturing, test and reliability of innovative nano-circuits and systems are of interest. The topics include (but are not limited to) the following ones:

1. Self-assembly and manufacturing of emerging technologies
2. Metrology and real-time monitoring of processing for emerging technologies
3. Electronic characterization of nano-scale structures
4. Design of nano-circuits and systems (CNT, QCA, SET, spin electronics, opto-electronics, molecular & DNA devices, and hybrid nano-CMOS)
5. Modeling and simulation of nano-scale devices
6. System-level computational paradigms, such as algorithms for quantum and reversible computing
7. Tools for simulation and Computer Aided Design
8. Scaffolds and interconnects
9. Sensors and bio-computational fluid chips
10. DNA and molecular level processes
11. Fault modeling
12. Testing of nano-circuits and systems
13. Fault tolerance
14. Reliability and yield

Prospective authors should prepare a full paper (up to 4 pages in the standard IEEE double column format), to be submitted as a PDF file. Submission will be electronically only. Use the contact author's last name as file name; add numerals in the case of multiple submissions (e.g., lombardi1, lombardi2). The submission should also indicate the intended presenter. Detailed information about the submission process will be made available on the workshop web page:

<http://NDCS08.arces.unibo.it/>

Proposals for panel sessions are solicited: please send an email to the Program Chairs with a brief description (1 page maximum).

Prospective authors should adhere to the following deadlines:

Submission deadline:	April 30, 2008
Notification of acceptance:	June 18, 2008
Camera ready full papers:	July 18, 2008

The proceedings will be published by the IEEE Computer Society.

For general information, contact the General co-Chairs. For paper submission information, contact the Program co-Chairs. For all updated information concerning the symposium, visit our Web page.

NDCS will be held at the Hyatt Regency Hotel overlooking the banks of the Charles River, in an inspiring setting among some of the most illustrious universities in the world and located near to cultural and historical icons such as the Museum of Fine Arts, the Museum of Science and the Freedom Trial.

