

CHIP FOCUS 2009

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- *From:* piyush <piyushguptaoist@xxxxxxxxx>
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Advances in electronics technology have led to convergence of communication, computing, and sensor technologies onto a single silicon substrate. Unprecedented revolution in micro, nano and molecular electronics has brought about paradigm shifts in design approaches and novel applications of VLSI and Embedded systems. Emergence of Network-on-Chip (NoC) technologies for high-performance System-on-Chip (SoC) design has only added to the challenges and opportunities. India, an emerging world economy and a well-established leader in Information and Communication Technology (ICT) has an ambitious Nation Technology Roadmap to take on the challenges and tap the opportunities in the rapidly expanding arena of VLSI Design and Embedded Systems. Chip Focus 2006, the first National Conference on VLSI Design & Embedded Systems received massive response exceeding 700 participants. We received yet better response during 2007 & 2008. Thanks to their encouraging feedback and constructive suggestions that Chip Focus has become a prominent calendar event for the students pursuing their interests in VLSI Design & Embedded Systems <http://chipfocus.we.bs/>

What is VLSI?

VLSI stands for "Very Large Scale Integration". This is the field which involves packing more and more logic devices into smaller and smaller areas. Thanks to VLSI, circuits that would have taken boardfuls of space can now be put into a small space few millimeters across! This has opened up a big opportunity to do things that were not possible before. VLSI circuits are everywhere ... your computer, your car, your brand new state-of-the-art digital camera, the cell-phones, and what have you. All this involves a lot of expertise on many fronts within the same field, VLSI has been around for a long time, there is nothing new about it ... but as a side effect of advances in the world of computers, there has been a dramatic proliferation of tools that can be used to design VLSI circuits. Alongside, obeying Moore's law, the capability of an IC has increased exponentially over the years, in terms of computation power, utilisation of available area, yield. The combined effect of these two advances is that people can now put diverse functionality into the IC's, opening up new frontiers. Examples are embedded systems, where intelligent devices are put inside everyday objects, and ubiquitous computing where small computing devices proliferate to such an extent that even the shoes you wear may actually do something useful like monitoring your

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heartbeats! These two fields are kinda related, and getting into their description can easily lead to another article

Program Outline

The 2-day conference would be marked by expert lectures, tutorials and workshops on Electronics Design Automation (EDA) tools and Embedded System Programming. Some of the key issues that would dominate the conference sessions are:

- * Challenges, opportunities and future roadmap in Nanoelectronics
- * Bottlenecks in Gigascale Design and Manufacturing
- * Low power and high speed processor and memory design
- * System on Chip (SoC) Design – Analog–digital–RF mixed signal
- * Network on Chip (NoC) Design and Sensor networks
- * Emerging process technologies and design shifts
- * EDA tool issues in deep sub-micron design
- * Optics inside chips – emerging trends and techniques
- * Embedded systems – Hardware–software co–design and co–verification
- * FPGA/ASIC based embedded system design (simulation & synthesis)
- * Embedded Systems for DSP, communications, digital imaging
- * Programmable devices

Guidelines

- * Participants are requested to reach ten minute before to prevent inconvenient.
- * Participants are require to carry the receipt of the registration along.
- * Participants are requested to carry the Identification cards of the Institutes/Organizations they belong to.
- * Participants are requested to show their id card on demand.
- * Participants are requested to switched off (not in vibration) their mobile phones.
- * Please maintain silence in auditorium.
- * The kits inclusive of lunch coupons can be collected from the Institute on producing the receipt of registration.

Who can Attend?

The conference is open to engineering (UG, PG), MCA students, research scholars, academics, scientists and industrial professionals.

The objective of CHIP FOCUS 2009 (The 4th National Seminar on VLSI Design & Embedded Systems) is to seek convergence of eminent scholars from across the country on a common platform to discuss the key issues and trends in VLSI Design and Embedded Systems. This would enable our young scientists and engineers to gain from the views of the visionaries and get directions from them to discover new horizons and opportunities for research, innovation and growth