REPORT

RESONANCE-ANALOG & MIXED SIGNAL VLSI DESIGN

SEPTEMBER 23, 2013

The programme of Resonance on Analog and Mixed Signal VLSI design was inaugurated on September 23, 2013 at 9:30 am in Mondini Hall. The inauguration was attended by Principal Dr. N. G. Joag, H.O.D of EXTC Ms. Pratibha Dumane , Event Coordinator Dr. S.S. Mande , faculty of EXTC department and the T.E. EXTC students.

The event began by the lighting of the lamp by Principal Dr. N. G. Joag, H.O.D of EXTC Ms. Pratibha Dumane , Event Coordinator Dr. S.S. Mande , faculty of EXTC Ms. Sneha Shivam and a student of T.E. EXTC Mr. Aditya Shenoy. The Principal addressed the students and stressed upon the need and importance of a programme on the topic of “Analog & Mixed Signal VLSI Design”. The H.O. D. then spoke to the students highlighting various topics of the past under the banner of ‘Resonance’ and told the students to grasp the details of the programme so that they may benefit in the future.

The programme then began with the first speaker Dr. S.S. Mande who spoke on Introduction to Microelectronics and VSLI Design. In his talk, first he gave history of Microelectronics and highlighted the work of those people who are responsible for the growth of the VLSI Industry. In his talk, he also discussed research scope of the area as well as future of VLSI in India and abroad.

The next speaker of the day was Dr. S.S. Rathod who is Professor & Head of Electronics Engg. Dept. Sardar Patel Institute of Technology Mumbai. He spoke on Applications of Analog and Mixed Signal Design. He told the students the difference between Analog and Digital and followed with the topic of Mixed Signal Design. He stressed upon the need of learning the fundamentals before taking up Mixed Signal VLSI design. He also mentioned the applications of fundamental concepts like linearity and others in Mixed Signal design.

The next speaker of the day was Dr. D. J. Pethe who is H.O.D. of Datta Meghe College of Engineering. He spoke on Reliability in VLSI design. He divided his talk into two part the Interconnect reliability & MOSFET reliability. He spoke on the important factors of scaling in VLSI design and the care one should take in order to achieve long life of devices. In his talk, he discussed various reliability issues like Electro migration, Hot Electron Effect, Cross talk, CMOS latch up. He also discussed reliability issues with interconnect.

The next speaker was Dr. Uday Pandit who spoke on Current Mode Circuits for Mixed Signal applications. First, he explained the difference between the voltage mode circuits and current mode circuits. In his talk, he discussed about advantages of current mode circuit over voltage mode circuit like low power, high bandwidth, low noise and so on. He also explained how to convert existing voltage mode circuits into current mode circuits.

The session was concluded with talk of Dr. S.S. Mande. In his second talk, he spoke to the students on MOSFET device and its operation. He also explained students the importance of MOSFET parameters like Width and Length in VLSI design. He also taught the students the working of the inverter circuits and methodology to design inverter for given transient performance.

Finally, Freda Fernandes concluded resonance session by mentioning thanks to students, Faculty members, HOD-EXTC, Principal, and DBIT Management for making Resonance successful.