Research Trends in VLSI Devices and Circuits Co-design

Short Term Course

Nanoscale Semiconductor Devices and Low Power VLSI Circuit Design are leading research fields. The main objective of this Short Term Course is to provide theoretical and practical knowledge of the research trends in VLSI devices and circuits co-design.

ECE Department NIT Jalandhar
4th –to– 8th June, 2018

Short Term Course

Research Trends in VLSI Devices and Circuits Co-design

04th–to–08th June, 2018

Department of Electronics & Communication Engineering

Dr B R Ambedkar National Institute of Technology, Jalandhar (Punjab)-144011

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About NIT, Jalandhar

Dr B R Ambedkar National Institute of Technology was established in the year 1987 as Regional Engineering College and was given the status of National Institute of Technology (Deemed University) by the Government of India on October 17, 2002 under the aegis of Ministry of Human Resource Development, New Delhi. Now the Ministry of Human Resource Development, Government of India has declared the Institute as *"Institute of National Importance"* under the act of Parliament-2007. The Institute has been **placed amongst top 50 Engineering Institutions of the country** as per the survey conducted by Mint-C Fore in the year 2008. The institute offers B. Tech. programmes in nine Engineering disciplines. In addition to B.Tech. programmes, the Institute offers M.Tech and Ph.D.programmes in all nine Engineering disciplines.

About the Department of Electronics & Communication Engineering

The Department of Electronics & Communication Engineering, Dr. B R Ambedkar NIT Jalandhar has been offering B.Tech programme in Electronics & Communication Engineering since 1989, M.Tech programme in Electronics & Communication Engineering (Full-Time) and VLSI Design (Full Time) from year 2007.The Department also offers Ph.D. programmes in various specializations, such as Biomedical Engineering, VLSI Design, Nanoelectronics and Communication Systems etc. The Department has presently 18 faculty members with PhD degrees from reputed Institutes. The Department has established state-of-the-art laboratories for B.Tech, M.Tech and Ph.D. research work. The Department has advanced Biomedical Signal Processing and Telemedicine Laboratory, VLSI Design Laboratory, Nanoelectronics Research Lab and Communication System Laboratory with sophisticated research equipment. The department has an advanced VLSI lab sponsored by Ministry of Communication and IT under SMDP-II project. In the VLSI lab Cadance, Mentor graphic, Synopsys, Magma, Coware and Xilinx softwares are available for project/research work.

Brief of the Short Term Course

The Short Term Course aims to enhance technical and professional competency of the faculty members, PG & PhD Scholars in the domain of VLSI Design. Nanoscale Semiconductor Devices and Low Power VLSI Circuit Design are leading research fields. The main objective of this STC program is to provide theoretical and practical knowledge of the research trends in VLSI devices and circuits co-design. During this program the academicians and industry personnel in their respective areas of expertise will discuss the current scenario advancements in research. In depth knowledge of upcoming trends in hardware and software co-design will also be delivered by experts. Particular emphasis would be given to the demonstration of advanced hardware, EDA TCAD tools and hands-on-sessions for VLSI design would be part of the program. The course would also provide opportunity to the young faculty/researchers to interact across subfields and gain broader exposure to the major themes of this field.

Topics to be Covered

- Digital/Analog Circuits Design
- Nanoscale Semiconductor Devices
- Low Power Design Approaches
- EDA TCAD Tools
- Critical Problems of Nanoscale Devices and Circuit Design
- Devices and Circuits Co-design
- Hardware and Software Co-design

Participants

The course can be attended by the faculty members and research scholars of an Engineering Institution and the delegates from various industries and research organization. The interested persons need to apply through proper recommendation of HOD/Principal/Director of their institute to the Course Coordinator in the prescribed format by due date.

General Information

- The candidate will be informed about his/her selection in advance.
- Shortlisted candidates will be called to attend the course.
- Number of seats are limited.
- Course fee Rs. 1000/- will be charged from the external participants.
- Course material, lunch and refreshment will be provided during the course.
- The accommodation to the out-station candidates will be provided in the Hostel on sharing basis at nominal charges.
- No TA/DA shall be paid to the participants for attending the course.
- **Last date of receiving the filled and signed registration forms: 30.05.2015.**

Important Dates

Reporting date and time at the Institute:

- **04.06.2018/ 9:00 AM**.
- Venue: **VLSI Lab, NIT Jalandhar**

For Participants Registration

Registration form is attached herewith. The mailing address details are provided in the form.

Organizing Committee

Patron

Professor (Dr) Lalit Kumar Awasthi
Director, Dr B R Ambedkar National Institute of Technology
Jalandhar(Punjab)

Chief Coordinators

Dr. R K Sarin
Course Coordinator and Professor, Dept. of Electronics & Communication Engg.
Dr. B R Ambedkar National Institute of Technology, Jalandhar

Dr.B.S.Saini
Course Coordinator and Head, Department of Electronics & Communication Engg.
Dr. B R Ambedkar National Institute of Technology, Jalandhar

Coordinators

Dr. Mamta Khosla
Dr. Ashish Raman
Dr. Balwinder Raj

Co-Coordinators

Dr. Arun Khosla
Dr. Ramesh K Sunkaria
Dr. Indu Saini
Dr. Deepti Kakkar
Dr. Neetu Sood

Organizing Team

Dr. Sateesh Kumar Awasthi
Dr. Pawan Kumar Verma
Dr. Deepak Bharti
Dr. Sukhwinder Singh
Dr. NitishKashyap
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