

Self Financed

## Online Short Term Course (e-STC)

# Research Trends in Integrated Circuits and Applications



ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT  
DR B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY  
JALANDHAR

11th to 15th January 2021

For Registration: Fill form on link <https://forms.gle/GQ5ETU7uycekJTtKA>

Register by  
January 09, 2021 by 4:30pm

## Objective of the STC

Integrated Circuit Technology has revolutionized significantly the modern electronic industry and shaped the way for enormous applications such as mobile phones, computers and many other devices. There is a continuous effort by researchers towards improving the performance and functionality of the Integrated Circuits and devices. Among the many design issues concerning the research community in this domain are: Feature-size reductions, Introduction of new materials and device structures, Fabrication based challenges in sub-micrometer Semiconductor design etc.

The main objective of this course is to provide theoretical and practical knowledge of the recent trends in the domain of submicron MOS devices and their modeling for various applications. During this programme the scientists, academicians and industry persons in their respective areas of expertise will discuss the current scenario of research in these domains. This STC would give an opportunity to all the researchers working in this domain to interact as well as get insights of the latest trends and also would serve as a platform for those who want to explore the research opportunities in this area.



## General Information:

- The candidate will be informed of his/her selection in advance
- **NO COURSE FEE** for registration in the course
- **E-Certificate** will be issued to participants (Attendance is compulsory for all participants)

## Contents

- \* **Fabrication based challenges in sub-micrometer Semiconductor Device design**
- \* **MOS Transistor and its Modeling concepts**
- \* **Deep Submicron Digital Circuit Considerations**
- \* **Beyond CMOS Devices**
- \* **FPGA based system design**
- \* **Advanced VLSI Circuits**

## Experts for the STC



Dr R K Sharma  
Professor  
NIT Kurukshetra



Dr Rajeevan Chandel  
Professor  
NIT Hamirpur



Dr Alpa Agrawal  
Professor  
Thapar Institute of Engineering and Technology



Dr V K Gupta  
Professor  
Indrastprastha Engineering College, Ghaziabad



Dr Ashwani Rana  
Associate Professor  
NIT Hamirpur



Dr Balwinder Raj  
Associate Professor  
NITTR Chandigarh



Dr Amandeep Singh  
Assistant Professor  
NIT Srinagar



Dr Sunny Anand  
Assistant Professor  
Amity University, Noida



Dr Jitender Singh  
Assistant Professor  
NIT Sikkim

### COORDINATORS AND CONTACT PERSONS

#### Dr. Ashish Raman

Assistant Professor, Dept. of Electronics & Communication Engineering

NIT Jalandhar

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#### Dr. Mamta Khosla

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NIT Jalandhar

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## Organizing Team

### PATRON

**Professor L K Awasthi**

**Director**

Dr B R Ambedkar National Institute of Technology  
Jalandhar

### CO-PATRON

**Dr S K Sinha**

Professor and Dean (R&C)

### HOD/ECE

**Dr R K Sunkaria**

Dept. of Electronics & Communication Engineering

### COORDINATORS

**Dr. Ashish Raman**

Assistant Professor, Dept. of Electronics & Communication Engineering, NIT Jalandhar

**Dr. Mamta Khosla**

Associate Professor, Dept. of Electronics & Communication Engineering, NIT Jalandhar



### CONTACT US

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## About the Institute

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, Govt of India has declared the Institute as "Institute of National Importance" under the act of Parliament-2007. A large number of reputed Industrial houses in the country visit the Institution and select the final year students as Engineers/ Management Trainees. As one of the National



Institutes of Technology (NIT), the Institute has the responsibility of providing high quality education in Engineering, Technology and Sciences to produce competent technical and scientific manpower for the country. The Institute offers

## About the Department

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 15 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.

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