

FPGA BASED SOC DESIGN



**Organized by E&ICT Acad. IIT Roorkee and NIT-Uttarakhand
Experts from Academia/Industry**

- ❖ **Industry Experts**
- ❖ **Dr. Sanjeev Manhas (IITR)**
- ❖ **Dr. B.P. Das (IITR)**

Eligibility: Faculty members, scientist, research scholars, limited number of M.Tech., B.Tech. (Final Year) in ECE/EE/CS/IT disciplines.

Course Date: Dec. 11-17, 2016

Last Date for Registration: Dec. 09, 2016

Venue: NIT Uttarakhand



Supported By
**Ministry of Electronics & Information
Technology (MeitY), GOI**

About E&ICT Academy

- ❖ Electronics and Information Communication Technology (E&ICT) Academy is an initiative of MeitY, Govt. of India for quality improvement of faculty members, research scholars and post-graduate students.
- ❖ E&ICT Academy IITR is one of the seven such academies at various IITs and NITs approved by Govt. of India.
- ❖ E&ICT Academy IITR aims to bring in depth erudition in the form of theoretical and practical exposure to the trainees.
- ❖ Promote development of entrepreneurship adeptness and facilitation of start-ups.

Benefits and Outcomes of the Course

- ❖ Learn the fundamentals of HDL programming.
- ❖ FPGA architecture along with FPGA design on latest FPGA boards. XILINX VIVADO system edition design flow.
- ❖ Hands-on experience conducted by experts from Industry and Academia. SOC based FPGA design project.
- ❖ Enhance employability by training individuals to find opportunities in FPGA based design applications in control, networking, security, image processing, application specific integrated circuits (ASIC), electronics design automation(EDA).

Course Program

- The program is split into lectures and labs/hands-on sessions.
- Course evaluation by quizzes and project work.
- Certificates with grades to participants by E&ICT Academy IITR.

Course Contents:

- Digital Design Concepts and HDL Programming
- Timing Analysis, Hardware Debugging in FPGAs
- FPGA Architecture and Design Implementation using Xilinx Vivado
- Programmable SOC design and Hand on Sessions

Contact Hours: Seven days (Theory, Hands-on and Tutorials)

How To Apply

Online: The participant may log on to the E&ICT Academy IITR (website: <http://eict.iitr.ac.in>) and fill-up the application form.

By Email: Send scanned copy of the filled-in application form duly endorsed by the forwarding authority to E&ICT Academy IITR (Email: eict@iitr.ac.in, eictiitr@gmail.com).

Registration form in this brochure can also be downloaded from academy website.

Registration Form

Name of the Applicant: Affix stamp
size
photograph

Gender:

Designation:

Name and Address of the Organization/Institute:
.....

City/Town:.....

Email:.....

Mobile Number:.....

Do you need Accommodation? (Yes/No):.....

DD Number:.....Date:.....

Issuing Bank:.....Payable at:.....

Signature of the Applicant:.....

Signature and Seal of the Forwarding Authority:
Name:

Designation:.....

Registration Fee

Rs 5000 (with food and accommodation) for participants from academia

Rs 7000 (with food and accommodation) from Industry and Research Organization

Rs. 2500 For candidates (without food/ accommodation).

Rs. 2000 For Students, NITUK (without food/ accomm.).

Mode of Payment: Demand Draft in the name of “**DEAN SRIC IIT ROORKEE**”

Contact Details

For more details please log on to E&ICT academy IITR (website: <http://eict.iitr.ac.in>).

Course Coordinator: **Dr. Sanjeev Manhas (IITR)**

Local Coordinators: **Dr. Pankaj Kumar Pal (NIT-UK)**

Mr. Prakash Dwivedi (NIT-UK)

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About IEEE Blended Learning Program

IEEE, the world's largest technical professional organization is dedicated to advancing technology for the benefit of humanity.

IEEE Blended Learning Program is an initiative launched by IEEE that aims to provide students and professionals the conceptual understanding of semiconductor design with extensive hands-on training. The engineering students and professional build competency and skills necessary to create complex products with the leading EDA tools used in the semiconductor industry. The program will help increase the availability of skilled engineers for the rapidly growing Electronic Systems Design and Manufacturing (ESDM) sector in India. For more information, please visit blended-learning.ieee.org



Course Outline

- ❖ Digital Design Concepts and HDL Programming
- ❖ Fundamentals of Static Timing Analysis
- ❖ FPGA Architecture and Design flow using Xilinx Vivado
- ❖ Hardware Debugging in FPGAs
- ❖ Programmable SOC design and Hand on Sessions

Contact Hours: Seven days

Lab Platform/Boards to Used

- ❖ Windows
- ❖ XILINX VIVADO system edition
- ❖ ZedBoard Zynq™-7000 Development Board
- ❖ Basys 3 Artix-7 FPGA Trainer Board