About NIT Raipur

National Institute of Technology (NIT) Raipur, formerly known as Government Engineering College (GEC) Raipur, is established in 1956. The institute has established its unique identity for the development of high-quality human and knowledge resources. It was declared as 'National Institute of Technology' by the Government of India on 1st December 2005 and then an 'Institute of National Importance' in May 2007 vide the National Institute of Technology Act 2007. With over six decades of glorious history as a premier technical education institution in India, NIT Raipur now offers 12 UG and 11 PG programs. In addition to the UG and PG programs, NIT Raipur also offers Ph.D. in 18 disciplines of science and technology

About the Departments

The Electronics & Communication Engineering Department is one of the core department of NIT Raipur and has the qualified faculty members with various specializations such as VLSI design, Embedded Systems, Wireless Communication, Optical Communication, Soft Computing , RF and Microwave, Fuzzy Logic, Neural Networks etc.

About SERB

SERB has a vision to position science and technology as the fulcrum for social and economic change by supporting competitive, relevant and quality scientific research and development. As the premier national research funding agency, the mission is to raise the quality and footprint of Indian science and engineering to the highest global levels in an accelerated mode, through calibrated, competitive support of research and development.

About Accelerate Vigyan

"Accelerate Vigyan" (AV) strives to provide a big push to high-end scientific research and prepare scientific manpower which can venture into research careers and knowledge-based economy. Recognizing that all research has at its base as development of quality, well-trained researchers; AV will initiate and strengthen mechanisms of identifying research potential, mentoring, training and hands-on workshops, on a broad-based national scale. The aim is to expand the research base in the country, with three broad goals - consolidation / aggregation of all scientific training programs etc.

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Director, NIT Raipur

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Chairman

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SERB Sponsored

One Week High End Workshop (Karyashala)
on

Exploring Semiconductor Devices: A Practical Approach to VLSI

10 - 16 July, 2024

Organized by:

Department of Electronics & Communication Engineering
National Institute of Technology
G.E Road, Raipur, (C.G.)-492010
http://www.nitrr.ac.in

SERB Sponsored
One Week High End Workshop
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Exploring Semiconductor Devices: A Practical Approach to VLSI

10 - 16 July, 2024

How to Register:
Click on the below link to fill the registration form.
https://forms.gle/1K6PSCQhQ7ynqkDf8
Or
Scan the QR code.

Important Dates:

Registration Ends:**10th June, 2024**
Announcement of selected participants: **15th June, 2024**

Address for Communication

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Great Eastern Rd, Amanaka, Raipur, (C.G) -492010

About the Workshop

- Discover the realm of semiconductor devices and their practical application in VLSI design through our immersive one-week workshop. Gain hands-on experience, theoretical knowledge, and interactive discussions covering semiconductor physics, device optimization, fabrication techniques, and VLSI design methodologies.
- Engage with industry experts, collaborate with peers, and explore real-world challenges and solutions. This workshop equips you with the skills and knowledge needed to excel in VLSI and microelectronics.
- The participants will have an idea about various challenging issues such in semiconductor device optimization and fabrication, analog and digital IC design and etc. Participants will gain the confidence to work in the academia and to collaborate with the industries.

Eligibility/Target Audience

- Applications are invited from **Undergraduate (Final Year), Postgraduates, and Ph. D scholars.**

Important Details

- **Only 25 candidates** will be selected on **First-come, First-serve** basic or some criteria determined by the committee to participate in the workshop.
- Shortlisted participants are required to pay a fee of Rs. 1000 which will be **fully reimbursed upon** successful completion of the training program. Account details for fee payment will be communicated to the selected candidates.
- Organizers will **reimburse travel allowance** (3 Tier AC by train/ Bus fare as per GOI norms), **shared accommodation, and food** for participants during the event.
- Participant has to upload **No Objection Certificate** while registering for this workshop as per the format given.
- Certificates will be issued only to participants who attend the entire course.

Tentative Course Contents

The major topics to be covered but not limited to are as follows:

- Introduction to Microelectronics and VLSI
- Essentials of Semiconductor Device Physics
- Optimization of semiconductor devices: TCAD Simulation
- Hands on experience on TCAD simulators
- Exposure on fabrication techniques for Diode and MOS Capacitor development
- Exposure on fabrication techniques for MOSFET, HEMT device development
- Electronics Materials for Micro and Nano device
- Implementing New Technology and Managing Productions Processes
- Scope of present semiconductor technology and future perspectives
- Basic understanding of Digital and Analog IC Design
- Techniques of Mixed mode signal processing for VLSI circuits
- Opto-electronics devices, Photonics solar cell
- FPGA based System on Chip Design
- Hands on practice on VHDL tool- Vivado
- Implementation and designing of Digital circuits for Application-Specific Integrated Circuit
- Hardware for AI and ML
- Role of Yoga and stress management in present scenario