

One Week Faculty Development Program (FDP)

on

“Startup in VLSI Design, Embedded System and Computational Intelligence”

17-22 February 2025



Organized by

**School of Studies in Electronics and Photonics &
Institute Innovation Council**

Pt. Ravishankar Shukla University Raipur

&

Indian Society for VLSI Education (ISVE) Ranchi

In collaboration with

**Electronics and Information and Communication
Technology Academy (E&ICT) of Indian Institute
of Communication Technology, Design and Manu-
facturing (IIITDM) Jabalpur**

Link for Registration : <https://forms.gle/b6koPtHiAKkuhByG8>



Title of the FDP

“Startup in VLSI Design Embedded System and Computational Intelligence”

Major Objectives of FDP

This FDP is planned to make familiar comprehensive with the electronics chip designing using VLSI and Embedded system technology along with the interfacing with the computer to faculty members, research staff, Ph.D. scholars, and PG students. The program aims to offer critical insights and hands-on experience, enabling participants to tackle research-oriented problems using the VLSI design tools during the basic FDP. This FDP will help to establish Fabrication Lab for Electronics Chip manufacturing in our University. Lab-on-a-chip (LOC) technology has many advantages over traditional bench top operations, including reduced size, Low-volume samples, High throughput, Point-of-care, Reduced human error, Cost-effective, Safer and reduced environmental impact.

During the FDP, Fundamentals & Research Topics will be discussed on VLSI Design, Embedded System and Computational Intelligence. The participants will be familiar with the electronics chip designing using VLSI and Embedded system technology along with the interfacing with the computer. Both lectures and hand-on session will be provided including the hardware and software knowledge and participants will be motivated about developing ideas of real time projects and convert into Prototype. The organizing committee hereby invites professors/ technologists engaged in applied research in Universities, Research Institutions and Industries to participate.

Contents of the Program

1. Fundamental of Chip Design & Entrepreneurship Opportunity,
2. Combinational Circuit Design using VHDL
3. Sequential Circuit Design using VHDL
4. Combinational Circuit Design using Verilog
5. Sequential Circuit Design using Verilog
6. Innovation in Embedded System Design,
7. Advanced research in FPGA based IoT System Design,
8. Innovative Cyber Security model for secure e-Banking,
9. Research on Computational Intelligence
10. FPGA based System Design and Research Scope

About Pandit Ravishankar Shukla University (PRSU) Raipur



Pandit Ravishankar Shukla University (PRSU) is a public University offers a wide range of undergraduate, postgraduate, and doctoral programs in various fields, including arts, sciences, commerce, law and social sciences was founded in 1964. The University has been instrumental in advancing higher education in the region and serves as a major educational hub in central India.

Indian Institute of Information Technology, Design and Manufacturing (IIITDM) Jabalpur



IIITDM is one of the premier institutes of national importance in India, focused on education and research in the fields of Information Technology, Design, and Manufacturing founded on 2005. It is part of a group of institutions set up by the Government of India under the Ministry of

Human Resource Development (MHRD) to foster excellence in technical education and promote interdisciplinary skills that blend engineering, design, and manufacturing.

About Indian Society for VLSI Education (ISVE) Ranchi



Indian Society for VLSI Education (ISVE) is registered (Act 21, 1860) non profitable society dedicated to serve as a bridge between industry and academia for organizing the workshops, summer/winter schools, short term courses, conferences, symposiums and seminars by which students,

research scholars, faculties and scientists come together, work together and share their knowledge in recent development in engineering, science & technology in electrical, electronics, computers, communications, environmental, biomedical & space engineering field.

Resource Person

1. Dr. Vijay Nath, Associate Professor, VLSI Design Group, Dept of ECE, BIT Mesra Ranchi, India
2. Dr. D. K. Yadav, Professor, Dept. of CSE NIT Jamshedpur, India
3. Dr. Adesh Kumar, Professor, Dept. of ECE, UPES University, Dehradun, India
4. Sh. Shreyaskumar Patel, Sr. Engineer NetScout, USA (Fellow Member IEEE and Distinguished Fellow ISVE), India
5. Sh. Samuel Tensingh, Associate Lecturer, University of Sydney, Australia
6. Dr. Rahul Priyadarshi, Assistant Professor, SoA University, Bhubaneswar, India
7. Dr. B. Acharya, Associate Professor, Dept. of CSE, NIT, Raipur, India
8. Dr. Honey Durga Prasad Tiwari, Chief Technical Officer, INKOR Technologies Pvt. Ltd., Raipur, India
9. Dr. B. Khaleelu Rehman, Associate Professor Dept of ECE, Chaitanya Bharathi Institute of Technology, Gandipet, Hyderabad

Hands-on of the Program

1. Combinational Circuit Design, optimization and simulation with SPICE
2. Sequential Circuit Design, optimization and simulation with SPICE
3. Combinational Circuit Design, optimization and simulation with VHDL (Xilinx)
4. Sequential Circuit Design, optimization and simulation with VHDL (Xilinx)
5. Combinational Circuit Design, optimization and simulation with Verilog (Xilinx)
6. Sequential Circuit Design, optimization and simulation with Verilog (Xilinx)
7. Implementation of Combinational Circuit on FPGA
8. Implementation of Sequential Circuit on FPGA
9. Implementation Cyber Security tools
10. Implementation of Computational Intelligence in Embedded System

Important Dates

Last date for Registration

14th February 2025

Registration Fee (In INR) (Including Food and FDP Training)

1000/- (Rs. One Thousand only)

20/- Online Processing Charges (Non Refundable)

Registration Guidelines / Procedure

Open <https://online.prsu.ac.in/> → Online Payment windows pop up → Select New Payment

→ Enter your mobile number for verification

After enter 4 digit OTP, Fill only mentioned information-

Choose Category— <Other>, **Name**- <your Name> , **Department**- <School of Studies in Electronics & Photonics>, **Select Fee Type**- <Others Fee>, **Select Payment Type**- <Registration Fee (FDP VLSI)>. Then Click Payment button and proceed for payment

Target Participants

This FDP is intended for training and education of faculties / Guest facilities / Research Scholars / PG Students / Industry Professionals.

Accommodation

Accommodation will be provided on the paid basis.

Venue Details

Venue

Pandit Ravishankar Shukla University, Raipur, Chhattisgarh, India

Weather Information

Raipur is the capital city of the developing state Chhattisgarh. Raipur has a tropical wet and dry climate. Summer season started by the mid of March, with temperature between 27-35 degree Celsius. Light clothing might be necessary.

How to Reach Raipur

Raipur is well connected by Air/ Rail/Road Transport, and situated on the Mumbai-Nagpur-Howrah route of the Indian Railways. It has connection of Air with direct flight from New Delhi, Mumbai, Kolkata, Bhubaneswar, Bhopal, Indore Hyderabad, Bangalore and Nagpur.

How to reach at Pt. Ravishankar Shukla University, Raipur?

Google Map Assistant

<https://maps.app.goo.gl/ZUUYKE6PQKi34jyx5>

The area where university is situated is called 'AAMA-NAKA'.

From Raipur Railway Station Railway station is approx 05 kms away from the University. Prepaid Autos available at Railway Station with the fare around Rs 80/-. Raipur City Buses are also regularly plying from Railway Station to Aama-Naka, Pt. Ravishankar Shukla University.

From Raipur Airport (MAANA)

Raipur Airport is situated at Maana, south of Raipur City, 18 kms from the University.

Private taxi service is available from the airport. The fare is~ Rs. 350/- from the airport to University campus.

Raipur City Buses are also available from outside the Airport. Bus Route will be from Airport to Ghadi-chowk and then from Ghadi-chowk to University/ Aamanaka. The fare is about Rs. 20 per head.

International Advisory Committee

Sh. Shreyas Kumar Patel	Sr. Engineer Net Scout, USA (Fellow Member IEEE and Distinguished Fellow ISVE)
Prof. Samuel Tensingh	Ph.D Candidate, Sydney, New South Wales, Australia & Distinguished fellow ISVE

National Advisory Committee

Prof. Sachidanand Shukla	Vice-Chancellor, PRSU, Raipur, India
Prof. Bhartendu K Singh	Director, IIITDM, Jabalpur, India
Prof. Dilip Kumar Yadav	Professor, Dept. of CSE, NIT, Jamshedpur, India
Prof. Aparajita Ojha	Chief Investigator, E&ICT Academy (Phase II), PDPM, IIITDM, Jabalpur, India
Prof. Prashant Sharma	Assistant Professor, Dept of ECE, IIITDM Jabalpur, India
Prof. Kavita Thakur	S.o.S in Electronics and Photonics, PRSU, Raipur, India
Prof. Arti Parganiha	Director, IQAC, PRSU, Raipur, India
Prof. Sanjay Kumar	CSE Department, PRSU, Raipur, India
Prof. Vijay Nath	VLSI Design Group, Dept of ECE, BIT Mesra, Ranchi, India
Prof. Adesh Kumar	Dept. of ECE, UPES University, Dehradun, India
Prof. Rahul Priyadarshi	Faculty of Engineering and Technology, ITER, SoA University, Bhubaneswar, India
Prof. B. Acharya	Dept. of CSE, NIT, Raipur, India
Prof. Honey Durga Prasad Tiwari	Chief Technical Officer, INKOR Technologies Pvt. Ltd., Raipur, India

Local Organizing Committee

Prof. V. K. Patle	CSE Department, PRSU, Raipur, India
Dr. Prafulla Vyas	Assistant Professor, Disha College, Raipur, India
Dr. Swagota Bera	Guest Faculty, S.o.S in Electronics and Photonics, PRSU, Raipur, India