

## Contents

- Basic of single stage amplifiers and its biasing
- Multistage and differential amplifier design
- Frequency response of amplifiers
- Feedback in amplifiers
- Bandgap references
- PLL
- **Hands-on**
  - Introduction to commercial EDA tools
  - Design and simulation of a 2 stage operational transconductance amplifier
  - Layout design techniques
  - Parasitic extraction
  - Post layout simulation

### Contact:

For queries related to accommodation:

**Mr. Ravi Dubey**

Contact No.: 9893112942/8651976428

For queries related to registration:

Email: [piapqemeity@iitg.ac.in/](mailto:piapqemeity@iitg.ac.in)  
[ninelabsIIT@gmail.com](mailto:ninelabsIIT@gmail.com)

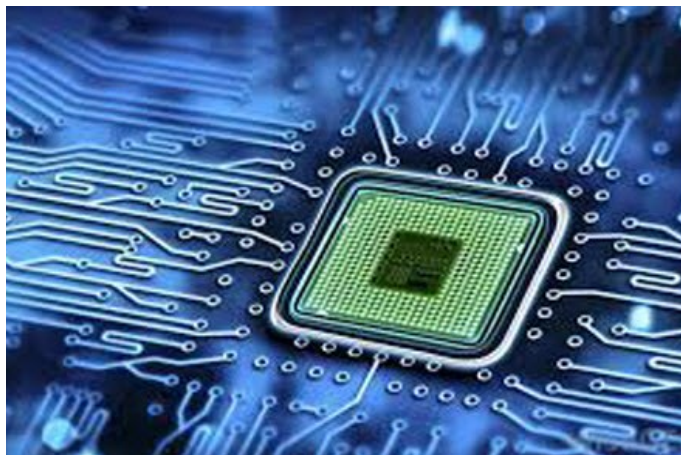
Landline No.:0361-258-3182

Time to contact : 9.00 AM to 6.00 PM



## Objective

The objective of this workshop is typically to impart practical knowledge and skills related to designing, analyzing, and troubleshooting analog electronic circuits. Participants would be able to learn fundamental concepts, circuit topologies and techniques to design circuit from Schematic to GDS-II .



**IIT Guwahati**  
in association with  
**Ministry of Electronics and Information  
Technology**



## **Workshop on** **“Insights to the Art of Analog Design”**

12<sup>th</sup> – 16<sup>th</sup> Feb 2024  
Conference Hall 3,  
Indian Institute of Technology Guwahati  
Guwahati - 781039, Assam, India

**Organized by**

**“NINE Labs, IIT Guwahati”**

**Website:**

[https://www.iitg.ac.in/proj/ninelabs/  
analogworkshop/index.html](https://www.iitg.ac.in/proj/ninelabs/analogworkshop/index.html)

## Tentative Speakers

### Keynote Speaker

**Ms. Sunita Verma**

Scientist-G, Meity

### Invited Speakers

Prof. Anand Bulusu, IIT Roorkee

Dr. Vinayak Hande, Infineon Tech.,  
Austria

Mr. Nishit Gupta, Scientist-E, MeitY

Dr. Sharayu Jagtap, TUSK IC, Belgium

## Outcomes

The workshop on Commercial EDA Design tool for Analog Design, is organized to bring together researchers, developers, and users to discuss advancements, share knowledge, and collaborate on commercial tools for chip design. After completion of this workshop, participants would be able to design analog circuits through VLSI backend flow.

## Who can apply?

Students, researchers, faculty members and industry professionals working in the domain of Analog VLSI Design

**Participants willing to attend the workshop in the offline mode need to register as early as possible to get on-campus hostel accommodation.**

### HOW TO APPLY ?

**Fees: Student/Research Scholar/Other: Rs. 500**

**Faculty Member/Industry professional: Rs.1000**

#### For NEFT:

Bank Name: State Bank of India

A/C Name: IIT Guwahati (R&D)

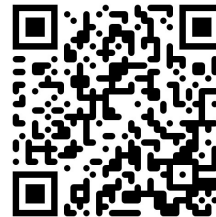
Account No.: 36071160089

IFSC Code: SBIN0014262

**Reg. Link:** <https://forms.gle/GNYfo2nGmr1S1E6X9>

**Note: Participants have to submit UTR No. as the proof of payment while registering to the workshop.**

Form QR code



## DETAILS

**Workshop Duration: 5 Days**

**Last Date: 10<sup>th</sup> Feb 2024**

Workshop Mode: Hybrid (Online + Offline)

It is recommended that participants should carry their own laptop having min. 08 GB RAM and Core i3 Processor

**Accommodation and food would be made available only for the offline participants.**

## Organizing Committee

Prof. Mahima Arrawatia (Convenor)

Prof. Harshal B. Nemade (Co-Convenor)

Prof. Gaurav Trivedi (Co-Convenor)

Prof. Aryabartta Sahu

Prof. Prithwjit Guha

Prof. S. Krishnaswamy

Prof. H. S. Shekhawat

Prof. Pratima Agarwal

Prof. John Jose

Prof. Rohit Sinha

Prof. Sukumar Nandi

## Volunteers

Rupali Jarwal

Feroza Haque

Naorem Yaipharenba Meitei

Shailesh Chandra Pandey

Tina Susan Thomas

Yogesh Aggarwal

Akshay Dandekar

Vimalesh Chaurasiya

Akash Dev Roshan

Bipul Boro

S.S.P. Goswami

Aditi Chakraborty

Amol Boke

Nilutpal Changkakati

Vikash Prasad

Raktim Choudhury

Rushik Parmar

Andrew Roobert

Sudha Kumari

Abhyuday Bhardwaj

Saras Mani Mishra

Parmita Roy

Subhadip Poria

Nitin M.

Sachin Kumar