



PDPM IIITDM Jabalpur

E&ICT Academy, PDPM IIITDM Jabalpur

Online Winter Faculty Development Programme Intricacies of Analog & Mixed Signal design

February 17 - 28, 2025 : Online live streaming

Jointly Organized by

NIT Warangal



IIITDM Jabalpur



IIT Roorkee



NIT Patna



IIT Guwahati



MNIT Jaipur



Schedule and Course Contents

[February 17 - 28, 2025, 4:00 PM to 8:00 PM]

- Basic MOS Device Physics
- Amplifiers- differential amplifiers, frequency response of amplifiers- common source/gate, Cascode, CMRR, Gilbert cell, Miller effect
- Noise in amplifiers, current mirrors
- OpAmp- multistage, OTA, stability & frequency compensation
- Sample and Hold Circuits: Basic S/H circuit, effect of charge injection, compensating for charge injection, bias dependency, bias independent S/H.
- D/A Converter: – General considerations, Static non-idealities and Dynamic non-idealities; Current-steering DAC – Binary weighted DAC, Thermometer DAC, Design issues, Effect of Mismatches.
- A/D converter: – General considerations, static and dynamic non-idealities. Flash ADC – Basic architecture, Design issues, Comparator and Latch, Effect of non-idealities Interpolative and Folding architectures. Successive Approximation ADC; Pipeline ADC. Over sampling ADC – Noise shaping, Sigma-Delta modulator.
- PLLs: Basic Phase-Locked Loop Architecture, Voltage Controlled Oscillator, Divider Phase Detector, Loop Filter, The PLL in Lock, Liberalized Small-Signal Analysis, Second-Order PLL Model, Limitations of the Second-Order Small Signal Model, PLL Design Example

Coordinators

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RESOURCE PERSONS

- Prof. Sreehari rao patri, NIT Warangal
- Prof Gjendranadh, IIT Hyderabad
- Prof Saurabh Saxena, IIT Madras
- Prof Kapil Jainwal, IIT Hyderabad
- Dr Chitra IIT Kanpur
- Prof Nagendra IIT Madras

Registration Details

Registration link – Please fill in the registration form using the following link:

<https://forms.gle/gUARQTYGiBWcoDNv5>

Registration fee: INR 500/-

Last Date for Registration: February 13, 2025

Online payment details:

- Internet banking

Beneficiary Name: PDPM IIITDM Jabalpur

Bank Name: INDIAN BANK

A/C No. : 50018692852

IFSC Code: IDIB000M694

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