NeosChip Semiconductors
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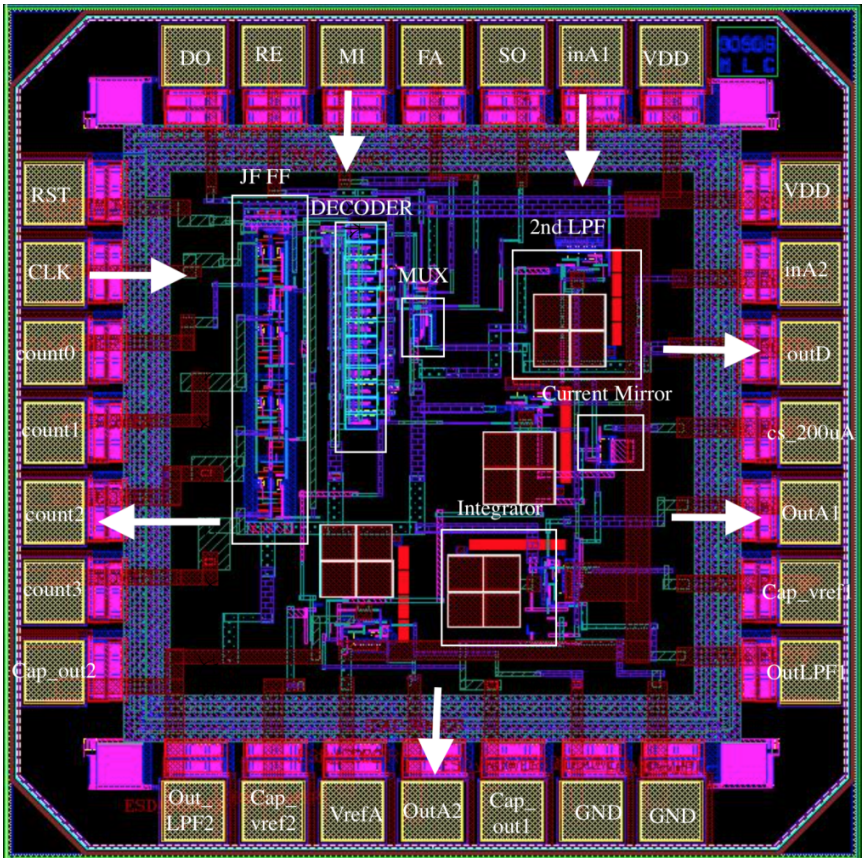
#11, 1st Floor, JCR Tower, Anatha Ram Reddy Layout, Marathalli, Bangalore, KA-560037

ADVANCED VLSI COURSE IN ANALOG CIRCUIT DESIGN

Course covers all advanced topics as prescribed by industry requirements



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COURSE SYLLABUS

In this course we use 180nm, 90nm, 45nm and 28nm, 14nm, 10nm technology nodes.

All modules are covered in details from basic to advanced topics with practical implementations.

Module 1: Device Basics.

- Refreshing MOS basics.
- Circuit Design Tool Flow Introduction.
- MOS Device Characterization using simulation.

Module 2: Analog Circuit Basics

- Design of Single Ended MOS Amplifiers.
- Common Source (CS) Amplifier Design for various design parameters
- Identify practical difficulties and constraints. (Size, power, etc)
- Introduction to other Single Ended Amplifiers.

Module 3: Analog Circuit Basics

- Design of Differential Amplifiers.
- Extended CS Amplifier concept to differential amp
- Understanding common mode and differential signalling
- Design and identify usage and importance of differential amplifier

Module 4: Analog Building Blocks

- Design and Verification of OTA/Operational Amplifier.
- Build the design based learning of CS amplifier and Diff Amp
- Understand application of OTA/OpAmp in various system designs.

Module 5: Analog Building Blocks

- Design and Verification of Band gap reference

Module 6: Analog Building Blocks

- Design and Verification of Analog Comparator
- Apply the learning of OTA, diff amp etc. and build an analog comparator
- Understand various architectures and limitations of comparator
- Understand applications of comparator in various Analog Designs (like ADC)

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Module 7: Analog Building Blocks

- Design and Verification of Oscillator Circuit
- Learn designing a ring based voltage controlled oscillator
- Understand limitations and advantage of each architecture.
- Understand usage of VCO in PLL

Module 8: (Project Work)

- Introduction to Analog IP/Module using Analog Building blocks
- Project work on selected design/topic

Prerequisites:

With Electronics major subject in B.E/B.Tech/M.E/M.Tech, atleast 60% throughout academic career Basic knowledge in Verilog/VHDL Good knowledge on Digital design Good knowledge on any Microcontroller/Processor architectures Good logical & analytical ability

Admission procedure:

Selection based on written test and personal Interviews for eligible interested Candidates. Syllabus for written test covers Digital logic design, Processor architecture, and Analytical and Logical questions. Please walkin/mail/call us to schedule for written test & personal interview. Outstanding performers will get special concessions in Fees. Working VLSI/Software professionals will get direct admissions.

Grading & Certifications

All the participants who fulfilled course assignments, projects, topic wise exams would be awarded with Course completion Certification

Placement Assistance

All the eligible candidates who have fulfilled requirements of the course will be given 100% placement assistance.

Duration:

4 months full time regular weekly & weekend batches

Course Fees:

99,000/-