



Koneru Lakshmaiah Education Foundation

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Campus: Green Fields, Vaddeswaram - 522 302, Guntur District, Andhra Pradesh, INDIA.

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Ref: KLEF/RO/ECE/CIRCULAR

Date: 11-02-2018

CIRCULAR

Sub: Organizing event "Workshop" for the students of Electronics and Communication Engineering, of Vaddeswaram Campus of KLEF – Reg.

This is to inform that the Department of Electronics and Communication Engineering, KLEF, is Organizing a "Workshop on Analog VLSI Design: Principles and Applications" for the students of Electronics and communication Engineering, Vaddeswaram Campus of KLEF on, 13-02-2019, as details below:

Event Name: "Workshop"

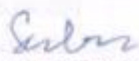
Date: 13-02-2019

Venue: R-106

All the students of ECE, are invited to attend this program.

Dy-HOD's & Year coordinators are requested to bring this information to the attention of all ECE students and encourage them to participate in this program.

To
All ECE Students,
All ECE Faculty,
Principal.


HOD-ECE
Professor & Alternate HOD
Department of ECE
K L University
VADDESARAM
Guntur Dt., A.P., India.



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A One-Day Workshop On “Analog VLSI Design: Principles and Applications”

By

Always@VLSI

Department Of ECE

Name of the event: Analog VLSI Design: Principles and Applications

Dates: 13-02-2019

Venue: R106

No. of students participated: 37

Objective of the event:

The objective of the workshop "Analog VLSI Design: Principles and Applications" is to provide participants with a comprehensive understanding of the fundamental principles and practical applications of analog Very Large Scale Integration (VLSI) design. The specific objectives include: Understanding Analog Design Fundamentals: Provide participants with a solid foundation in the fundamental principles of analog VLSI design, including transistor-level circuit design, analog signal processing, and system-level considerations.

Mastery of Design Techniques: Familiarize participants with a range of analog design techniques, such as amplifier design, filter design, data conversion circuits, and analog-to-digital (ADC) and digital-to-analog (DAC) converters, enabling them to design high-performance analog circuits for various applications. Tools and Simulation: Introduce participants to simulation tools and software commonly used in analog VLSI design, such as SPICE (Simulation Program with Integrated Circuit Emphasis), Cadence Virtuoso, and MATLAB/Simulink, enabling them to simulate, analyze, and validate analog circuits effectively.

Circuit Optimization: Teach participants how to optimize analog circuits for performance, power, area, and robustness, considering factors such as noise, linearity, bandwidth, and power consumption, to meet design specifications and requirements.
Noise Analysis and Mitigation: Enable participants to analyze noise sources in analog circuits and develop strategies for noise mitigation, including layout techniques, filtering, and noise-canceling architectures, to improve signal integrity and reliability.
Design for Testability: Discuss techniques for designing analog circuits with built-in testability features, such as test points, self-test circuits, and fault detection mechanisms, to facilitate testing and debugging during the manufacturing and prototyping stages.

Mixed-Signal Integration: Explore methods for integrating analog and digital components on the same chip, including mixed-signal design considerations, interface circuits, and analog-digital co-design techniques, to realize complex system-on-chip (SoC) solutions.
Real-World Applications: Present real-world applications of analog VLSI design in areas such as audio processing, wireless communication, sensor interfaces, power management, and biomedical electronics, allowing participants to understand the practical relevance and impact of analog design in various domains.

Overall, the workshop aims to empower participants with the knowledge, skills, and tools necessary to excel in analog VLSI design, enabling them to design innovative, high-performance analog circuits for a wide range of applications and industries. Whether participants are new to analog design or seasoned professionals, this workshop offers valuable insights and practical guidance to enhance their expertise

Description of the event:

The workshop "Analog VLSI Design: Principles and Applications" is a comprehensive program designed to explore the fundamental principles, advanced techniques, and practical applications of analog Very Large Scale Integration (VLSI) design. Analog circuits play a crucial role in a wide range of electronic devices, from consumer electronics to medical devices, and mastering analog VLSI design is essential for developing high-performance integrated circuits. Throughout the workshop, participants will engage in a series of interactive sessions, lectures, demonstrations, and hands-on exercises led by industry experts and experienced practitioners. The workshop will cover a diverse range of topics, including transistor-level circuit design, analog signal processing, system-level considerations, and practical applications of analog VLSI design.

Key components of the workshop include:

Fundamentals of Analog Design: Participants will gain a solid understanding of the fundamental principles of analog VLSI design, including transistor-level circuit design, analog signal processing techniques, and system-level considerations such as noise, linearity, and bandwidth.
Design Techniques and Methodologies: An exploration of various analog design techniques and methodologies will be conducted, including amplifier design, filter design, data conversion circuits, and analog-to-digital (ADC) and digital-to-analog (DAC) converters.
Simulation Tools and Software: Familiarization with simulation tools and software commonly used in analog VLSI design, such as SPICE (Simulation Program with Integrated Circuit Emphasis), Cadence Virtuoso, and MATLAB/Simulink, will be provided, enabling participants to simulate, analyze, and validate analog circuits effectively.
Circuit Optimization: Techniques for optimizing analog circuits for performance, power, area, and robustness will be discussed, considering factors such as noise, linearity, bandwidth, and power consumption, to meet design specifications and requirements.

Noise Analysis and Mitigation: Participants will learn how to analyze noise sources in analog circuits and develop strategies for noise mitigation, including layout techniques, filtering, and noise-canceling architectures, to improve signal integrity and reliability.
Mixed-Signal Integration: Exploration of methods for integrating analog and digital components on the same chip, including mixed-signal design considerations, interface circuits, and analog-digital co-design techniques, to realize complex system-on-chip (SoC) solutions.
Real-World Applications: Presentation of real-world applications of analog VLSI design in areas such as audio processing, wireless communication, sensor interfaces, power management, and biomedical electronics, allowing participants to understand the practical relevance and impact of analog design in various domains.
Case Studies and Best Practices: Real-world case studies and industry best practices in analog VLSI design will be presented, allowing participants to gain practical insights into successful design implementations and learn from real-world examples.
By the end of the workshop, participants will emerge with a comprehensive understanding of analog VLSI design principles and applications, equipped with the knowledge, skills, and tools necessary to design innovative, high-performance analog circuits for a wide range of applications and industries. Whether participants are new to analog design

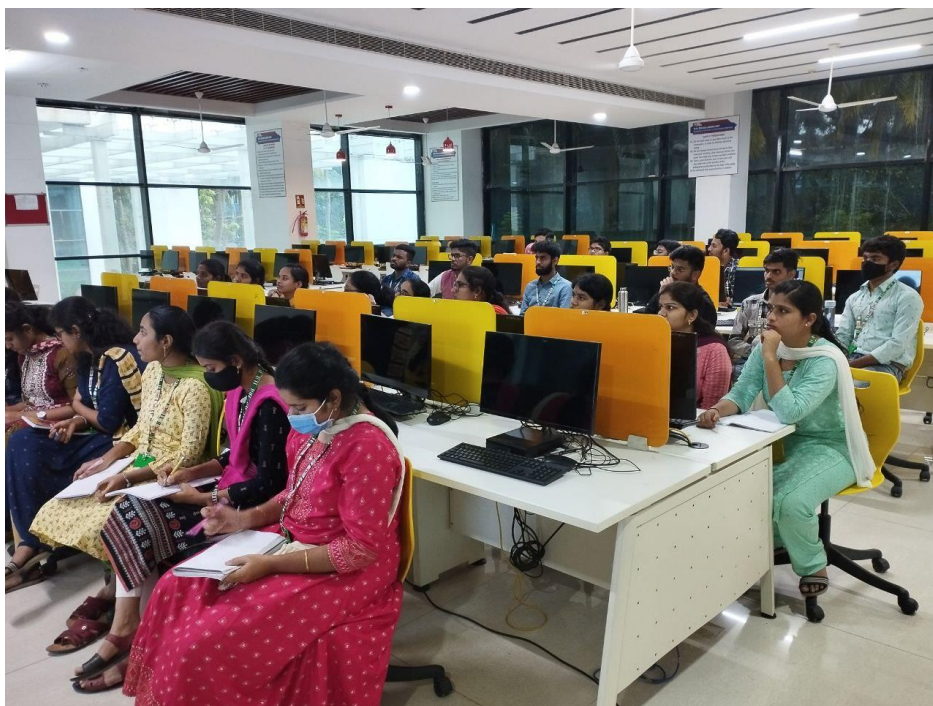
or seasoned professionals, this workshop offers valuable insights and practical guidance to enhance their expertise in analog VLSI design.

Outcome of the event:

Deepened Understanding: Participants will gain a thorough understanding of the fundamental principles, advanced techniques, and practical applications of analog Very Large Scale Integration (VLSI) design, enabling them to approach circuit design with greater insight and proficiency.
Mastery of Design Techniques: Attendees will become proficient in a variety of analog design techniques, including transistor-level circuit design, amplifier design, filter design, data conversion circuits, and analog-to-digital (ADC) and digital-to-analog (DAC) converters, allowing them to design high-performance analog circuits for various applications.

Familiarity with Tools and Software: Participants will be familiarized with simulation tools and software commonly used in analog VLSI design, such as SPICE (Simulation Program with Integrated Circuit Emphasis), Cadence Virtuoso, and MATLAB/Simulink, empowering them to simulate, analyze, and validate analog circuits effectively.
Optimized Circuit Design: Through hands-on exercises and case studies, participants will learn how to optimize analog circuits for performance, power, area, and robustness, considering factors such as noise, linearity, bandwidth, and power consumption, to meet design specifications and requirements.

Photos of the event:





Faculty explaining to Students about analog circuits design and simulation

Participant's List:

S.NO	ID.NO	NAME	BRANCH	SIGNATURE
1.	160041017	VINJAMURI PAVAN KUMAR	ECE	Pavan Kumar
2.	160041010	KOLLIPARA SAI SREE ROHINI	ECE	Rohini
3.	160041008	KANKANAMPATI MANISHA	ECE	Manisha
4.	160041006	JANGA SATYA RISHI TEJA	ECE	J. Rishi Teja
5.	160040996	KONAKALLA GEETHA SREE	ECE	Geetha
6.	160040989	YEDDULA JITENDRA REDDY	ECE	Y. Jitendra Reddy
7.	160040976	YADAVALLI SUNDAR SAI	ECE	Sundar Sai
8.	160040975	YACHAMANENI TANMAYEE	ECE	Tanmayee
9.	160040939	VEERA LOHIT K	ECE	V. K. Lohith
10.	160040925	SIVA PRUDHVISH VALIVETI	ECE	Prudhvi
11.	160040922	VALE TARUN KUMAR	ECE	Tarun Kumar
12.	160040921	VAKALAPUDI SAI RAJESH	ECE	Rajesh
13.	160040920	VADLAMUDI VENKATA	ECE	Venkata
14.	160040916	VADDEVALLI PAVAN	ECE	Pavan
15.	160040910	KOTI REDDY UPELA	ECE	Upeela
16.	160040909	UPPALAPATI CHANDU	ECE	Chandu
17.	160040904	U. TUMPUDI NIKHILESH	ECE	Nikhil
18.	160040895	R. THUMMURU	ECE	Thummuru
19.	160040894	D. PRASANTH KUMAR	ECE	D. Prasant Kumar
20.	160040891	MADHUSUDHAN	ECE	Madhusudhan
21.	160040890	ABHISHEK THOTAKURA	ECE	Abhishek
22.	160040885	THOPURI CHANAKYA	ECE	Chanakya
23.	160040884	THOMMANDRU JAYARAM	ECE	Jayaram
24.	160040883	THIRUMALASETTY BALAJI	ECE	Balaji
25.	160040859	SURI KAVYA	ECE	Kavya
26.	160040858	NARENDRA SURARAPU	ECE	Narendra
27.	160040854	SUNKAVALLI SURYA TEJA	ECE	Surya Teja
28.	160040841	SOMU VENKATASAINIKHIL	ECE	Nikhil
29.	160040840	SOMIREDDY JAYA SAI SRI	ECE	S. Jaya Sai Sri
30.	160040830	SHAKAMURI MEGHANA	ECE	S. Meghana
31.	160040829	SHAIK YASWANTH BASHA	ECE	Yashwanth Basha
32.	160041058	KANNAGANTI PAVAN	ECE	Pavan
33.	160041035	JADDU JAYASAI KISHORE	ECE	Jayasai
34.	160041022	GORRIPATI DIVYA SAI TEJA	ECE	G. Sai Teja
35.	160041019	KIRIGADALA RUDREGOWDA	ECE	Rudregowda
36.	160040963	VENKATA SAI AJAY	ECE	V. Sai Ajay
37.	160040948	VELLATURI VENKATA	ECE	Venkata

S. Vaini

In charge

Always@VLSI Technical Club

S. Suba

HOD-ECE

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K L University
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