

REPORT

Recent Trends in VLSI Chip/ Devices for Sensor Applications

Date: 08-11-2022, koneru lakshmaiah education foundation (deemed to be university)

Recent Trends in VLSI Chip/ Devices for Sensor Applications

VLSI chip/ Devices for sensor applications, AICTE sponsored FDP was conducted from 26th September to 1st October 2022 in Online mode, 26th October to 1st November 2022 in offline in whicharound 50 participants from different parts of the country participated.

The speakers for the Two week FDP "Recent Advancements in VLSI Chip/ Devices for Sensor Applications" were:

ON-Line Speakers

Dr. Koushik Guha Assoc. Prof, NIT Silchar



Education

- Ph.D.: National Institute of Technology Silchar, Assam, India, 2016
- M.Tech.: Burdwan University, West Bengal, India, 2007
- B.Tech.: West Bengal University of Technology, Kolkata, India, 2005

Experience

- 06 July 2022 to present: Associate Professor, National Institute of Technology Silchar01 Jun 2018 to 06 July 2022: Assistant Professor Grade-I, National Institute of Technology Silchar.
- Jun 2010 to 31 May 2018: Assistant Professor Grade-II, National Institute of Technology
- 27 Aug 2007 to 14 Jun 2010: Lecturer, Haldia Institute of Technology, Department of Electronics and Communication Engineering, W. B, India.
- 2005 2007 Software Engineer, IBM India Pvt Ltd

Dr Balwinder Raj, Assoc. Prof NITTTR Chandighard.



Education

Postdoc-2011 VLSI Design (University of Rome, Italy)
Ph.D-2010 Microelectronics and VLSI Design (IIT Roorkee)
M.Tech-2006 Microelectronics (Panjab University Chandigarh)
B.Tech-2004 Electronics Engineering (Punjab Technical University)

Experience

2019 - Present: Associate Professor. ECE, NIT, Chandigarh

2012 – 2019:Assistant Professor ECE
 Dr B R Ambedkar National Institute of Technology, Jalandhar
 2011 – 2012:Assistant Professor

ABV-Indian Institute of Information Technology and Management, Gwalior

Dr.K.Srinivas Rao, KL University



Education

- Ph.D.Central University,2009
- M.Tech BITS Pilani, 2006

Experience

- April 2015 present: Professor, EceDept KLEF
- February 2010 March 2015 :Professor & HOD, EIE <u>Lakireddy Bali</u> <u>Reddy College of Engineering</u>.
- July 2006 June 2009: Assistant Professor Assam University.

Dr.Suman lata Tripathi.professor lovely professional university.punjab.



Education

- **Ph.D**. in the area of microelectronics and VLSI from MNNIT, Allahabad.2015
- M.Tech UP Technical University, 2010

Experience

- Jan 2019 present: Professor lovely professional university.punjab
- Jan 2017 Jan 2019 : Assistant Professor , lovely professional university.punjab

Dr. Y.Naresh, Malla Reddy University.



Education

TECH: SV University 2014 M.TECH:JNTUK 2016 PHD:KLEF 2018

Experience

Jan 2017 - present: : Assistant Professor , Malla Reddy University

Dr.Keethi Assoc Professor, JNTUH



EDUCATION

B.Tech: - Electronics and Communication Engineering, Malla Reddy College of Engineering For Women-Suraram, Hyderabad 2014.

M.Tech: - VLSI System Design, BVRaju Institute of Technology, Narsapur 2016

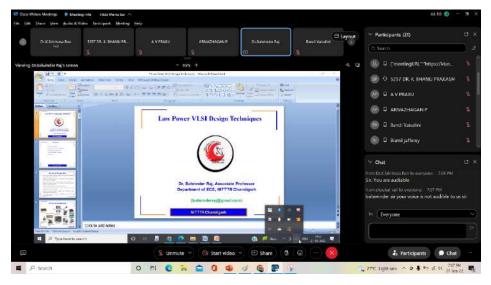
EXPERIENCE

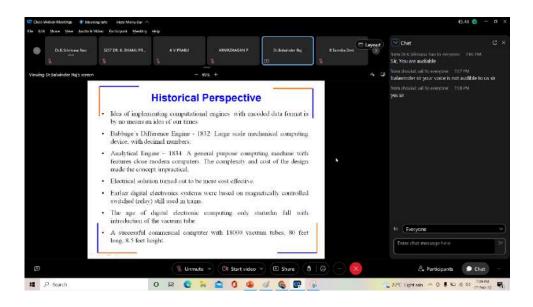
2017-present: Dr.Keethi Assoc Professor, JNTUH

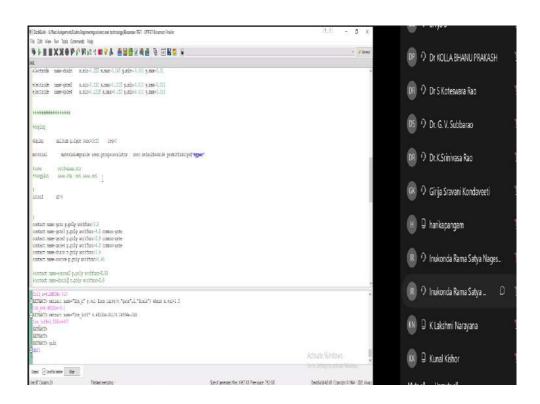
Online Schedule:

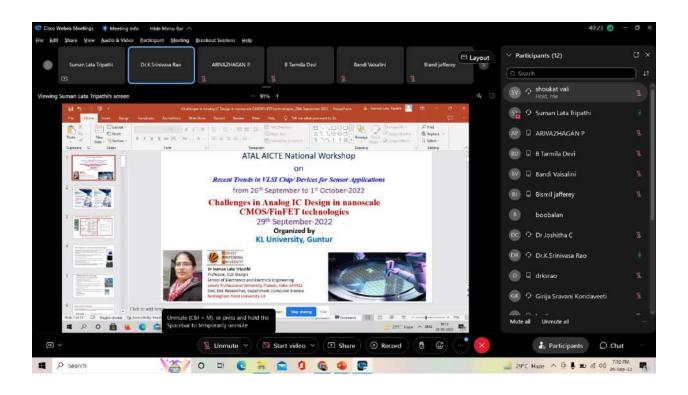
DATE	SPEKER	TITLE
26-08.2022	Dr. Koushik Guha	Recent Trends in CMOS, Emerging Devices and Technology in
	Assoc. Prof, NIT Silchar	VLSI Design for Biomedical Applications
27-08.2022	Dr.Balawindar Rai, NITTTR	TFET Devices for Bio-Sensor Applications
	Chandigarh	
28-08.2022	Dr.K.Srinivasa Rao, KL	Charge-Plasma FET and State of the Art Advanced
	University	Semiconductor Devices
29-08.2022	Dr.Suman Latha Tripathy, LPU	Hands-On Session
		TCAD Tools for Device Simulation
30-08.2022	Dr. Y.Naresh, Malla Reddy	Non classical CMOS devices such as Junction-less FET
	University	
	Malla Reddy University	
1-09.2022	Dr.Keethi	TCAD Tool for TFET Device Simulation-Hands on Training
	Assoc Professor, JNTUH	

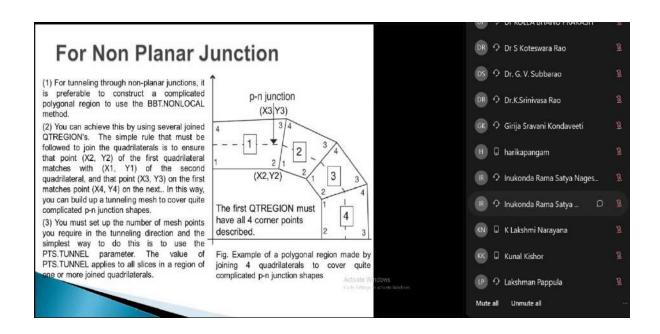
Some screenshots of the are as below.











OFF-LINE SPEAKERS:

Prof. Ramesh Vaddi, Associate Professor & HoD, SRM University, Andhra Pradesh



Education PHD:2011 IIT Roorkee

M.Tech: 2004 MANIT Bhopal.

BTech: 2002MVGR College of Engg, Vizianagaram, JNTU Hyderabad

Experience

- 06/2019- Till Date, Associate Professor, Electronics and Communication Engineering | Department, School of Engineering and Applied Sciences, SRM University, Amaravati, Guntur, AP, India
- 06/2018- 05/2019, Senior Research Fellow, School of Computing, National University of Singapore, Singapore.
- 6/2015-05/2018, Assistant Professor, Electronics and Communication Engineering, DSPM International Institute of Information Technology-Naya Rapur Chhattisgarh, India.
- 1/2014-06/2015, Assistant Professor, Electrical Engineering Department, School of Engineering, Shiv Nadar University, Greater Noida, UP, India.
- 2/2013- 08/2013, Postdoc Scholar, Department of Computer Science and Engineering, The Pennsylvania State University, University Park, PA, USA.
- 6/2012-1/2013, Professor, Electronics and Communication Engineering Department, Padmasri Dr. B. V. Raju Institute of Technology (BVRIT), Hyderabad, India.
- 2/2011-4/2012, Postdoctoral Research Fellow, VIRTUS (IC Design Centre of Excellence), Circuits and Systems Division, School of Electrical and Electronic Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore.
- 8/2005-12/2007, Assistant Professor, Electronics and Communication Engineering Department, College of Engg, GITAM University, Vizag, India.
- 7/2004-8/2005, Lecturer (Ad-hoc), Electronics and Communication Engineering Department, Maulana Azad National Institute of Technology, Bhopal, India

Dr.Ch.Pulla Rao, Associate Professor, JNTU K



Education
PHD:JntuK
Mtech:NIT Warangal.
BTech:AMIETE

Experience

May 2015 – Present: Head of the Department ECEHead of the Department ECE

Devineni Venkata Ramana & Dr. Hima Sekhar MIC College of Technology.

May 2010 - May 2015: Assistant ProfessorAssistant Professor Lakireddy Bali Reddy College of Engineering

Dr. Deepak Kumar Panda, Associate Professor, , School of Electronics and Engineering, VIT-AP.



Education

PHD:2018 NIT,Silchar. M.Tech: 2014 IIT Kharakpur. B.Tech: (NIST), Berhampur

Experience

Jul 2010 - Jul 2014: Assistant ProfessorAssistant Professor National Institute of Science and Technology (NIST), Berhampur · Full-time.

May 2018 – Present:Associate Professor VIT-AP · Full-time

Dr.A.Narendra Babu, LBRCE, JNTU Kakinada



EDUCATION

PhD: SV University,2008. PG: SV University,2001.

EXPERIENCE

31-08- 09-present:Professor, LBRCE.

01-07- 2002- 31-08- 2007: Teaching Assistant, SV University.

Dr. Neerai Kumar Misra Associate Professor (SENSE). Vellore Institute of Technology (VIT)-AP



EDUCATION

PHD: Dr. A.P.J. Abdul Kalam Technical University: Lucknow, Uttar

Pradesh, IN ,2017.

M.Tech:Amity ,Lucknow.

BTECH: Integral University: Lucknow, Uttar Pradesh, IN

EXPERIENCE

Jun 2022 - Present: Associate Professor VIT-AP ·

Jan 2018 - May 2022: Associate Professor

Bharat Institute of Engineering & Technology

Jul 2017 - Jan 2018 : Associate Professor

Bharat Institute of Engineering & Technology

Pranitha, Assoc Professor, JNTU Kakinada



EDUCATION

Pursuing Ph.D in K.L. University, Guntur, Andhra Pradesh M.Tech - CSE from JNTUK, Kakinada in 2014. MSc - CSE from S.V. University, Tirupathi in 2002.

EXPERIENCE

2017 – Present- **Assistant Professor** CSE Lakireddy Bali Reddy College of Engineering (Autonomous).

Dr. G. Amarnath, Associate Professor & Associate Dean (R&D)ECE. Marri Laxman Reddy Institute of Technology and Management, Hyderabad



EDUCATION

Ph.D. degree in Microelectronics and VLSI(ECE) in Feb-2019 from NIT-Silchar, India.

M.Tech. degree in VLSI System Design in 2009

B.Tech. degree in ECE in 2007, from Jawaharlal Nehru Technological University, Hyderabad

EXPERIENCE

2019-present: Associate Professor & Associate Dean (R&D)
Department of Electronics & Communication Engineering
Marri Laxman Reddy Institute of Technology and Management,
Hyderabad

Dr.Y Naresh, ML University



EDUCATION

B.TECH: SV University 2014 M.TECH:JNTUK 2016 PHD:KLEF 2018

EXPERIENCE

2017-preaent:Associate professor BVC.

Dr.Keethi Assoc Professor, JNTUH



EDUCATION

B.Tech: - Electronics and Communication Engineering, Malla Reddy College of Engineering For Women-Suraram, Hyderabad 2014.

 ${f M.Tech:}$ - VLSI System Design, BVRaju Institute of Technology, Narsapur 2016

EXPERIENCE

2017-present: Dr.Keethi Assoc Professor, JNTUH

OFF line Schedule:

DATE	SESSION	SPEKER	TITLE
26-09.2022	FN	Prof. Ramesh Vaddi	Nano Scale Devices and Circuits For Energy
		Associate Professor &	Efficient On-chip VLSI Accelerators for ML
		HoD,	and Hardware Security Primitives
		SRM University, AP.	
26-09.2022	AN	Dr.Ch.Pulla Rao,	Future roadmap Electronics Industry and Recent
		Associate Professor ,	developments of semiconductor nanoscale devices
		JNTU K	
27-09.2022	FN	Dr.Deepak Kumar	TFET based Biosensor for Label-Free Detection of
		Panda	Biomolecules
		Associate Professor,	
		School of Electronics	
		and Engineering,	
		VIT-AP	
27-09.2022	AN	Dr.A.Narendra Babu	Charge-Plasma FET and State of the Art Advanced
		LBRCE, JNTU Kakinada	Semiconductor Devices for VLSI design automation
28-09.2022	FN	Dr. Neeraj Kumar	Computing and Architecture Beyond CMOS for the
		Misra	Future Electronics Roadmap
		Associate Professor	
		School of Electronics	
		Engineering (SENSE),	
		Vellore Institute of	
		Technology (VIT)-AP	
28-09.2022	AN	Dr.Pranitha	Semiconductor devices and Engineering solutions towards
		Assoc Professor, JNTU	Industry Needs
		Kakinada	
29-09.2022	FN	Dr. G. Amarnath,	GaN HEMTs and its Modeling for RF and
		Associate Professor &	Power Electronic Aplications
		Associate Dean (R&D)	
		Department of	
		Electronics &	
		Communication	
		Engineering	
		Marri Laxman Reddy	
		Institute of Technology	
		and Management,	
		Hyderabad	
29-09.2022	AN	Dr.Y Naresh, ML	"TCAD-Circuit simulation by Synopsys"
		University	

Second one Week OFFLINE Course Sessions ()

Day-1 (26/10/2022)

Session-1: Morning Session: We have called **Dr.Ramesh Vaddi** from **SRM University** for first day morning session and he gave a talk "Nanoscale Devices and Circuits for Energy Efficient on Chip VLSI Accelerators for ML and Hardware Security Primitives".

We have Lunch Session, arranged at SAC, R&D Building Ground Floor for 60+ Members from Department of ECE, HoD, Deans, RPACs, Technical Members etc.

Industrial Visit Session.

Session-2: Afternoon session we have **Dr.Ch.Pulla Rao**, given talk on " **Future roadmap Electronics Industry and Recent developments of semiconductor nanoscale devices**".

Day-2 (27/10/2022)

Session-3: **Dr.Deepak Kumar Panda from VIT University** has given a talk on "**TFET baswed Biosensors for labelfree detection of biomolecules".** He has given clear understanding about TFET devices and its issues and possible solutions.

We have Lunch Session, arranged at SAC, R&D Building Ground Floor for 60+ Members from Department of ECE, HoD, Deans, RPACs, Technical Members etc.

Industrial Visit Session.

Session-4: **Dr.A.Narendra Babu,** LBRCE, JNTU Kakinada has given a talk on "**Charge-Plasma FET** and State of the Art Advanced Semiconductor Devices for VLSI design automation".

Day-3 (28/10/2022)

Session-5: **Dr.Neeraj KUmar Mishra from VIT University** given a talk on "**Computing and Architecture beyond CMOS for the future Electronics rodmap".** She has focus on TFET devices, particularly Charge Plasma FET for Bio-Sensing applications.

We have Lunch Session, arranged at SAC, R&D Building Ground Floor for 60+ Members from Department of ECE, HoD, Deans, RPACs, Technical Memberes etc.

Industrial Visit Session.

Session-6: **Dr.Pranitha, JNTU Kakinada** has given a talk and hands on session "**Semiconductor devices** and **Engineering solutions towards Industry Needs.**

Day-4 (29/10/2022)

Session-7: **Dr.G Amarnath from MLRIT** has given a talk on "**GaN HEMTs and its modeliing for RF and Power Electronic Applications'**". He has talk about present state of all kind of VLSI Chip Devices and its applications.

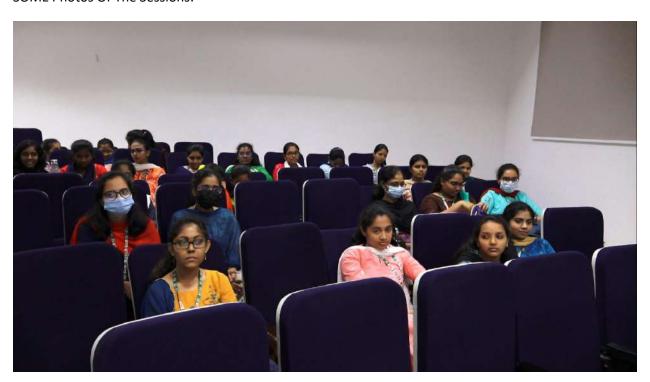
We have Lunch Session, arranged at SAC, R&D Building Ground Floor for 60+ Members from Department of ECE, HoD, Deans, RPACs, Technical Members etc.

Session-8: **Dr.Y Naresh, ML University** has given hands on session "TCAD-Circuit simulation by Synopsys".

Session-9: Last Session is talk given by **Dr.Keethi, JNTUH** on "TCAD Tool for TFET Device Simulation-Hands on Training".

The total number of participants for this workshop is 50 members; they have attended from around the state, few members from out of state too. The organizing committee has done excellent job, without any discrepancy and disturbance in any aspects.. Finally, as Convener Dr.K.Srinivasa Rao and Co-Convenors says vote of thanks to resources, & participants for making the workshop a grand success.

SOME Photos Of The Sessions:



ATAL FDP Program on Recent Trends in VLSI Chip/Devices for Sensor Applications





















Participants:

Name	Application_Number	Institute Name	Designation
		Tirumala Engineering	Assistant
Mrs. Bandi Vaisalini	1649329521	College	Professor
			Post
		Acharya Nagarjuna	graduate
Mr. Shaik Azad Basha	1649329521	University, Guntur	student
			Associate
Dr. B.Balaji	1649329521	Klef	Professor
		Vellore Institute Of	
		Technology -Ap	
		University Amaravati,	Associate
Dr. Neeraj Kumar Misra	1649329521	India	Professor
		Klef (Deemed To Be	Associate
Dr. Lakshman Pappula	1649329521	University)	Professor
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Dr. Suman Lata Tripathi	1649329521	University	Professor
			Associate
Dr. Fazal Noorbasha	1649329521	K L University	Professor
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		Klef (Deemed To Be	
Dr Hari Kishore Kakarla	1649329521	University)	Professor
		Sir Issac Newton	
		College Of Engineering	Assistant
Mr. Arivazhagan P	1649329521	And Technology	Professor
		Velagapudi	
		Ramakrishna	
		Siddhartha Engineering	Assistant
Mr. Meena Nagaraju	1649329521	College	Professor
		Koneru Lakshmaiah	Associate
Dr. Badugu Suresh	1649329521	Education Foundation	Professor
Dr. Ghali Venkata Subbarao	1649329521	Klef	Professor
		Bvc Institute Of	
		Technology And	Assistant
Mr. Girish Pechetti	1649329521	Science,Amalapuram	Professor
		Sree Narayana	
		Gurukulam College Of	Assistant
Mrs. Divya S	1649329521	Engineering	Professor
itii S. Divya S	10-3323321	KI Deemed To Be	110103301
Dr. Vullanki Rajesh	1649329521	University	Professor
		·	
		Bvc Engineering College	Assistant
Mrs. Naga Lakshmi Balla	1649329521	Odalarevu	Professor

		Prince Shri Venkateshwara	
		Padmavathy	Assistant
Mrs. Shalini M	1649329521	Engineering College	Professor
		Koneru Lakshmaiah	Assistant
Dr. Girija Sravani K	1649329521	Education Foundation	Professor
- ,			Associate
Mr. Syed Shameem	1649329521	Kl University	Professor
		Koneru Lakshmaiah	
Dr. Kolla Bhanu Prakash	1649329521	Education Foundation	Professor
			Associate
Dr. Arunmetha S	1649329521	Klef	Professor
		Bonam Venkata	
		Chalamayya	Associate
Miss Harika Pangam	1649329521	Engineering College	Professor
		Bonam Venkata	
Mr. Inukonda Rama Satya		Chalamayya	Assistant
Nageswara Rao	1649329521	Engineering College (A)	Professor
			Associate
Dr. Joshitha C	1649329521	Klef	Professor
		Koneru Lakshmaiah	
Dr. S. Koteswara Rao	1649329521	Education Foundation	Professor
		Malla Reddy College Of	
		Engineering And	
		Technology	
		(Autonomous-Ugc,	Assistant
Dr. Anup Dey	1649329521	Govt. Of India)	Professor
		Madanapalle Institute	Assistant
Mr. R Kiran Kumar	1649329521	Of Technology Science	Professor
			Assistant
Mr. K. Lakshmi Narayana	1649329521	Rgukt Srikakulam	Professor
		Dayananda Sagar	Assistant
Mrs. Rajeswari. P	1649329521	College Of Engineering	Professor
			Assistant
Mr. Bismil Jaffery	1649329521	Narayan	Professor
"			
Mrs. Tarmila	4640000504	P.B.Siddhartha College	la et e
Devi.Bollavarapu	1649329521	Of Arts & Science	lecturer
		Hindusthan College Of Engineering And	
Dr. Jaya J	1649329521	Technology	Professor
Di. Jaya J	10423223721	reciliology	1 10103301

		Vpm's Mpcoe	Assistant
Mr. Kunal Kishor	1649329521	Velneshwar	Professor
		Bharati Vidyapeeth's	
Mr. Ranjeet Ramesh		College Of Engineering,	Assistant
Suryawanshi	1649329521	Kolhapur	Professor
			Post
		Karpagam Academy Of	Graduate
Mr. Boobalan D	1649329521	Higher Education	student
		Bgs Institute Of	Associate
Dr. Manojkumar S B	1649329521	Technology	Professor
		Madras Institute Of	TEACHING
Mrs. Vinotheni M S	1649329521	Technology	FELLOW
		5	
Mrs. Vishakha Sandeep	4.6.40220524	Pimprichinchwad	Assistant
Kharotechavan	1649329521	Polytechnic,Pune	Professor
		Koneru Lakshmaiah	
Mr. Snehith Namgiri	1649329521	Education Foundation	Scholar
			Assistant
Mrs. E N Srivani	1649329521	Sjcit	Professor
Nava Austria C	4.6.40220524	S J C Institute Of	Assistant
Mrs. Anitha C	1649329521	Technology	Professor
		S J C Institute Of	Assistant
Mrs. Manjula K	1649329521	Technology	Professor
Dr. Srinivasa Rao K	1649329521	KI University	Professor
			Associate
Dr. Sreevardhan Cheerla	1649329521	K L University	Professor
		K L (Deemed To Be)	Assistant
Mr. S Vamsee Krishna	1649329521	University	Professor
			Research
Mr. Shaik Shoukat Vali	1649329521	Kluniversity	scholar
Dr. Suman Maloji	1649329521	Klef	Professor
Mr. Pamarthi Naga		Nri Institute Of	Assistant
Basaveswara Swamy	1649329521	Technology	Professor