VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI
INSTITUTE OF ENGINEERING AND TECHNOLOGY

An Autonomous, ISO 9001:2015 & QS I-Gauge Diamond Rated Institute, Accredited by NAAC with 'A++' Grade
NBA Accreditation for B.Tech. CE, EEE, ME, ECE, CSE, EIE, IT Programmes
Approved by AICTE, New Delhi, Affiliated to JNTUH, NIRF 135th Rank in Engineering Category
Recognized as "College with Potential for Excellence" by UGC
Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad – 500 090, TS, India.
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Estd.1995

Department of ECE
Center for VLSI

About the Center

The center for VLSI is established in the year 2010 with an objective of inculcating the reaerch culture in the field of VLSI among students and faculty. This center has spread its activities to research areas like Analog and Mixed Signal Design, Radio Frequency Integrated Circuit (RFIC) Design, Low-Power VLSI Design and Algorithms, etc. The center has PG programme in VLSI System Design with an intake of 18. A group of 14 faculty with the specialization of VLSI and, are working in the areas of Low Power VLSI, Design verification and testing, physical design, FPGA implementations of high performance systems and VLSI signal processing. One full time Ph.D scholar admitted under National Doctoral Fellowship offered by AICTE, India is working in the area of low power VLSI. The VLSI center is equipped with licensed softwares like Synopsys frontend and backend bundle, Mentor Graphics tool and latest FPGA kits.

Faculty associated with Center for VLSI

S. No	Name of the faculty	Designation	Area of research
1	Dr. S. Rajendra Prasad	Professor, Head of ECE	Circuit Design using Emerging Technologies, Circuit Design Based Nanotechnology, Low Power VLSI
2	Mr. A. Ramesh Kumar	Associate Professor	VLSI Signal processing
3	Dr. P. Kishore	Associate Professor	Analog & Digital Low Power VLSI
4	Ms. J.L.V. Ramana Kumari	Assistant Professor	VLSI Verification & Testing
5	Ms. G. Shanthi	Assistant Professor	VLSI, MEMs
6	Mr. K. Sarath Chandra	Assistant Professor	Low Power VLSI
7	Dr. Priyanka Veeramosu	Assistant Professor	VLSI Signal Processing
8	Ms. L. Dharma Teja	Assistant Professor	Low Power VLSI

9	Mr. Ch. Ganesh	Assistant Professor	Low Power VLSI
10	Ms. K. Swetha Reddy	Assistant Professor	Semi-Custom IC Design, Low Power VLSI
11	Ms. S. Naga Leela	Assistant Professor	Low Power VLSI
12	Mrs. N.Neelima	Assistant Professor	VLSI Signal processing
13	Dr. A Sai Kumar	Assistant Professor	Low power VLSI
14	Mr. E. Vijaya Babu	Assistant Professor	VLSI Signal processing

Facilities

Center for VLSI has two laboratories with the following softwares and hardware kits. The facilities are available for all faculty and students who would like to participate in VLSI R&D activities.

Softwares

- Xilinx Vivado System Edition Software
- Mentor Graphics HEP1 Tool
- Synopsis Tool

Hardware Kits

- Atlys Spartan 6 FPGA Kit : 05
- Artix-7 Nexys 4 DDR Kit : 02
- Zynq Board(Zynq Zed Development Kit) : 01
- Zynq Video And Image Processig Kit : 01
- Zynq 7000epp Evaluation Kit : 01
- Spartan 605 Kit : 01
- Spartan 3E FPGA Kit : 01
- Anvyl Kit : 01

Funded research projects carried out in center for VLSI

S.No	Title of the Project	Funding Agency	Sanctioned Amount in Lakhs	Faculty Associated
1	Design an FFT/IFFT IPcore with run-time configurable FFT size and data type and compile time configurable data type and data precision.	MMRFIC Technologies Pvt. Ltd	2.0	Mr. Ch. Ganesh
2	Development of low power and high speed FPGA based IP core mini Ace architecture compatible to data device corporation	AICTE/RPS	14.35	Dr.P.Kishore
3	IP Core Development Of MIL STD 1553 for RT and MT Terminals"	Ananth Technologies Ltd	4.24	Dr.P.Kishore Mr.K.Sarath Chandra Mrs.K.Sweth a Reddy

Faculty as Resourse Persons

S. No.	Name of the program	Lecture Topic	Name of the Faculty	Duration	Venue	Organized by
1	Webinar	Strategies and tools to avoid plagiarism	Dr.Ranjan K Senapathi	23-06-2021	VVP Institute of Engineering and Technology	VVP Institute of Engineering and Technology
2	Guest Lecture	Introduction to Communication & Signal Processing	Dr.S.Rajendra Prasad	03-06-2021	Annamacharya Institute of Technology and Sciences, Kadapa, AP	Annamacharya Institute of Technology and Sciences, Kadapa, AP
3	VLSI Training Program	VLSI Evolution and Recent trends in VLSI industry	K.Sarath Chandra	17-05-2021 to 28-07-2021	Dept. of ECE, VNRVJIET	VNRVJIET
4	VLSI Training Program	FPGA Design Flow	K.Naresh	17-05-2021 to 28-07-2021	Dept. Of ECE, VNRVJIET	VNRVJIET
		ASIC Design Flow				
		Designing with FPGAs				
		Hands on session with Verilog HDL				
		IC Design Flow-Semicustom and Full custom design-Hands on Session				
		Overview of Digital Design				
		Introduction to Verilog HDL, Language Constructs and Conventions				
5	VLSI Training Program	Gate Level Modeling	Dr.P.Kishore	17-05-2021 to 28-07-2021	Dept. Of ECE, VNRVJIET	VNRVJIET
		Designing with Pseudo NMOS, NMOS enhancement and Depletion mode transistors				
		CMOS,Pass Transitor Logic, Complementary PTL, Transmission Gate Logic				
		Data Flow Level Modeling				
6	VLSI Training Program	Behavioral Modeling	K.Swetha Reddy	17-05-2021 to 28-07-2021	Dept. Of ECE, VNRVJIET	VNRVJIET
		Hands on Sessions on Digital Design 7with Verilog				
		Functions, Tasks, and User-Defined Primitives				
7	VLSI Training	FF Conversions & Synchronous	J.L.V.Ramana Kumari	17-05-2021 to 28-07-	Dept. of ECE, VNRVJIET	VNRVJIET

		Asynchronous counter Design		2021		
	Program	Mealy and Moore type FSMs with examples				
		Introduction to Design of Controller and Data path systems.				
		Design of serial Receiver and Transmitter				
		Sequence detector design.				
8	VLSI Training Program	Hands on Sessions on Digital Design with Verilog	Ch. Ganesh	17-05-2021 to 28-07-2021	Dept. of ECE, VNRVJIET	VNRVJIET
9	VLSI Training Program	IC Design Flow-Semicustom and Full custom design-Hands on Session	Dr.S. Rajendra Prasad	17-05-2021 to 28-07-2021	Dept. of ECE, VNRVJIET	VNRVJIET
		MOS FET Characteristics				
10	IoT training Program	CMOS inverter - static and dynamic characteristics	Aytha Ramesh Kumar	17-05-2021 to 28-07-2021	Dept. of ECE, VNRVJIET	VNRVJIET
11	5-Day Online National Workshop on "Recent Trends in Microelectronic Devices, VLSI Circuits and their applications-	Design of serial Receiver and Transmitter	Dr.S.Rajendra Prasad	25-01-2021 to 29-01-2021.	KL University	KL University
12	National Level Faculty Development Programme on " Recent trends in Electronics and Communications for Teaching Learning and Research"	Recent trends in Electronics and Communications	Dr.S.Rajendra Prasad	28-12-2020 to 31-12-2020	Sridevi Women's Engineering College	Sridevi Women's Engineering College
13	Two day webinar on "Present Trends and Research scopes in SG Wireless Communications	Evolution of Wireless Technologies	Dr. S. Rajendra Prasad	27-06-2020	G.Pulla Reddy Engineering College, Kurnool.	G.Pulla Reddy Engineering College, Kurnool.
14	RTL design and	VLSI Evolution and Recent trends in	K. Sarath	09-06-2020	Dept. of ECE, VNRVJIET	VNRVJIET

		verification	VLSI industry	Chandra			
15			Classification of IC Design	K. Sarath Chandra	16-06-2020		
16		RTL design and verification	Controller design using FSMs	J LV Ramana kumari	12-06-2020	Dept. of ECE, VNRVJIET	VNRVJIET
17		RTL design and verification	VLSI Design flow(FPGA& ASIC)	K. Naresh	17-06-2020	Dept. of ECE, VNRVJIET	VNRVJIET
18			Behaviour modelling style of Verilog HDL (Hands-on)		19-06-2020		
19		RTL design and verification	Structural Modelling style of Verilog HDL (Hands-on)	Ch. Ganesh	22-06-2020	Dept. of ECE, VNRVJIET	VNRVJIET
20			FPGA implementation of Digital system(Case Study)		25-06-2020		
21		RTL design and verification	Importance of Verilog HDL in Digital Design Automation	K. Swetha Reddy	18-06-2020	Dept. Of ECE, VNRVJIET	VNRVJIET
			Synthesizable Verilog HDL for FSM(Hands-on)		23-06-2020		
			Design Verification using Testbench(Hands-on)		24-06-2020		
22		Embedded Systems, Smart Sensors for IOT Applications	Overview on wireless sensors	Dr.S. Rajendra Prasad	17-09-2018 to 20-09-2018	Department of ECE, VNRVJIET	VNR VJIET
23		Embedded Systems, Smart Sensors for IOT Applications	FPGA & SoC Based Embedded Systems Designs	A.Ramesh Kumar	17-09-2018 to 20-09-2018	Department of ECE, VNRVJIET	VNR VJIET

Faculty as Reviewers and Editorial board members

S. No.	Name of the faculty	Nature of Contribution	Details of associated Organization / Journal / Conference etc.
1.	Dr.S.Rajendra Prasad	Editorial Board member	International Journal of VLSI Design & Communication System (VLSICS).
		Reviewer	Heliyon – a peer-reviewed open access journal - indexed by Scopus.
		Guest Editor	International Journal of Sensors and Sensor Networks (IJSSN) - Journal
		Reviewer	International journal of Circuit Theory and Applications
			IEEE - Transactions on Devices and Materials Reliability
			Elsevier - Microelectronics Journal
			Springer - Journal of Computational Electronics
			Springer Journal – Soft Computing
			International Journal of Speech Technology (IJST)
			International Journal of VLSI Design & Communication Systems
		Board of Studies Member	Kesav memorial Institute of Technology, Hyderabad
2.	Dr.P.Kishore	Member	CAS/EDS joint chapter, IEEE Hyderabad Section
		Member, Technical Program Committee	International Conference on Artificial Intelligence: Theory and Applications [AITA 2021]
		Reviewer	IEEE International Symposium on Circuits and Systems (ISCAS), Organizing by IEEE Circuits and Systems Society at Japan.
3.	K.Naresh	Reviewer	IEEE Transactions on VLSI Systems

Faculty Awards and Recognitions

S.No.	Name of the Faculty	Designation	Details of the award and recognition
1	Dr.S.Rajendra Prasad	Professor	Recognized as IEEE Senior Member
			One of the Toppers (In TOP 1%) in NPTEL exam on Microelectronics: Devices to Circuits conducted during July-October 2021.
2	Dr.P.Kishore	Associate Professor	Topper in NPTEL Exam –VLSI Signal Processing (January-April 2020) Exam conducted in October 2020.
			Recognized as IEEE Senior Member in April 2020.
			Received Dr. Sarvepalli Radha Krishna Distinguished Scientist Award-2021in appreciation of the dedication and commitment in Technology and Research in ECE conferred on 5th September 2021 by Center for Professional Advancement Continuous Education(CPACE)
3	Dr.V.Priyanka	Assistant Professor	Recognized as IEEE Senior Member in Apr 2020.
			Received an Exemplary Student Branch Award from IEEE Hyderabad section Student Activity Committee on 4th December 2021

Faculty Guiding PhD scholars

S. No	Name of the faculty	Specialization	Ph.D. Details - (University & Year of Award)	Research Scholar Details			Status
				Name of the Research Scholar	Year of Admission and / or Completion	University	
1	Dr.S. Rajendra Prasad	Low Power VLSI	JNTUH,2015	S.Sravanthi	2017	JJTU, Rajasthan	On going
				Uma Maheswar	2019	AICTE-NDF	On going
				L.Dharma Teja	2011	JNTUH	On going
				Prasanna Kumar G	2017	SSSUT&MS, Sehore, MP	On going

Details of Faculty Professional Body Memberships

S. No	Faculty Name	Membership No.						
		IEEE	ISTE	IETE	ISOI	IEI	Internet Society	OTHERS
1	Dr.S.Rajendra Prasad	SM92175569	LM 107789	M202253	-	-	-	-
2	A.Ramesh Kumar	-	LM62868	M159839	-	-	-	
3	J.L.V.Ramana Kumari	97531144	LM62871	M234464	-	-	-	-
4	Dr.L.V.Rajani Kumari	97511211	LM79575	M234471	-	-	2236865	IAENG:293359
5	L.Dharma Teja	-	LM79578	M234473	-	-	-	-
6	G.Shanthi	-	LM 107791	-	-	-	2236857	IAENG: 293351
7	Dr. V. Priyanka	SM95145416	LM90973	AM234512	-	-	2229846	IAENG:293357
8	Dr. P. Kishore	SM95145372	LM71521	AM198519	-	AM1001704	-	-
9	K.Sharath Chandra	-	LM 107792	-	-	-	2236868	IAENG:293371
10	Ch.Ganesh		LM 122048	-	-	-	-	
	K.Swetha Reddy	97531079	LM 122058	-	-	-	2236863	IAENG:293333
	S.Naga Leela	-	LM 107784	-	-	-	-	IAENG:293363

Industry interactions

List of MOUs with VLSI industries

Sl. No.	Name of the industry	Impact
1	Ananth Technologies Ltd.	Sanctioned consultancy project on "IP Core Development of MIL STD 1553 for RT and MT terminals" for an amount of Rs.4.24 Lakhs.
2	AMD Ltd	P.G (VLSI System Design) students got internship opportunities in VLSI domine during academic year
3	AVANTEL Ltd	Dr. A. Vidyasagar, Managing Director is a member of BoS and involving in design the syllabus of courses under communication module.
4	TCS, Hyderabad	➤ Remote Internships are provided to the students. ➤ P.G (VLSI System Design) students got internship opportunities in VLSI domine during academic year 2021-22, , which is a new initiative of TCS Hyderabad.

List of Industry personels associated

1. Mr. Venu Gopal Bhat, Director of Engineering, Automotive SW, NVIDIA,Bangalore
2. Mr. Lakshmi Narayana kamarthi, Principal Engineer, NXP India Private Limited,Bangalore
3. Mr. K.Balaji, Director of Physical Design, SiFive Ltd,Bangalore
4. Mrs.Vijitha Challa, Pre-Si valid/verif engineer, INTEL, Hyderabad
5. Mr.D. Sreekanth, Application Engineer,AMD India Private Limited, Hyderabad
6. Mr.Tummuri Bala Surya Sriramachandra Pavan Kumar, Soc Design Engineer, INTEL
7. Mr.S.Krishna Teja, Staff Engineer, Mentor Graphics, Hyderabad
8. Mr.Yadagiri D, Sr. Silicon Design Engineer ,AMD India Private Limited, Hyderabad
9. Mr.Bala Krishna ,Synopsys,Hyderabad
10. Mr. Sai Teja Mannam,SoC Design Engineer,Intel, Hillsboro, Oregon, USA
11. Dr.E.Lakshmi Prasad,Senior DFT Engineer, Tessolve semiconductor Pvt. Ltd, Bangalore
12. Mr. Suresh Nagula, SR II, R&D Engineer,Synopsys Inc, Hyderabad
13. Dr.Srinivas, Design Engineer, Micron Technology Inc, Hyderabad
14. Nagalatha Ramineni, Systems Design Manager, AMD India Private Limited, Hyderabad
15. Dr.A.G.Krishnaknath, Senior Manager,AMS Semiconductors Pvt Ltd, Hyderabad.

Guest lectures delivered by Industry experts during last 3 Years

S.No	Name of the industry personal	Industry associated	Title	Date
1	Mr. s. Krishna Teja	Siemens EDA, Hyderabad	Design Challenges in Digital VLSI	25th June 2022
2	Mr. D.Yadagiri	Advanced Micro Devices(AMD)Ltd, Hyderabad	Bridging gap between Industry and Academia	29-08-2020
3	Mr.Y.Avinash	Mirafra Technologies Ltd, Bangalore	Engineering Education - Match Your Passion - Charting the Right Career Choice	19-09-2020
4	Mr.D. Srikanth	Xilinx, Hyderabad	Carrier Opportunities	19-12-2020
5	Ms. Sushmitha Ch	Synopsys, Hyderabad	Experience & Tips During Placements, Balancing and Learning During Post Placement	02-06-2021
6	Mr.Yadagiri	Advanced Micro Devices(AMD)Ltd, Hyderabad	Motivating the students towards the Carrier in VLSI Industry	23-11-2019

Guest Lecture delivered on " Opportunities and Challenges in VLSI Industry" by Mr.Lakshmi Narayana Kamarthi

Guest Lecture delivered on "Carrier Opportunities" by Mr.D. Srikanath

Internships Opportunities in VLSI related industries

S.No	Name of the Industry	Name of the Student & Roll No
1	Synopsys	Sahithi Kannaiahgari(17071A0421)
2		Shivani Samanapally(17071A0447)
3		Rohith Reddy Appidi(17071A0463)
4		Saadia Hassan(17071A0446)
5		Sai Sharan Morisetty(19075A0406)
6		Rupa Sreelekha M(18071A0493)
7		Samarth Raj G(18071A04B4)
8		Challapalli Ramakrishna(18071A04D3)
9	Advanced Micro Devices(AMD)	Kota Murali Mohan(20071D5703)
10		Y Sravya Mounika(20071D5711)
11		Adapa Naga Sai Nikhil(18071D5701)
12	TCS	Sai Teja Tuduru(20071D5708)
13		M. Sai Greeshma(19071D5708)
14	Siliconus Technologies Pvt Ltd	Sainath Yarra(20071D5709)
15		Nagasani Rakesh(20071D5706)
16		Harsha Lourdu M(20071D5705)
17		Kacharla Sanjay(20071D5702)
18	Mentor Graphics	P.Sravanthi(19071D5711)

**All the students are converted to full time employees

Academic projects carried out by Student Projects during 2021-22

Batch No.	Roll No.	Title of the Project	Name of the Supervisor
1	18071A0402	Multicock domain based watch dog timer for image processor	Ms.J.L.V.Ramana Kumari
	18071A0455		
	18071A0411		
	19075A0402		
	17071A0458		
2	18071A0401	Design and Analysis of CMOS two stage comparator	Dr.S.Rajendra Prasad
	18071A0413		
	18071A0421		
	18071A0424		
3	18071A0443	15T SRAM cell using CNTFET,FINFET & GNRFET	Ms.L.Dharma Teja
	418071A0403		
	18071A0418		
	18071A0405		
4	18071A0492	Design and Analysis of Logic Circuits Using Quantum Dot Cellular Automata	Ms.K.Swetha Reddy
	18071A04A6		
	18071A04B6		
	18071A04B8		
5	18071A0478	Area Effiecient Adder using QCA	Dr.P.Kishore
	18071A0486		
	18071A0491		
	18071A04A0		
6	18071A0462	Design and Analysis of Modified Strong-Arm Latch comparator	Ms.K.Swetha Reddy
	18071A0482		
	18071A0493		
	18071A0494		
	18071A04A9		
7	18071A04A5	Impelemnatation of cascaded integrator comb filter using verilog hdl	Ms.G.Shanthi
	18071A04B4		
	19075A0409		
	19075A0410		
8	18071A0461	Design of AHBtoAPB Bridge for efficient power consumption	Mr.K.Sarath Chandra
	18071A0487		
	18071A0490		
	18071A04A1		
9	18071A0497	Low power and low area VD-FIR filter	Dr.V.Priyanka
	18071A0476		
	18071A0463		
	18071A04C0		
	16071A04A5		
10	18071A04F1	Design of Domino Comparator using CNTFET	Ms.S.Naga Leela
	18071A04C8		
	19075A0415		
	18071A04E5		
11	18071A04D1	Dynamic Reconfigurable FIR filter for 5G Applications	Mr.A.Ramesh Kumar
	18071A04F3		
	18071A0H8		
	19075A0417		
12	18071A04E6	Design of Approximate divider arithemtic circuit for image processing applications	Mr.Ch.Ganesh
	18071A04D8		

	18071A04D7		
	18071A04H1		
13	18071A04G3	Design and analysis of cmos voltage controlled LC Oscillator	Dr.S.Rajendra Prasad
	18071A04C6		
	18071A04F9		
	18071A04D3		
14	18071A04C9	Implementation of error detection and correction using viterbi decoding	Mr.Ch.Ganesh
	18071A04G1		
	18071A04H6		
	18071A04J0		
15	18071A04K1	Design of FIR filter based on retiming using vlsi design metrics	Dr.P.Kishore
	18071A04M7		
	18071A04N0		
	18071A04M9		
16	18071A04N5	Design of 4-bit Approximate Dadda Multiplier for CNN Applications	Mr.K.Nareh
	18071A04K7		
	19075A0419		
	18071A04M0		

Best academic projects from the Center for VLSI for the academic year 2020-21

S.No.	Project Title	Roll Nos	Description
1	Design and Analysis of Logic Circuits Using Quantum Dot Cellular Automata	18071A0480 18071A0467 18071A04B3 18071A0469	Quantum-dot Cellular Automata (QCA) is a substitution to Complementary Metal–Oxide– Semiconductor (CMOS) technology in nanoscale level. With technology scaling, high power consumption of design prevents the energy-efficient realization of complex logic circuits at nanoscale. This system works on the basis of electron interactions within quantum dots rather than columbic force. This paper mainly projects the design and analysis of results of various logic circuits using quantum dot cellular automata (QCA) designer.
2	Design of FIR filter based on retiming using vlsi design metrics	18071A0492 18071A04A6 18071A04B6 18071A04B8	Retiming is a VLSI design technique in which the positioning or the arrangement of the delay elements or registers is reorganized such that the critical path delay of the filter is reduced. The rearrangement and addition of registers is such that the functionality of the retimed FIR filter is same as that of the original filter. Simulation results are discussed in this project. Optimized FIR filters are hence designed using different retiming techniques by maintaining a tradeoff between the design metrics in comparison with the existing designs.

Outcome of the Student Academic projects(2021-2022)

Papers published/communicated

S.No	Title of the Paper	Name of the Conference/Journal	Conference Dates	Status of the paper(Submiited/Accepted/Published)
1.	Convolution Merging Technique For Image Encryption Application	International Conference on Recent Trends in Microelectronics, Automation, Computing and Communication Systems(ICMACC-2022)	28-30 Decemebr 2022	Accepted
2.	Analyzing Performance Metrics of Low Power 15T Sram Cell Using Finfet And GNRFET	IJARIIE-ISSN(O)-2395-4396	2022	Published
3.	Area Efficient Logic Circuits using Quantun Dot Comuputation Automata	MIND 2022	21–22 December 2022	Submitted
4.	Implemenation of area Effiecient Adder using QCA	International Conference on Recent Trends in Microelectronics, Automation, Computing and Communication Systems	28–30 December 2022	Accepted
5.	An Efficient FPGA Implementation of Cascade Integrator Comb Filter	ICIIET 2022	22 - 24 September 2022	Submitted
6.	Design of Ahb2apb Bridge For Efficient Power Consumption	International Conference on Recent Trends in Microelectronics, Automation, Computing and Communication Systems	28–30 December 2022	Submitted
7.	An Efficient Approach for Denoising ECG Signal using FIR Filter	2022 International Conference on Intelligent Innovations in Engineering and Technology (ICIIET)	22-24 September 2022	Accepted
8.	Design and Analysis of CNTFET Dynamic Comparator	ICIECE-2022	DEC 16-17,2022	Submitted
9.	Implementation of Viterbi Decoder for Error Detection and Correction	IJRTI-Volume 7, Issue 8	August-2022	Published
10.	Design of FIR filter based on retiming using vlsi design metrics	ARPN Journal of Engineering and Applied Sciences (JEAS)	-	Submitted - Estimated time of publication-January 2023

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NBA Accreditation for B.Tech CE, EEE, ME, ECE, CSE, EIE, IT, AE Programmes
Approved By AICTE, New Delhi, Affiliated to JNTUH, Hyderabad.
Recognized as "College with Potential for Excellence" by UGC

NIRF Ranking: 113 Engineering Category

EAMCET CODE : VJEC
PGECET CODE: VJEC1

Estd. 1995

Department of ECE
Center for Signal Processing

About Center for Signal Processing

The Centre for Signal Processing at VNR VJIET is established for conducting multidisciplinary research within specific thematic areas of societal and national importance. The center involves 17 faculty members and 7 research scholars. The center has a state-of-the-art Signal and Image Processing Laboratory equipped with modern machinery and software on par with reputed institutions/Universities. Apart from carrying out frontier research in the signal processing areas, the center aims at creating technologies that can be commercially exploited by industries.

A number of Faculty Development Programs, Workshops, Seminars, Symposia and Webinars are conducted by our faculty team in collaboration with Mathworks and institutes of higher stature such as AICTE, JNTU Hyderabad, IIIT Hyderabad, IIT Madras, IIT Hyderabad, NIT Patna, NIT Warangal, and NIT Rourkela to keep abreast with the latest developments in the field such as RF imaging, Deep learning, Machine Learning, Computer vision, and Biomedical Signal Processing.

Sponsored research projects worth above 1 Crore from IISc-MSME, Biotechnology Industry Research Assistance Council (BIRAC), UGC, AICTE, DST, and Center for Cellular and Molecular Platforms (CCAMP) is completed/on-going in the center.
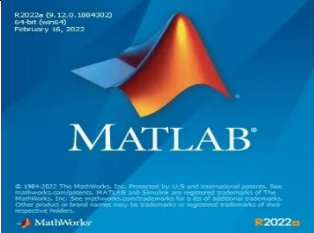
List of Hardware equipment available

- Spectrum Analyzer
- Digital Storage Oscilloscope
- TMS 6713 Starter kits (11 numbers)
- i7 systems (35 numbers)

List of Software Available

- MATLAB (Licensed) with All Tool boxes
- Code Composer Studio IDE
- Anaconda Python

The list of Major Hardware/Software in the center for Signal Processing

DSK 6713	i7 System
MATLAB R2022a	Code Composer Studio IDE

Faculty associated with Center for Signal Processing

S.No.	Name of the faculty	Designation	Area of research
1	Dr. Ranjan Kumar S	Professor	Image and Video Processing, Computer vision
2	Dr. Y. Padma Sai	Professor	Biomedical Signal Processing
3	Dr. Lam Padmasree	Professor	Signal Processing
4	Dr.Vasagiri Krishnasree	Asso. Professor	Image processing
5	Mr.G.Radha Krishna	Asso. Professor	Speech Processing
6	Mr.Shaik Khadar Sharif	Asso. Professor	Machine learning and Deep learning
7	Dr. L. V. Rajani Kumari	Asst. Professor	Biomedical Signal Processing
8	Dr. Santosh Kumar Choudhary	Asst. Professor	Thin Film Solar cell
9	Dr V Sagar Reddy	Asst. Professor	Speech Processing
10	Dr.G.Vijay Kumar	Asst. Professor	Machine learning for biomedical applications

11	Dr.Pradeep Kumar	Asst. Professor	Machine learning
12	Mr.V.Naveenkumar	Asst. Professor	Biomedical Signal Processing
13	Ms.K. Aruna Kumari	Asst. Professor	Deep learning
14	Dr. R Sravanth Kumar	Asst. Professor	Brain-Computer Interface
15	Ms.Ch.Rajakumari	Asst. Professor	Machine learning and Deep learning
16	Ms.Helan Satish	Asst. Professor	Signal Processing
17	Mr. T. Srinivas	Asst. Professor	Deep Learning

VNR VIGNANA JYOTHI INSITUTE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Signal, Image and Video Processing
SPECIAL INTEREST GROUP

Dr. Ranjan Kumar Professor (Image and Video Processing, Computer Vision)
Dr.Y.Padma Sai Professor (Biomedical Signal Processing)
Dr.L.Padmasree Professor (Signal Processing)
Dr.V.Krishna Sree Associate Professor (Image Processing)
Mr. Shaik Khadar.Sharif Associate Professor (Machine learning and Deep Learning)
G.Radha Krishna Associate Professor (Natural Language Processing)
Dr.L.V.Rajani Kumari Assistant Professor (Machine learning and Deep Learning for Biomedical signal processing)
Dr.Santosh Kr. Choudhary Assistant Professor (Thin Film Solar cell, Signal Processing)

Dr. V Sagar Reddy Assistant Professor (Speech Processing)
Mr. V. Naveen Kumar Assistant Professor (Biomedical Signal Processing)
Mrs. Helan Satish Assistant Professor (Signal Processing)
Ms. K.Aruna Kumari Assistant Professor (Image Processing)
Dr. G.Vijaya Kumar Assistant Professor (Biomedical Signal Processing)
Dr. R.Sravanth Kumar Assistant Professor (Brain Computer Interface)
Mrs. Ch.Raja Kumari Assistant Professor (ML/DL for Cervical spondylosis)
Dr. Pradeep Kumar Assistant Professor (Medical image Processing)
Mr. T. Srinivas Assistant Professor (Signal & ImageProcessing)

The list of funded research projects carrying/carried out in center for Signal Processing

S.No.	Title of the Project	Funding Agency/ Industry/ Organization	Sanctioned Amount (Lakhs)	Status
1.	Swaasa AI platform – revolutionary approach to respiratory healthcare	Center for Cellular and Molecular Platforms (C-CAMP), Bengaluru	7.00	Completed
2.	Frequency band analysis of acoustic signals for health care	Salcit Technologies Pvt. Ltd.	10.00	On-going
3.	Digital Health Advisory System for Chronic Respiratory Diseases	BIRAC – Biotechnology Ignition Grant(BIG) Scheme	45.60	Completed
4.	Cough and Wheeze analyzer for Respiratory Digital Health Services	Biotechnology Industry Research Assistance Council (BIRAC – Soch)	15.00	Completed
5.	Digital Health Advisory System for Chronic Respiratory Diseases	IISc - MSME Center of Excellence	6.75	Completed
6.	Development and Implementation of Automized System for the detection of Sleep Disorders using EEG Analysis	UGC Minor	4.40	Completed
7.	Design and Development of Knowledge based expert system to assist farmers for maintenance of Agricultural field using aerial data acquisition	TSCOST-DST	4	On-going
8.	Development and Implementation of Algorithm for real time home automation system to assist paralyzed patients using Eye blinking	UGC	3	Completed
9.	Design and Development of System for ECG Waveform Characterization and processing	AICTE	8.25	Completed

Faculty members with membership in various professional societies

S.No	Faculty Name	Membership No.						
		IEEE	ISTE	IETE	ISOI	IEI	Internet Society	OTHERS
1	Dr.Y.Padma Sai	SM92531133	LM30846	F192152	LM1766	F-120042-5		ASCI:53991
2	Dr. L.Padma Sree		LM62863	F234395			2236954	
3	Dr.Ranjan Kumar Senapati	97523751	LM 50543				2236963	
4	Dr.V.Krishna Sree		LM62865	F216325				IAENG:292766
5	G.Radha Krishna		LM55646					
6	Sheik Khadar Sharif		LM53227	F234396				
7	Dr.Santosh Kumar Choudhary		LM 122051	AM 125862				IAENG:162686
8	Helan Satish		LM 62873	M234465				
9	K.Aruna Kumari	96512231	LM62874	M234466				
10	Dr.L.V.Rajani Kumari	97511211	LM79575	M234471				
11	G.Vijaya Kumar		LM90972				2236854	
12	V.Naveen Kumar	SM97511032	LM 107794					
13	Dr.V.Sagar Reddy	97523742	LM 107783					
14	Pradeep Kumar		LM 122053					IAENG:221997
15	R.Sravanth Kumar	92613950	LM 122049					
16	T. Srinivas						22495553	
17	Ch. Raja Kumari	97239703	LM 122061					IAENG:222903

Faculty on editorial boards and in organisation committees

S. No.	Name of the faculty	Nature of Contribution	Details of associated Organization / Journal / Conference etc.	National / International	Date / Duration
1.	Dr.Y.Padma Sai	Chair	WiE Affinity Group, IEEE Hyderabad section	National	January 2020 to till date
		Member, Technical Program Committee	International Conference on Artificial Intelligence: Theory and Applications [AITA 2021]	International	April -2021 "23rd – 24th December 2021"
2.	Dr.Ranjan K Senapathi	Reviewer	Informatics in Medicine Unlocked	International	2019 to till date
		Reviewer	Computers in Biology and Medicine	International	2019 to till date
		Reviewer	IJIG World Scientific	International	2019 to till date
		Member, Technical Program Committee	International Conference on Artificial Intelligence: Theory and Applications [AITA 2021]	International	April -2021 "23rd – 24th December 2021"

3.	Mr.G.Vijaya Kumar	Editorial Board Member	Journal of Engineering Design and Computational Science	International	May 2022 to till date
		Reviewer	Sleep and Breath	International	2020 to till date
		Reviewer	IEEE Transactions on Bio Medical Engineering	International	2020 to till date
		Reviwer	Walailak Journal of Science and Technology	International	2020 to till date
		Reviewer	Computers in Biology and Medicine	International	2020 to till date
4.	Dr.R. Sravanth Kumar	Reviewer	IET Book International Journal	International	2019 to till date
		Editorial Board Member	IGI global Journals	International	2018 to till date
5.	Dr. Santosh Kumar Choudhary	Member, Technical Program Committee	International Conference on Artificial Intelligence: Theory and Applications [AITA 2021]	International	April -2021 "23rd – 24th December 2021"

Faculty involved in Conferences/ Workshops/ Faculty Development Programs/ Webinars content development

S. No	Title of the Workshop/FDP/Webinar	Duration	Organized by
2	Faculty Development Program on "Data Science for ALL"	12th - 23rd April 2021	All the E&ICT Academies in association with the ECE department VNRVJIET
3	Advanced Optimization Techniques and Hands-on with MATLAB/SCILAB	13th - 24th July 2020	E&ICT Academy, NIT Patna, MNIT Jaipur, IIITDM Jabalpur and Department of ECE, VNR Vignana Jyothi Institute of Engineering & Technology
5	Python Programming	7th - 18th September 2020	VNRVJIET in association with E & ICT Academy, NIT Patna
7	Digital Tools for Writing, Authoring and reviewing manuscripts	21st September - 2nd October 2020	VNRVJIET in association with E & ICT Academy, NIT Patna
9	Basics of Python Programming	9th - 13th November 2020	ECE department in association with IEEE SP Society

10	Virtual event "IEEE SPS Summer School on Internet of Things for Biomedical and Healthcare Applications."	28th - 31st December 2020	VNR Vignana Jyothi Institute of Engineering and Technology in association with IEEE Signal Processing Society, IEEE Hyderabad Section, IEEE Women in Engineering Affinity Group Hyderabad Section, and IEEE VNRVJIET
11	FDP on Design Thinking for Engineering Education	15th - 20th Jun 2020	CPADT, VNRVJIET
12	Professional Development Program on AI & ML for Engineering Applications	08th – 12th Jun 2020	VNRVJIET
13	FDP on Natural Language Processing	06th – 10th Jan 2020	VNRVJIET in association with E & ICT ACADEMY, NIT Patna
14	Workshop on Project Based Learning with MATLAB, Simulink, and Low-cost Hardware	16th – 17th Dec 2019	VNRVJIET in collaboration with Mathworks India Private Ltd. and Capricot Technologies Pvt. Ltd.
15	FDP on 3D Printing for Industrial and Biomedical Applications	02nd – 06th Dec 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Patna
16	FDP on Python Programming	02nd – 06th Dec 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Patna
17	FDP on Sensor Networks and IoT	26 - 31 Aug 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Warangal
18	FDP on Robotics & AI	24 - 28 June 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Patna
19	Workshop on Python	22nd Jun 2019	VNRVJIET in association with IITB
20	FDP on Introduction to Programming: A Pedagogical Approach	17 - 21 Jun 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Patna

List of Partial delivery of the courses by the Industry personnel

S.No	Name of the industry personal	Industry associated	Course name	Date
1	Ms.V.Radha	Nutrisnax Industries, Hyderabad	Digital Signal Processing	26-07-2020
2	Ms. Nita K Patel	Engineering at L3Harris Technologies	Digital Signal Processing	19-09-2020
3	Ms. V Sailaja	SAP Labs	Digital Signal Processing	10-10-2020
4	K.Sai Deep	TCS, Hyderabad	Machine Learning	9-9-2019
5	K.Swetha	TCS, Hyderabad	Data Analytics	3-8-2018

The list of best academic projects from the Center for Signal Processing for the academic year 2020-21

S.No.	Project Title	Name of the Project Supervisor (s)	Name of the Student	Roll No.
1	NextMind's wireless EEG brain sensing devices for virtual reality application	Dr. R. Sravanth Kumar	K. Anurag Reddy M.A.Thoufiq S. Yoga Priya V. Raj Kumar	18071A04M8 18071A04N6 18071A04Q2 18071A04Q7
2	Content-based medical image retrieval using deep convolutional neural network,	Dr. Ranjan Kumar S.	N. Prasanna Lakshmi B. Srikar V. Prasanth Kumar B. Nikitha V. Sowmya Sree	18071A04N2 18071A04J8 18071A04Q9 18071A04J2 18071A04Q6

The list of few of the academic projects carried out in the center for Signal Processing during academic year 2021-22

S.No	H.T.No	Title	Name of the Guide
1	19075A0406 18071A0407	A Computational Study of Oxygen Deprivation in Cardiac Ventricular Tissue	Ms.Helan Satish

	18071A0433 18071A0459		
2	18071A0429 18071A0432 18071A0445 18071A0457	Severity detection of Cervical Signal Processingondylosis using deep learning techniques	Dr. L. V. Rajani Kumari
3	18071A0410 18071A0414 18071A0431 18071A0436	Deep Learning based CAD system for cancer detection	Dr V Sagar Reddy
4	18071A0404 18071A0425 18071A0419 18071A0440	signal processing applications using M/L	Dr. Y. Padma Sai
5	18071A0477 18071A0485 18071A04B9 19075A0408	Classification of polytime codes of LPI Radar using image processing	Ms.Ch.Rajaku mari
6	18071A0488 18071A0465 18071A04B2 18071A0495	Medical image compression and denoising using convolutional Autoencoders.	Dr. Ranjan Kumar S
7	18071A0468 18071A04A2 18071A04A3 19075A0407	Sleep Quality Detection Based on EEG Signals	Mr.G.Vijay Kumar
8	19075A0411 18071A0472 18071A0489 18071A04B7	Gender dependency in Second Language Learning	Mr.G.Radha Krishna
9	18071A04H4 18071A04D0 18071A04E4 18071A04F8	Development of precision agriculture	Dr.Lam.Padma sree

10	18071A04C4 18071A04E9 18071A04F6 18071A04H3	Lung Cancer detection using Deep learning methods	Mr.Shaik Khadar Sharif
11	18071A04D4 18071A04E1 18071A04G5 18071A04H5	Identification of Attention during cocktail party scenarios	Dr.Vasagiri Krishnasree
12	18071A04C1 18071A04E2 8071A04H7 18071A04H2	Denoising and Enhancement of Medical images using deep learning	Mr.Pradeep Kumar
13	18071A04D6 18071A04E7 18071A04G0 18071A04H0	Segmentation of MRI images using deep learning	Dr. Santosh Kumar Choudhary
14	18071A04N1 18071A04M2 18071A04Q0 18071A04K4	Safety homes for elderly people using image processing	Dr.Vasagiri Krishnasree
15	18071A04N2 18071A04J8 18071A04Q9 18071A04J2 18071A04Q6	Content-based medical image retrieval using deep convolutional neural network,	Dr. Ranjan Kumar S
16	18071A04Q8 18071A04N8 18071A04N4 18071A04N3	Discrimination of Recurrent Palsy Disease using Vowel Sounds	Mr.V.Naveenkumar
17	18071A04K2 18071A04K8 18071A04K9 18071A04Q3	Segmentation of cells in microscopy images using Deep Learning	Ms.K. Aruna Kumari
18	18071A04M8 18071A04N6 18071A04Q2 18071A04Q7	NextMind's wireless EEG brain sensing devices for virtual reality application	Dr. R Sravanth Kumar

Publication status the student Academic Projects (2021-22)

Sl. No	Title of the paper	Name of the conference/Journal	Conference Dates	Status of the paper
1	Lung Cancer detection using Deep learning methods	Int. J. of advance research and innovative idea in education	-	Published
2	Content-based medical image retrieval using deep convolutional neural network,	3rd Int. conf on engineering and advancement in technology-2022	8th-9th July 2022	Presented in the conference
3	Semantic Segmentation of Cells in Microscopy Images via Pretrained Autoencoder and Attention U-Net	IEEE MLCSS-2022	5-6th Aug 2022	Presented in the conference
4	Segmentation of Cell Nuclei in Microscopy Images using Modified ResUNet	IEEE 3rd GCAT 2022	7-8th Oct. 2022	Accepted
5	Segmentation of MRI images using deep learning	IEEE ICMACC-2022	28-30thdec 2022	Accepted
6	NextMind's wireless EEG brain sensing devices for virtual reality application	IET Biomedical Applications	-	Communicated
7	Classification of polytime codes of LPI Radar using image processing	IEEE ICMACC-2022	28-30thdec 2022	Accepted
8	Discrimination of Recurrent Palsy Disease using Vowel Sounds	3rd Int. conf on engineering and advancement in technology-2022	8th-9th July 2022	Presented in conference
9	Deep Learning based CAD system for cancer detection	IEEE ICIET 2022	15-17th sept 2022	Accepted

FDPs and Workshops Images

MATLAB workshop by Mathworks Inc. on 29.08.2018

FDP on wireless sensor networks (Resourse person: Dr. Rasmi Ranjan Rout, Asso. Prof NIT Warangal) from 26-31st Aug. 2019.

Arduino programming conducted by IEEE student branch on 25.07.2019

Workshop on C programming by I. Indira, Asst. Professor, Dept. of CSE, VNR VJIET on 20.10.2020

Virtual Lab workshop conducted by D. Mrudhvika, Project Engineer, IIIT Hyderabad on 11-02-2019

Industry Interaction
List of MoUs with Signa Processing Industries

S. No.	Name of the Industry	Outcome
1	M/s Ananth Tech Pvt. Ltd.Hyderabad	Sanctioned consultancy projects of worth 2 lakhs for the project titled "Design and Development of Mill Standard 1553IP Core"
2	MMRFIC Technology Pvt Ltd	Sanctioned consultancy project of worth 2 lakhs for the project titled "Design Of an FFT/IFFT IP-Core"
3	Salcit Technologies Pvt. Ltd	-Sanctioned consultancy project of worth 10 Lakhs for project titled "Frequency band analysis of acoustic signals for health care". -Digital Health Startup Grant (worth 7 Lakh) from Bioincubator at C-CAMP. Bioincubator at C-CAMP, a G2C Incubation Centre under the Ministry of Electronics & IT, Govt of India's TIDE 2.0 Scheme
4	M/S BLAZE Automation	Sanctioned a consultancy project worth 6 lakhs for the project titled "Testing and Design Validation of loT products used in the Smart Home automation projects of Blaze Automation"

Internship opportunities in Signal Processing Industries

S. No.	Name of the Industry	Name of the student	Roll No.
1	NCR Corporation India Pvt. Ltd.	Sathya Krishna Ramayanam	18071A04P5
		Mohammed Khaja Mohiuddin	18071A0434
		Guda Madhavi	18071A0476
		Dachepally Sai Prabath	19075A0414
		Bareddy Karunakar Reddy	18071A0404
		Sammeta Srinivas	18071A04H1
		Bindu Vaishnavi Y	18071A04C9

		Meena Choudhary	17071A04F5
		Rithisha Guntuoalli	15071A04G6
		Spandana T	15071A04B3
		Ganesh R	15071A04D3
		Jaswanth Surya Sai Kumar	15071A0499
2	Hyndai Mobis	-	-
3	ZF Technologies	-	-
4	TCS Digital	-	-

Best academic projects from the Center for Signal Processing during the academic year 2020-21

S. No	Roll No.	Project Title and Description
1	18071A04M8 18071A04N6 18071A04Q2 18071A04Q7	Title: NextMind's wireless EEG brain sensing devices for virtual reality application
		Have you ever envisioned being able to operate equipment and do activities with only a blink of your eyes? This is made feasible using BCI. BCI stands for brain control interface, and it is used to collect and analyses brain signals before converting them into commands that are sent to an output device to do certain tasks. The brain creates impulses that may be collected in the form of electroencephalography (EEG) data when you blink your eyes. As a result, we suggest a system that allows impaired individuals to travel anywhere they choose in the blink of an eye, without the need for help. For the identification task, the eye blink signal is retrieved from the brain wave. A microcontroller can process these signals and make decisions based on them. The device might possibly be utilized by people with locomotive and other limitations to conduct daily tasks.
2		Title: Content-based medical image retrieval using deep convolutional neural network
	18071A04N2 18071A04J8 18071A04Q9 18071A04J2 18071A04Q6	With increase in use of digital imaging data, it is difficult to retrieve information needed by the hospitals from the large database leading to the need for Content-based image retrieval system (CBIR). A content based medical image retrieval (CBMIR) system can be an efficacious way for amplifying the diagnosis and treatment of multiple diseases and an advanced tool for handling large amount of data. Without such solutions, accessing, managing, and extracting meaningful data from these massive datasets is extremely difficult. Because it involves manpower, medical knowledge, and time, medical image retrieval relying on textual information such as tags and manual annotation has a low efficiency.
		In this work, we designed a deep CNN model using pre-trained VGG-16 network, which has 13 convolution layers and 3 fully connected layer for medical image retrieval. The final dense layer of VGG net is replaced with 18 output classes. The data set used for the experiment consists of 5400 images, with 18 classes. The accuracy

		obtained was 97% with retrieval time less than 10 seconds, which is higher than most of the CNNs such as ALEXNET, XCEPTION and other state-of-the-art machine learning models. The proposed model involves little pre-processing and do not involve additional feature extraction techniques which simplifies the process of building the CBMIR system.

Details of Patents and their current Status

S.No.	Name of the Inventors	Title of invention	Patent File Number & Date of Filing	Status
AY 2021-2022				
1.		Intelligent caregiver wireless monitor and motion sensor for safe home system applicable for elderly people	202241008796 & 19/02/2022	Awaiting Request for Examination
2.	Dr. Ranjan K Senapathi	A Algorithm Based on Deep Learning for the Detection of COVID-19 Infections	202241000074 & 02/01/2022	Awaiting Request for Examination
3.		AI & Image Processing based System for Concoction Propertion Verification for Pharmaceutical Industry	Canadian Copyright, Reg. No. 1193919 & 07-06-2022	Registered. Awaiting **Grant**
AY 2020-2021				
1.	Mr. R.Sravanth Mr.K. Kalyana Mr.Peddi Anudeep Dr. Y Padma sai Mrs.Priyanka Mrs. Dharmateja Dr.P.Kishore Mr.Vijayakumar Dr.Rajendraprasad K.Sharath	Method For Characterization Of A Subject's Attention And Meditation Using Brain Computer Interface For Real Timehealthcare Monitoring	202141018928 & 23-04-2021	Awaiting Request for Examination
2.	Dr.D.N. Rao, Dr.C.Dhanunjaya Naidu, Mr.V.Naveen kumar,	An intelligent and intuitive signaling system for motor vehicles to minimize road accidents	5245/CHE/2012 & 17-12-2012 **Granted on 20-03-2021**	**Granted Patent,** Patent Number:362271 Date Of Certificate Issue: **20-03-2021**
3.	Dr. Sravanth Kumar Ramakuri	Machine learning based network intelligentization for automatically- configurable Cellular communication systems	2020103373 & 11-11-2020 **Granted on 13-01-2021**	**Granted Patent** on **13-01-2021**

		AY 2019-2020		
1.	Mr. R.Sravanth Kumar, Dr. Y Padma sai, Mr.Peddi Anudeep, Mr.K. Kalyana Srinivas	Brain computer Interface (BCI) based system and method for Characterizing behavior state of a subject	201941050636 & 08-12-2019	FER Issued, Reply not Filed
		AY 2018-2019		
1.	Dr.C.Dhanunjaya Naidu	Automatic Airlock Prevention System And Method Thereof	201841022148 & 13-06-2018	**Reply filed and Application in Amended stage**
2.	Mr. SVN Narayana Rao, Mr. V. Naveen Kumar, Dr. Y. Padma Sai	A System For Analyzing Risk Associated With Cough Sounds	201741045066 & 14-12-2017 **Granted on 27-02-2019**	**Granted Patent, Patent Number:308156 Date of Date Of Certificate Issue: 27-02-2019**

VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

An Autonomous, ISO 9001:2015 & QS I-Gauge Diamond Rated Institute, Accredited by NAAC with 'A++' Grade
NBA Accreditation for B.Tech. CE, EEE, ME, ECE, CSE, EIE, IT Programmes
Approved by AICTE, New Delhi, Affiliated to JNTUH, NIRF 135th Rank in Engineering Category
Recognized as "College with Potential for Excellence" by UGC
Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad – 500 090, TS, India.
Telephone No: 040-2304 2758/59/60, Fax: 040-23042761
E-mail: postbox@vnrvjiet.ac.in, Website: www.vnrvjiet.ac.in

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Department of ECE

Center for Embedded Systems and IoT

About the Center for Embedded Systems and IoT

The center for and Embedded Systems IoT is established in the year 2010 for implementing research and development projects in the specified field. A group of 13 faculty members are working in the areas of Hardware Software Co-Design, Embedded Systems and Communication technologies for IoT. The Embedded Systems and IoT center is equipped with Network Simulator and Dev Kit, Raspberry Pi-3, Beagle Bone Black, IoT development boards, Sensor Node devices, ARM KEIL Software Tool, IoT Learning Box and IoT Car, Nvidia Jetson Nano Kits, Nvidia's GPU Accelerated PC, Silicon Labs Advaced IoT Kits, IoT Rapid Prototyping kits. Xilinx PYNQ Boards, Texas Istruments Launch Pad, Embedded ARM Development Kits and PCB prototype Making & Antenna Design Machine.

Faculty associated with Center for Embedded Systems and IoT

S. No	Name of the faculty	Designation	Area of research
1	Dr. L. V. Rajini Kumari	Assistant Professor	Embedded Systems, Biomedical Signal Processing
2	Dr. D. Santhosh Kumar	Assistant Professor	Wireless Communication Technologies for IoT
3	Mrs. Ch Naga Deepa	Assistant Professor	Embedded Systems, Pattern Recognition
4	Mrs. N. Dhana Lakshmi	Associate Professor	Embedded Systems and Image Processing
5	Mrs. G. Sahitya	Assistant Professor	Precision Agriculture using IoT
6	Mr. C. Kaushik	Assistant Professor	Wireless Communication and Networking, IoT
7	Mrs. M. Haritha	Assistant Professor	Embedded System Design
8	Mr. D. Ramesh Reddy	Assistant Professor	Machine Learning and IoT
9	Mr. B. B. Shabarinath	Assistant Professor	Hardware Accelerators for Machine Learning

10	Mr. J. Balakrishna	Assistant Professor	Embedded System Design
11	Mr. R. Ravi Kumar	Assistant Professor	Reconfigurable embedded Architecture for Wireless Communications and IoT
12	Ms. K. Manasa	Assistant Professor	Embedded Systems and IoT
13	Ms. A. Pravallika	Assistant Professor	Embedded Systems and IoT

This center received a grant of Rs 15,00,000 from AICTE under MODROBS scheme in the year 2019 to modernize "Advanced Embedded Systems and IoT laboratory".

Facilities

Center for Embedded Systems and IoT has two laboratories with the following softwares and hardware kits. The facilities are available for all faculty and students who would like to participate in Embedded and IoT R&D activities.

Softwares

NetSim for Researchers (2 User License)

Hardware Kits

Embedded System Development Boards (under TI University Program),

PCB Protoype Making & Antenna Design Machine,

NVIDIA Jetson Nano 2GB Developer Kit,

PYNQ Z2 Development Board and

Embedded Prototyping Boards

The list of Major equipment in center for Embedded Systems and IoT are given below

Personal Computer

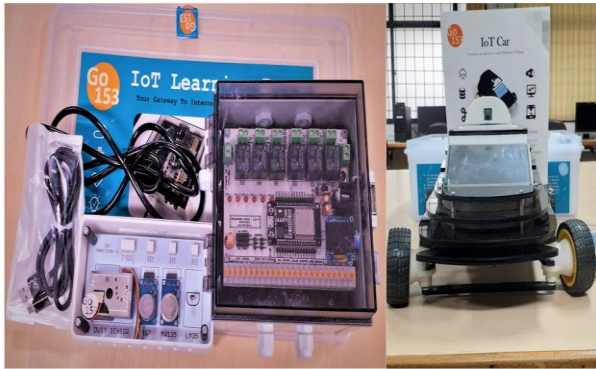ARM Development Board   Development Board (Nvidia Jetson Nano)

IoT Dragon Board 410c
(IoT Learning Box and IoT car)

Desktop with GPU Acceleration

PCB Prototype Making & Antenna Design m/c

Kinect Sensor

Funded research projects carried out in Embedded Systems and IoT

The list of funded research projects carrying/carried out in center for Embedded Systems and IoT are shown below

Details of funded research projects of Embedded Systems and IoT Center

S.No.	Project Title	Funding Agency	Sanctioned Date	Duration in years	Amount Sanctioned Rs. In Lakhs	Principal Investigator(s)
1	Testing and Design Validation of IoT products used in the smart home automation projects	Blaze Automation Services Pvt. Ltd.	09/09/2021	1	6.00	Mrs. G. Sahitya, Dr.V.Krshna Sree, Mr.C.Kaushik, Dr.D.Santhosh Kumar Dr. V. Sagar Reddy
	Advanced		26/03/201			

2	Embedded Systems and IoT Laboratory	MODROB/AICTE	9	3	15.00	Dr. Y.Padma Sai
3	Development & Implementation of Algorithm for Real Time Home Automation System to assist paralysed Patients using Eye Blinking	UGC minor	16/08/2014	2	3.00	Dr. L. Padma Sree
4	Upgradation of Microprocessors and Microcontrollers Laboratory	AICTE/ MODOROBS	06/03/2012	1	5.00	Dr.V.Padmaja

Faculty Professional Body Memberships

S.No	Faculty Name	Membership No.						
		IEEE	**ISTE**	**IETE**	**ISOI**	**IEI**	**Internet Society**	**OTHERS**
1.	**N.Dhana Lakshmi**	-	LM62869	M234459	-	-	-	
2.	**Dr.L.V.Rajani Kumari**	97511211	LM79575	M234471	-	-	2236865	IAENG:293359
3.	**Dr.D.Santhosh Kumar**	95338534	LM 122056	-	-	-	-	IAENG:293354
4.	**G.Sahitya**	-	LM62870	M234462	-	-	-	-
5.	**Ch.Naga Deepa**	-	LM79572	M234472	-	-	-	-
6.	**D.Ramesh Reddy**	96282300	LM 107795	-	-	-	-	Soft Computing Research Society: 2020-08-09-1278
7.	**M.Haritha**	-	LM 107799	-	-	-	-	-

8	**B.B.Sabarinath**	97511599	LM 122060	-	-	-	-	
9	**V.A.Bala Krishna**	-	LM 122050	-	-	-	-	-
10	**C. Kaushik**	-	LM 122059	-	-	-	2236855	IAENG:2933 52
11	**K.Manasa**	-	-	-	-	-	2236872	-
12	**R.Ravi Kumar**	-	-	-	-	-	2229847	IAENG: 125297

Workshops/ Faculty Development Programs/Webinars Organized:

S. No	Title of the Workshop/FDP/Webinar	Duration	Organized by
1	Faculty Development Program on "System Design Methodologies for Embedded, IoT, AI, & HPC using Intel FPGA."	19th - 30th April 2021	IIT Guwahati, MNIT Jaipur, NIT Patna, and NIT Warangal in association with ECE Department, VNRVJIET
2	Embedded UVM Open-Source Emulation & Functional Verification	13th - 24th July 2020	VNRVJIET in association with E & ICT Academy, NIT Patna, MNIT Jaipur
3	Python Programming	7th - 18th September 2020	VNRVJIET in association with E & ICT Academy, NIT Patna
4	Basics of Python Programming	9th - 13th November 2020	ECE department in association with IEEE SP Society
5	Virtual event "IEEE SPS Summer School on Internet of Things for Biomedical and Healthcare Applications."	28th - 31st December 2020	VNR Vignana Jyothi Institute of Engineering and Technology in association with IEEE Signal Processing Society, IEEE Hyderabad Section, IEEE Women in Engineering Affinity Group Hyderabad Section, and IEEE VNRVJIET
6	Training on Network Simulator	02nd – 04th Jan 2020	VNRVJIET in association with Tetcos, Bangalore
7	FDP on Python Programming	02nd – 06th Dec 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Patna

8	Workshop on Advanced Internet of Things with Machine Learning (IoT with ML)	23 - 25 Sep 2019	VNRVJIET in collaboration with IEEE Hyderabad Section Joint Chapter of Circuits and Systems and Electron Devices (CAS/ED) Societies
9	FDP on Sensor Networks and IoT	26 - 31 Aug 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Warangal
10	Workshop on "Arduino Hands-On Training session."	25th July 2019	VNRVJIET in association with IIT, Hyderabad
11	FDP On Embedded Systems & Interfacing- Hands-on	10 - 14 June 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Patna

Details of Patents and their current Status

S.No.	Name of the Inventors	Title of invention	Patent File Number & Date of Filing	Status
AY 2021-2022				
1.	**Dr. Nagadeepa Choppakatla**	Design and Implementation Of IOT-Enabled Agribot For Smart Farming	202241031614 & 02/06/2022	Awaiting Request for Examination
2.	Dr.Y Chalapathi Rao **Dr. L V Rajani Kumari** Dr. V Sagar Reddy	IoT Based Smart Electrical Power Plug	2021105184 & 09-08-2021	**Granted Patent on 30-03-2022**
AY 2020-2021				
1	**Mrs. Narra Dhanalakshmi** Mrs. J. L.V. Ramana Kumari Mrs. K Jyostna	I-Mobile Charger: Automatic Disconnect The Charger If Mobile Battery Status-97%	202141024094 & 31/05/2021	Awaiting Request for Examination
2	**Mr. D. Ramesh Reddy**	Sheltered Driving System For Automotive Vehicles For Streamlined Operation On Roads With Adherence To Extant Rules	202041045360 & 19/10/2020	FER Issued, Reply not Filed

		And Regulations		

Industry Interactions

List of MOUs with Embedded and IoT industries

Sl. No.	Name of the industry	Impact
1	Blaze Automation Services Pvt Ltd.	➢ Sanctioned consultancy project on "Testing and Design Validation of IoT products used in the smart home automation projects" for an amount of Rs.6 Lakhs. ➢ Provide Internship Opportunity for 2 M.Tech Embedded Systems Students.
2	Redpine Signals India Private Limited	➢ Provided Training for 4 Faculty Members.
3	IDEALABSFutureTech Ventures	➢ Provided Training for B.Tech Students on "Internet of Things". ➢ Organised Hackathons for Students
4	Edgate Technologies Ltd.	➢ Provided Embedded Boards for Embedded Systems Laboratory ➢ Conducted Competitions for Students.
5	TCS, Hyderabad	➢ Remote Internships are provided to the students.

Guest lectures delivered by Industry experts during last 3 Years

S.No	Name of the industry personal	Industry associated	Course name	Date
		Academic Year: 2020-21		
1	M Dinakar	Co-Founder & Chief Solution Architect SecurWeave	Embedded Systems	18-06-2022
2	Mr.PVN Pavan Kumar	SAP Labs, Bangalore	Internet of Things	05-10-2020
		Academic Year: 2019-20		
1	K. Rama Krishna Reddy	Advanced Micro Devices (AMD) Ltd, Hyderabad	Embedded Real Time Operating Systems	31-8-2019

2	Dr.Vijender Reddy	ADRIN, Hyderabad	Internet of Things	31-9-2019
3	K.Sai Deep	TCS, Hyderabad	Machine Learning	9-9-2019
4	Mr. Ravi	Monitra Healthcare Pvt Ltd	Internet of Things	24-9-2019
Academic Year: 2018-19				
1	Mahesh Gummaraju	UTL Technologies, Hyderabad	Embedded Systems	9-8-2018
2	K.Swetha	TCS, Hyderabad	Data Analytics	3-8-2018
3	Mr Mahesh Patil	CDAC, Hyderabad	Micro Processors and Micro Controllers	21-1-2019

List of Industry personels associated

1. Mr. M Dinakar, Co-Founder & Chief Solution Architect SecurWeave, Hyderabad.
2. Mr Mahesh Patil, CDAC, Hyderabad.
3. Mr.PVN Pavan Kumar, SAP Labs, Bangalore
4. K. Rama Krishna Reddy, Advanced Micro Devices (AMD) Ltd, Hyderabad
5. Dr.Vijender Reddy, ADRIN, Hyderabad.
6. Mr. K.Sai Deep, TCS, Hyderabad
7. Mr. Ravi, Monitra Healthcare Pvt Ltd, Hyderabad.
8. Mr. Mahesh Gummaraju, UTL Technologies, Hyderabad
9. Mrs. K.Swetha, TCS, Hyderabad

Department of ECE organised a guest lecture for II B.Tech ECE students on "Embedded Systems" by **Sri. M Dinakar**, Co-Founder & Chief Solution Architect SecurWeave, Hyderabad on 18-06-2022

Internships Opportunities in Embedded and IoT related industries

S.No	Name of the Industry	Name of the Student	Roll No
1		Mallepally Kesari Nandan	18071A0492
2		J.Sreekar	18071A04E9
3		Reddy Dhanush Reddy	18071A04P8
4		Mehrunnisa Begum	18071A0432
5		Teja Yelagonda	19075A0424
6		Koyada Naveen Kumar	18071A04N0
7		Ram Kumaraswamy	18071A04P4
8	**ACS Solutions**	U.Karthik Reddy	18071A0458
9		Nikesh Bathula	18071A04J4
10		Yara Sai Chandu	18071A04R0
11		P. Akhil	19075A0411
12		B Thirumalesh	18071A04C6
13		Kusupati Pruthvinath	18071A04F6
14		Bhaskar Sai Kothala	18071A0489
15		Katta Shashikumar	18071A04M6
16		Dhanda Vinay Reddy	19075A0416
17		T.Swaroopa	18071A04H7
18	**NCR**	Sathya Krishna Ramayanam	18071A04P5
19		Mohammed Khaja Mohiuddin	18071A0434
20		Guda Madhavi	18071A0476
21		Dachepally Sai Prabath	19075A0414
22		Sammeta Srinivas	18071A04H1

23		Bindu Vaishnavi Y	18071A04C9
24		Kotla Anurag Reddy	18071A04M8
25		Eppeti Sai Tareesh Reddy	18071A04E1
26	**TCS**	Shaik Fayazuddin	18071A04H3
27		Ch.Vinay	18071A04K0
28	**NCR Corporation**	Bareddy Karunakar Reddy	18071A0404

**All the students are converted to full time employees

Academic projects carried out by Student Projects during 2021-22

S.No	H.T.No	Title	Name of the Guide	Relevance (Societal Impact, Simulation, Prototype, Research, Industry)
1	18071A0460 18071A0427 18071A0439 19075A0401	IoT based Driver Assistance System	Mr.J V A Bala Krishna	Prototype
2	18071A0444 18071A0450 18071A0449 19075A0403 18071A0409	IoT based Smart Growth Chamber for Monitoring Plant Environment and Disease Prediction using Deep Learning	Dr C D Naidu/Mr.D Ramesh Reddy	Prototype
3	18071A0423 18071A0428 18071A0442 18071A0446	Energy Optimization and Optional Routing in Wireless Sensor Networks	Mr.C Kaushik	Research
4	18071A0451 18071A0453 18071A0456 19075A0405	Localization techniques for Autonomous Vehicles	Dr D Santhosh Kumar	Simulation

5	18071A0475 18071A0471 18071A0484 18071A0499	An Improved Routing Protocol for Heterogeneous WSN for IoT based Environmental Monitoring	Ms.G Sahitya	Research
6	18071A0473 18071A0481 18071A04A4 18071A04B1	Genome Sequence Analysis	Mr.B B Shabarinath	Prototype
7	18071A0464 18071A0466 18071A0496 18071A04A8	Edge Computing based Image Enhancement using Jetson Nano Board	Mr.R Ravi Kumar	Research
8	18071A04F7 18071A04D5 18071A04G2 18071A04H9	Automatic Detection of Human Blood Group using Image Processing	Dr.Ch Naga Deepa	Research
9	18071A04C2 19075A0413 19075A0416 18071A04G9	Real-Time surveillance of goods vehicle using IoT	Ms.K Manasa	Prototype, Societal Impact
10	18071A04C5 18071A04F5 18071A04G4 18071A04G8	Content representation and Classification of Videos	Ms.N Dhanalakshmi	Research
11	18071A04Q4 18071A04K5 18071A04J4 18071A04J5	Minimizing the failover scenarios through over-lay networks	Dr.D. Santhosh Kumar	Industry
12	18071A04P1 18071A04P8 18071A04M6 19075A0423	Leaf disease detection using Raspberry Pi and CNN	Ms.G Sahitya	Research

13	18071A04K3 19075A0422 18071A04P7 18071A04K0 18075A0444	Development of prototype for vehicle accident avoidance, detection, and rescue system	Mr.R Ravi Kumar	Prototype
14	18071A04J6 18071A04M1 18071A04M3 19075A0421	Hardware Accelerator for face mask detection using PYNQ Z2	Mr.B B Shabarinath	Prototype
15	18071A04J3 18071A04N9 18071A04P2 18071A04P3 18071A04Q1	AI and IoT based Monitoring System for increasing the yield in Crop Production	Mr.D Ramesh Reddy	Prototype

Best academic projects from the Center for Embedded Systems and IoT for the academic year 2020-21

S.No.	Project Title	Roll No.	Description
1	Genome Sequence Analysis	18071A0473 18071A0481 18071A04A4 18071A04B1	This work focuses on Genome Sequence Analysis. The Basic objective is o find the presence of ncRNA molecules in DNA. Machine Learning code is computed to detect the presence of ncRNA which SVM algorithm in classification approach. This detection process yields good accuracy as compared to biological methods to analyze genome sequences. But for longer genome sequences the computational time is very high. So hardware compatibility is what we suggest. Long genomic sequences are aligned using the Adaptively Banded Smith-Waterman method (ABSW). ABSW finds alignment of a pair of arbitrarily long sequences with constant memory by using the banded Smith-Waterman algorithm to align subsequences

			of fixed lengths. We propose the hardware design of banded Smith-Waterman with trace back to enable ABSW hardware acceleration. ABSW yields **near**-optimal alignment scores for sequences with up to 40% error rates, according to experiments. Our hardware implementation of ABSW outperforms the software implementation by more than 200 times.
2	Real-Time surveillance of goods vehicle using IoT	18071A04C2 19075A0413 19075A0416 18071A04G9	Vehicle surveillance is an important aspect of business it also plays a major role, and its importance increases with the value of the goods it carries. If the Goods that are in the vehicle are of high value, then the owner wants to know the live location of the vehicle and accessibility of goods i.e., the owner needs to know if anyone accessed the goods in the vehicle.There are devices to track the vehicle but not for alerting the owner when the driver or any person gets access to the goods. This alerting owner is the important part when the goods are highly valuable like a vehicle carrying money to an ATM. The solution, we are proposing for tracking is through a GPS tracker, and the data is passed to the owner through NodeMCU the solution for alerting the owner on goods access is by setting a sensor to the door of the truck.Tracking the real-time location of the vehicle and displaying the movement of the vehicle in living.Alerting the owner when the backdoor of the vehicle is opened and also when the vehicle is stopped for a long duration. The owner can also lock

			the backdoor remotely from the mobile application. Motivation is to alert the owner when goods are accessed, to provide safe transport for high-value goods, and to alert the owner when the vehicle is under attack.Installing the GPS tracker in the vehicle. Transferring the information to the owner through NodeMCU. Sensing the access to the goods. Unlocking the backdoor when the user wants through the mobile application.

Students carrying their major projects in Center for Embedded Systems and IoT

Outcome of the Student Academic projects (2021-2022)
Papers published/communicated

S.No	Title of the Paper	Name of the Conference/Journal	Conference Dates	Status of the paper(Submiited/Accepted/Published)
1.	Hardware Accelerator For Face Mask Detection Using PYNQ Z2	INDICON 2022 IEEE 19th India Council International Conference	24-26 November, 2022	Accepted
2.	Genome Sequence Analysis	International Conference on Recent Trends in Microelectronics, Automation, Computing	28-30 Decemebr 2022	Accepted

		and Communication Systems (ICMACC-2022)		
3.	Energy Optimization and Optional Routing in Wireless Sensor Networks	4th International Conference on Inventive Research in Computing Applications ICIRCA 2022	21-23 September 2022	Accepted
4.	Real-Time surveillance of goods vehicle using IoT	Prototype designed Planing to file Patent	-	-

Center for Communications

About Center for Communications:

The Centre of Excellence in Communications provide technological leadership and address the needs of the Indian communication industry through extensive Research & Development (R & D) and value creation. Working as a neutral partner to policy makers and industry stakeholders not only looks at advancing the wireless communication industry but also plays a crucial role in building a dynamic wireless R & D ecosystem in India.

The optical fiber communication technique is one of the developments in the field of communication where the information is   transmitted from   one place to another through optical fiber in the   form of light defying the   electromagnetic interference and increasing the bandwidth.   Apart from this, satellite communication and mobile communication is the fastest growing segment of the communication industry.

A group of 15 faculty with rich expertise and experience are working in this group and are working in the areas of Wireless communication, RF, Microwave and Antennas. Laboratory of communications is equipped with latest MATLAB software with campus wide license. A number of Faculty development programs, workshops, seminars and webinars are conducted by this team in collaboration with Mathworks and Institute of reputes such as AICTE, IIIT Hyderabad, IIT Hyderabad, NIT Patna, NIT Warangal and many others to keep updated with the latest developments in the field such as 6G and Machine Learning in the context of wireless communications.

List of major equipment available

- Spectrum Analyzer
- Network Analyzer
- Satellite Trainer Kit
- RF Signal Generator (9KHz to 3GHz)
- Mobile Station
- PCB Protoype Making & Antenna Design Machine
- NetSim Software
- MATLAB Software

Faculty associated with Center for Communications

VNR VIGNANA JYOTHI INSITUTE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Communication (Including Microwave and RF)
SPECIAL INTEREST GROUP

Dr. M.C. Raju
Associate Professor,
(Communication Engineering)

Dr. Y. Chalapathi Rao
Associate Professor
(Wireless Communications, WSN, VLSI, Signal Processing)

Dr. Archana K Bhange
Sr. Assistant Professor
(Wireless Communications)

Mrs. K. Jyostna
Assistant Professor
(Wireless Networks, Embedded Systems)

Mrs. D, Kanthi Sudha
Assistant Professor
(Antennas, Microwave Engineering)

Dr. k. Kalyana Srinivas
Assistant Professor
(RF & Microwave Engineering, SC)

Mr. P. Srinivasa Rao
Assistant Professor
(Wireless Communications)

Mrs. K. Sangeetha
Assistant Professor
(Communication Systems)

Mrs. K. Deepthi
Assistant Professor
(Wireless Communications)

Mr. P. Suresh Babu
Assistant Professor
(Antennas, VLSI Design)

Mrs. G. Ramya
Assistant Professor
(Wireless Communications)

Mrs. Y. Manasa
Assistant Professor
(Wireless Communications)

Mrs. M. Rama Devi
Assistant Professor
(Wireless Communications)

Mrs. B. Alekhya
Assistant Professor
(Communications, VLSI Design)

Mrs. M.Bhagya Lakshmi
Assistant Professor
(Antennas)

List of faculty associated with Center for Communications

S.No.	Name of the faculty	Designation	Area of research
1	Dr. M.C. Raju	Associate Professor	Communication Engineering
2	Dr. Y. Chalapathi Rao	Associate Professor	Wireless Communication, WSN, VLSI and Signal Processing
3	Dr. Archana K Bhange	Sr. Assistant Professor	Wireless Communication
4	Mrs. K. Jyostna	Assistant Professor	Wireless Network and Embedded System
5	Mrs. D. Kanthi Sudha	Assistant Professor	Antenna and Microwave Engineering
6	Dr. K. Kalyana Srinivas	Assistant Professor	RF, Microwave Engineering and Satellite Communication
7	Mr. P. Srinivasa Rao	Assistant Professor	Wireless Communication
8	Mrs. K. Sangeetha	Assistant Professor	Wireless Communication
9	Mrs. K. Deepthi	Assistant Professor	Wireless Communication
10	Mr. P. Suresh Babu	Assistant Professor	Antenna and VLSI Design
11	Mrs. G. Ramya	Assistant Professor	Wireless Communication
12	Mrs. Y. Manasa	Assistant Professor	Wireless Communication
13	Mrs. M. Rama Devi	Assistant Professor	Wireless Communication
14	Mrs. B. Alekhya	Assistant Professor	Communications and VLSI Design
15	Mrs. M. Bhagya Lakshmi	Assistant Professor	Antennas and Communication Engineering

The list of funded research projects carrying/carried out in center for Communications

S.No.	Project Title	Funding Agency	Sanctioned Date	Duration in Years	Amount Sanctioned in Lakhs	Principal Investigator (s)
1	Design and Development of Night Vision Imaging LIDAR and Laser-3D Imaging System for Homeland security and other Surveillance applications in Defense	DRDO	31/08/2021	3	51.28	Dr.Y.Chalapathi Rao
2	Design and Development of Prototype for Secure Weapon Shooting Information System	ARDE, DRDO	15/05/2020	1.5	9.96	Mr. V.Naveen Kumar
3	Weapon Locking & Tracking System (WLTS)	ARDE, DRDO	15/07/2014	1.2	9.90	Mr. V.Naveen Kumar
4	Virtual Assistant for Mobile Devices using Voice and Gesture Technologies (in Collaboration with IIITH)	ITRA	20/09/2013	3	18.14	Dr.Y.Padma Sai Mr. V. Naveen kumar

Applied Research projects

S.No	Name of the faculty	Applied Project Title	Funding Agency	Amount in Lakhs
1	Dr. Y Chalapathi Rao	To study potential protocols for satellite-based secure quantum communication under ambient atmospheric conditions	ISRO respond basket 2021	20,82,000/-
2	Dr. M. C. Raju, Dr. Ranjan Kumar Senapathi	Development of A Modular L- Band Profiler for Atmospheric Boundary Layer and Precipitation Studies	ISRO Respond Program	28,00,000/-
3	Dr. M. C. Raju	Time of Flight Opto-Electronic (Lidar) System Development.	ISRO respond basket 2022	48,00,000/-
4	Dr. M. C. Raju	Radio frequency imaging for identifying objects and human beings behind walls	SERB	37,22,800/-

Faculty as Reviewer/ Editorial members

S. No.	Name of the faculty	Nature of Contribution	Details of associated Organization / Journal / Conference etc.	National / International	Date / Duration
1.	Dr.Y.Chalapathi Rao	Editorial Board Member	Global Journal of Electronics and Communication research (GJECR)	International	2018 to till date
		Editorial Board Member	SCIREA Journal of Electrical Engineering		2019 to till date
		Reviewer	IEEE Access		2018 to till date
			Wiley-Expert Systems		2020 to till date
			Wiley-International Journal of Communication Systems		2019 to till date
2.	Dr.K.Kalyan Srinivas	Member, Technical Program Committee	International Conference on Artificial Intelligence: Theory and Applications [AITA 2021]	International	April -2021 to December 2021
3.	Dr. M Christ Raju	Reviewer	Convergence 2K18, VNR VJIET's Annual Technical Symposium	National	5th and 6th oct-2018.

Faculty Awards and Recognitions

S.No.	Name of the Faculty	Designation	Details of the award and recognition
1	Dr.Y.Chalapathi Rao	Associate Professor	Recognized as IEEE Senior Member
			One of the Toppers (In TOP 5%) in NPTEL exam on Digital Circuits conducted during July-October 2021 and Analog Communication (77%) July-October 2019.
			Received Best Academician Award from IJIEMR-ELSEVIER SSRN Research Award 2020.
2	D.Kanthi Sudha	Assistant Professor	Recognized as IEEE Senior Member in April 2020.
			Received Mentor certificate for mentoring Smart India Hackathon 2019 Winner team in Hardware

			edition, organized by AICTE and UGC.
3	G.Ramya	Assistant Professor	Awarded a Cash Prize for "BEST LOGO DESIGN" conducted by VNR VJIET in regard with the Silver Jubilee Celebrations' during Feb 2020.
4	K.Sangeetha	Assistant Professor	One of the toppers (in 5%) in NPTEL Exam – Analog Communication (77%) July-October 2019.
			Topper in NPTEL Exam- Principles of Communication Part – I (96%) January-April 2019.

Faculty as Ph.D. Supervisor

S. No	Name of the faculty	Specialization	Ph.D. Details - (University & Year of Award)	Research Scholar Details			Status
				Name of the Research Scholar	Year of Admission and / or Completion	University	
1	Dr.Y. Chalapathi Rao	Wireless Communication	ANU, Guntur, February 2018	J.Jagga Rao	November 2018 (Full-Time)	JJTU, Rajasthan	Awarded
2	Dr.K.Kalyan Srinivas	Antennas	JNTUK, 2018	B. Alekhya	2021 (Part-Time)	NITW	On going

Faculty Professional Body Memberships

S.No	Faculty Name	Membership No.				
		IEEE	ISTE	IETE	IEI	OTHERS
1	Dr.M.C.Raju	-	LM 95556	M150525	-	IAENG:294717
2	Dr.Y.Chalapathi Rao	SM97206519	-	-	M-1745470	IAENG:271030
3	K.B.Archana	-	LM62878	M234461	-	-
4	K.Jyostna	-	LM62877	M234469	-	-
5	D.Kanthi Sudha	SM96440261	LM62879	M234470	-	-
6	Dr. K.Kalyan Srinivas	97227066	LM 107793	-	-	-
7	P.Srinivasa Rao	-	LM 107798	-	-	-
8	K.Deepthi	-	LM 107781	-	-	-
9	K.Sangeetha	-	LM 33951	-	-	IAENG: 164126

10	P.Suresh Babu	97239094	LM 98847	-	-	IAENG:113465
11	G.Ramya	97526511	LM 122057	-	-	
12	M.Rama Devi	-	LM 122063	-	-	-
13	B.Alekhya	-	-	-	-	-
14	Y.Manasa	-	-	-	-	IAENG:294462

Workshops/ Faculty Development Programs/ Webinars Orgonized:

S.No	Title of the Workshop/FDP/Webinar	Duration	Sponsoring Agency
1	ATAL Online Faculty Development Programme on "Challenges in adapting Machine Learning towards 5G/6G Communications"	09/08/2021 to 13/08/2021	AICTE (ATAL)
2	Demystifying 5G RF ASICs	24th August - 4th September 2020	VNRVJIET in association with E & ICT Academy, NIT Patna
3	FDP on "Sensor Network and IoT"	26/08/2019 to 31/08/2019	Electronics & ICT Academies, MeItY
4	FDP on "Wireless and Mobile Communications"	01 - 06 July 2019	VNRVJIET in association with E & ICT ACADEMY, NIT Warangal
5	FDP on "Embedded Systems & Interfacing Hand-on"	10/06/2019 to 14/06/2019	Electronics & ICT Academies, MeItY
6	Open House 2019 Faculty Coordinator	8-9 March 2019	VNRVJIET IEEE

List of Partial delivery of the courses by the Industry personnel

S.No	Name of the industry personal	Industry associated	Course name	Date
1	Mr. Ratnakar Rao	Senior Director, Samsung R&D Institute, Bangalore	Beyond 5G" Communication	13-08-2021
2	Shri J. Santhana Krishnan	Retired Deputy General Manager, BSNL, Chennai	Research Opportunities and Role of Machine Learning in 6G	12-08-2021
3	Mr. Nithin Ravi	Application Engineer, NetSim, TETCOS LLP, Bangalore	Hands-on session using NetSim for Wireless Communications	12-08-2021
4	Mr. Subhas Mondal	Head of R & D, 5G products at HFCL, Vice Chair, IEEE Bangalore Section, Bangalore	Private 5G and Intelligence at the Edge	11-08-2021

5	Mr. Sadaf Arif Siddiqui	Marketing Initiative Manager, Keysight Technologies India Private Limited, Bangalore	Machine Learning Algorithms for Wireless Communications	10-08-2021
6	Mr Kishore Siddani	Application Engineering Team, MathWorks, Bangalore	The Road to 5G: Simulating and Prototyping Wireless Systems (Hands-on)	10-08-2021
7	Dr.Vinosh Babu James	Associate Director, Technical Standards at Qualcomm India, Bangalore	Introduction to Massive MIMO, mm-Wave Communications, Cooperative MIMO	10-08-2021
8	Mr.Bala Prasad Peddigari	HiTech CTO, Engineering Team at TCS, Hyderabad	Applications of Machine Learning	09-08-2021
9	Dr.M H Kori	Vice - President, IETE, New Delhi, Distinguished Fellow of IETE	Future Challenges of 5G Communication System, 5G use cases and architecture	09-08-2021
10	Mr. G. Dharmendra Nayak	MMRFIC Technology Private Limited, Bangalore	Microwave Engineering	25-07-2020
11	Mr. PVS Maruthi Rao	Vidcentum R & D Pvt. Ltd, Hyderabad	Digital Communications	15-09-2020
12	K.Sai Deep	TCS, Hyderabad	Machine Learning	09-09-2019
13	Dr Vijender B Reddy	ADRIN dept of space, Hyderabad	Security and Privacy in IoT Systems	30-08-2019
14	Madhu Parvathaneni	Founder & Chief Strategy, ORL Industries, Hyderabad	Python Programming and Basic Electronics with Raspberry Pi	29-08-2019
15	Anuroop Mrutyunjay	FoGR Technologies, Hydeabad	Working with IoT Devices	28-08-2019
16	Mahesh Patil	CDAC, Hyderabad	Micro Processors and Micro Controllers	21-01-2019
17	Mr.Vijaykumar	Robert BOSCH, Bangalore	Digital Communications	18-1-2019 & 19-1-2019

The list of best academic projects from the Center for Communications for the academic year 2020-21

S.No.	Project Title	Name of the Project Supervisor (s)	Name of the Student	Roll No.
1	Recognition and tracing of intent using LIDAR	Dr. Y. Chalapathi Rao	Fameena K Abhinav Reddy R Pratyusha Pavan Sidhartha	18071A04K6 18071A04M4 18071A04P6 18071A04P0
2	Performance evaluation of Conformal patch antenna in comparison with planar patch antenna	Ms.D.Kanthi Sudha	U Janvi B Surya Pavan T Sai Nakshatra B Santhi Chandra	18071A0480 18071A0467 18071A04B3 18071A0469
3	Design of Micro strip MIMO antenna for ultra-wideband applications	Mr.P Suresh Babu	P Unni Prasanna Amruth Chandra Neeraj Prashanth	18071A0441 18071A0417 18071A0430 18071A0406

The list of few of the academic projects carried out in the center for Communications during academic year 2021-22

S.No	H.T.No	Title	Name of the Guide
1	18071A0412 18071A0435 18071A0452 19075A0404	History-Assisted Energy-Efficient Signal Processing Spectrum Sensing for Infrastructure-Based Cognitive Radio Networks	Ms.K Jyostna
2	18071A0434 18071A0416 18071A0448 18071A0426	Designing of variable Antennas with increased Gain	Ms.B.Alekhya
3	18071A0441 18071A0417 18071A0430 18071A0406	Design of Micro strip MIMO antenna for ultra-wideband applications	Mr.P Suresh Babu
4	18071A0437 18071A0438 18071A0454 18071A0458	Compressive sensing based direct sequence spread spectrum receivers for different sampling ratio	Ms. G.Ramya
5	18071A0408 18071A0415 18071A0422 18071A0447	Energy Efficiency Optimization for Device-to-Device Wireless Communication NOMA network	Mr.P.Srinivasa Rao
6	18071A04A7	Matrix calibration-based cascade channel estimation for	Ms.K Deepthi

	18071A0498 18071A0483 19075A0412	reconfigurable intelligent surface assisted multiuser MIMO	
7	17071A04A5 18071A0474 18071A0479 18071A04B0 18071A04B5	CPW Fed circularly polarized monopole-antenna for wide band applications	Dr.K Kalyan Srinivas
8	18071A0480 18071A0467 18071A04B3 18071A0469	Performance evaluation of Conformal patch antenna in comparison with planar patch antenna	Ms.D.Kanthi Sudha
9	18071A04C3 18071A04D2 18071A04F4 18071A04G6	Radio resource allocation using Machine Learning algorithms	Ms.K Sangeetha
10	18071A04C7 18071A04E3 18071A04E8 18071A04G7	Analysis of Visible light communication using Integrated avalanche photo detectors	Dr.Y.Chalapathi Rao
11	18071A04E0 18071A04F0 19075A0414 19075A0418	Optimization based channel estimation for improved channel quality response	Ms.K Archana Bhange
12	18071A04J1 18071A04M5 18071A04P4 19075A0424	Performance analysis of C-NOMA in 5G networks	Ms.M Rama Devi
13	18071A04K6 18071A04M4 18071A04P6 18071A04P0	Target Identification and Tracking using Unmanned Air Vehicles (UAV)	Dr.Y.Chalapathi Rao
14	18071A04J7 18071A04J9 18071A04P9 19075A0420	A Unified Model for Signal Detection in Massive MIMO System and Its Application.	Ms.Y. Manasa
15	18071A04N7 18071A04P5 18071A04Q5 18071A04R0	Modified Block turbo codes for 5g wireless communication	Dr. M. C. Raju

Research & Development Discussions:

Discussion on the project "Design and Development of Night Vision Imaging LIDAR and Laser 3-D Imaging System for Homeland Security and Other Surveillance applications in Defence"

Dr. M. Satyanarayana, Adjunct Professor exploring the research ideas

Dr. M.N. Reddy and Dr. M. Satyanarayana delivering Guest Lecture and Exploring the Research ideas

Students Achievements:

Students working in this center of excellence are encouraged to participate in hackathons. Smart India Hackathon (SIH) is a national level hackathon organised by Govt. of India annually for students of higher education institutions of India. Winners of Smart India Hackathon (SIH) 2019 Hardware category under team name of VERVE_BRIO for the project titled "Pipeline Pilferage Prevention & Detection system". Devineni Sravani (16071A0475), Vallabhaneni Sri Kavya (16071A04B6), Sirikonda Sai Bhavyasree (16071A04B4), Chanda Aishwarya (16071A0468), Akavaram Nihash Reddy (16071A0461), Rama Venkat Sai (16071A04B0) are members of the student team.

**The winners of Smart India Hackathon 2019 hardware edition**

III B. Tech students N Samhitha, O. N. Ashritha of ECE-3 and G. Pavani and T. Shruthi of ECE-4 participated in the "startup weekend" challenge, first ever Global Women Startup Weekend in Hyderabad organised by Start-Up Hyderabad. Samhitha and Ashritha teamed to win first prize for their startup idea "ECOTILLY" which aims at paperless billing at retail cloth stores.

The winners of Global Women Startup Weekend

Media Coverage:
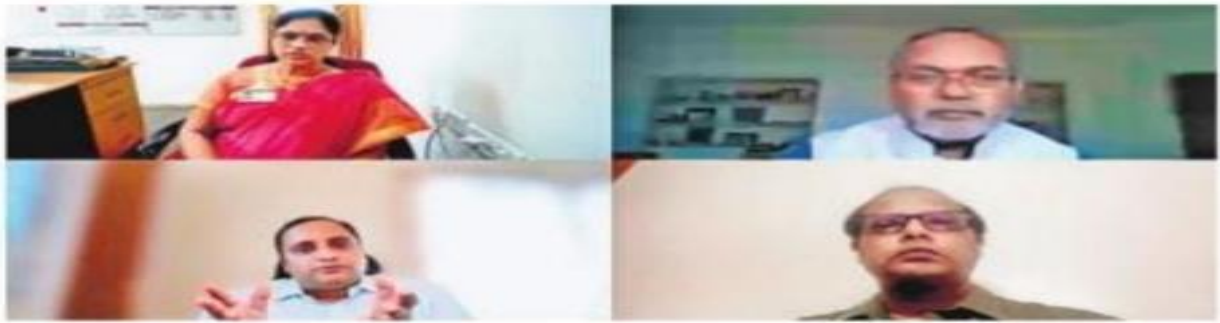
Virtual programme on machine learning

A five-day Online Faculty Development Programme (FDP) on 'Challenges in Adapting Machine Learning towards 5G/6G Communications' was launched at VNR Vignana Jyothi Institute of Engineering and Technology (VNRVJIET). This programme is sponsored by All India Council for Technical Education Teaching and Learning Academy and is conducted by the Department of Electronics & Communication Engineering and the IEEE Signal Processing Society Chapter at VNRVJIET. The chief guests included: Col. B Venkat, Director (Faculty Development) of AICTE; Dr Krishna Duwuri, Head-Innovation & Automation, TECHBU at TCS Hyderabad; and Dr M H Kori, Distinguished Fellow of IETE and Vice President, IETE-New Delhi; among others.

విఎన్ఆర విజ్ఞానజ్యోతి ఇన్స్టిట్యూట్ ఆఫ్ ఇంజినీరంగ్ అండ్ టెక్నాలజీ
5జి/6జి సాంకేతిక ఆన్లైన్ ఫేకల్టీ డెవలప్మెంట్ కార్యక్రమం

నిజాంపేట్ మేజర్ న్యూస్ : ప్రగతినగర లోని ఎన్ఆర విజ్ఞానజ్యోతి ఇన్ స్టిట్యూట్ ఆఫ్ ఇంజినీరంగ్ అండ్ టెక్నాలజీ 6జి/6జి సాంకేతికతకు అనుగుణంగా మెషిన్ లెర్నింగ్ ని మలచటంలోని సవాళ్ళ గురించి అయిదు రోజుల పాటు ఆన్ లైన్ ఫేకల్టీ డెవలప హోంబ్ కార్యక్రమం మొదలైంది. ఏఐసీటీఈ ట్రయినింగ్ అండ్ లెర్నింగ్ ఏకీమెట్ ప్రాయోజితమైన కార్యక్రమానిన ఎన్ఆర లోని ఈ.సి.ఈ విభాగం, ఐఈఈఈ సిగనల్ ప్రొసెసింగ్ స్పాసేర్ కలిసి నిర్వహంచగా ముఖ్య అతిధులుగా కర్నల్ బి.వెంకట్, ఏఐసీడీఈ ఫేకల్టీ డెవలప హోంబ్ సంచాలకులు డా. కృష్ణ దువ్వర్, ఇన్నవేషన్, ఆటోవేషన్ అధిపతి, టీఈసిబిఎచ్యూ,

టిసిఎస్ హైదరాబాద్ డా.ఎమ్.హెచ్. కోర్, ఐఈఈటీ న్యూదిల్లీ ఉపాధ్యక్షులు వాల ప్రసద పెదిగార్, ఐఈఈటీ కాంప్యూటర్ స్పాసైట్ ఆఫ్ ఇండియా చెయిర్ ప్రెస్ హోల్గ్సేర్వరు. ఇటువాంటి అధునస్తన సాంకేతికలను గురించి విశేషంగా చర్యావటానికి ఆయా రంగాల నివుణులను ఒకక చోట చేర్చ తగిన వేదికన ఏర్పర్న ఈ నైవుద్యయభివృద్ధి కార్యక్రమానిన నిర్వహన్సున ఎన్ఆర ని డా కోర్ అభినందించారు. కర్నల్ వాంకట్ మాటీడుతూ అధ్యయమ్ము సవీన సాంకేతికల ప్రౌఢ్యసైన తెలుస్న కుంటూ తమని ఆమ మెరుగు ప్ర్యూకోవాలని ఆఖిలమిస్సు, ఐఈఈటీ ఇటువాంటి కార్యక్రమాలకు సరా ప్రోతసహన్సుంది సుపహీ చేసరు. డా కృష్ణ

దువ్వర్5 మాటీడుతూ మన దైనందిన జీవితాలోన్న, జీవనశైలిలోన్న సమూలమైన మారుపలు కృన్తిమ మేధ (ఎఐ), ఇంటర్నట్ ఆఫ్ థాంగన (ఐటీ), 5జి/6జి సాంకేతికత వాంటి అధున్నతన విజ్ఞానశాసాల పలన సద్యముపతాయిర వివరంచారు. ఎఐ, మెషిన్ లెర్నింగ్ దావర రానునన మారుపటను శాంచన వేయగలగబాం దావర టెలికమూయనిషేష్న, ఆరోగయ రంగాలతో సహ అనేక రంగాలో విత్యసనియతను వాంది మరొంత ప్రూవీపీ వేయవచచని తెలిపారు. అధున్నతన శాస్త్రసాంకేతికత దావర పారి నగరాలతో సహ రానునన పెనుమారుపలను వాలప్రసద్ పెదిగార్ తన ప్రసాంగాంలో ప్రసువాం చారు. 6జి ప్రమాణ్యు, ప్రయతనలు, సవాళ్ళక, అవర్సైరాక స్థదనలు, రానునన 6జి వైర్ లెస్ సాంకేతికతకునన నౌలభాయలు, మెషిన్ లెర్నింగ్ వలన వైర్ లెస్ కమూయనికేష్న రంగాంలో రానునన మారుపలను సద్య దావర నేరువకునే అవకాశాలీన ఈ నైవుద్యయభిన్సునిటి కార్యక్రమం కలిపస్తుందని, 150ి పైగా అధ్యయమ్యు, సాంకేతికరంగ నివుణులు, ప్రొద్యులు పాల్గొన ముస్సున్నర్ని కార్యక్రమ నిరావహకులు డా నై.చలప్టిరావు, అసోసియేట్ ప్రొఫెసర్ ఈనీఈ తెలిపారు. ఈ ప్రారంభోత్సవ కార్యక్రమాంలో కళాకల డీన్-స్టిండెంట్ ప్రోఫెస్ డా వై.సైతాయి, సాంచాలకులు డా వి. చిననశేష్వరావు, విజ్ఞాన జ్యుతి సాంయుక కార్యదర్శి కోడ దువ్వాప్రసద్ కూడా ప్రసాంగిoచార.

విజ్ఞానజ్యోతిలో అధ్యాపకులకు శిక్షణ

అధ్యాపకులకు శిక్షణ ఇస్తున్న నిపుణురాలు

నిజాంపేట, జూన్ 10 (ఆంధ్రజ్యోతి): బాచుపల్లిలోని విజ్ఞాన జ్యోతి ఇంజనీరింగ్ కళాశాలలో ఎంబెడెడ్ సిస్టమ్ మరియు ఇంటర్ ఫేసింగ్ అనే ఇతివృత్తంతో ఫెకల్టీ డెవలప్మెంట్ ప్రోగ్రాం నిర్వ హిస్తున్నారు. ఈ శిక్షణ నాలుగు రోజులపాటు జరగనున్నదని ఈసీఈ విభాగానికి నేతృత్వం వహిస్తున్న డా.వై. పద్మసాయి తెలిపారు. నిట్ పాట్నా ప్రముఖులు ఇచ్చే ఈ శిక్షణ వలన ఎంబెడెడ్ సిస్టంలోని ఆధు నిక పోకడలు,నిర్మాణంలో వాటి సాంకేతిక పరిజ్ఞానం, వాటి నియం త్రణ వ్యవస్థలు, సీ ప్రోగ్రాంలతో వాటి అనుసంధానం తదితర అంశా లపై అధ్యాపకులకు అవగాహన కలుగుతుందని ఆమె అన్నారు. తదు పరి రోజుల్లో ఖరగ్పూర్, ఢిల్లీ ఐఐటీ నిపుణుల సూచనలు కూడా ఉంటాయని ప్రస్తుతం నాలుగు కళాశాలలకు చెందిన 50 మంది అధ్యా పకులు ఈ శిక్షణలో సోమవారం పాల్గొననున్నట్లు ఆమె తెలిపారు.

ఎంబెడ్డడ్ సిస్టం పై అధ్యాపకులకు శిక్షణ ప్రారంభం

శిక్షణలో పాల్గొన్న బోధనా సిబ్బంది

బాచుపల్లి(నిజాంపేట), న్యూస్‌టుడే: బాచుపల్లిలోని వీఎన్‌ఆర్ విజ్ఞాన్‌జ్యోతి ఇంజినీరింగ్ కళాశాలలో 'ఎంబెడ్డడ్ సిస్టమ్స్ అండ్ ఇంటర్‌ఫేసింగ్' అంశంపై బోధనా సిబ్బందికి శిక్షణ కార్యక్రమం సోమవారం ప్రారంభమైంది. నేషనల్ ఇన్ స్టిట్యూట్ ఆఫ్ టెక్నాలజీ(ఎన్‌ఐటీ) పట్నా, వీఎన్‌ఆర్‌వీజేఐటీ ఈఈఈ, ఐఎస్ టీఈ సంయుక్త ఆధ్వర్యంలో నాలుగు రోజుల పాటు ఈ శిక్షణ కొనసాగనుంది. ఈఈఈ విభాగాధిపతి డాక్టర్ వై.పద్మసాయి మాట్లాడుతూ ఈ శిక్షణ ద్వారా అధ్యాపకులకు ఆధునిక తరహా విద్యాబోధన విధానాలు అలవడతాయన్నారు. తద్వారా విద్యార్థులకు మేలు జరుగుతుందని పేర్కొన్నారు. కార్యక్రమంలో దిల్లీ, ఖరగ్‌పూర్ ఐఐటీల నుంచి శిక్షణ సిబ్బంది పాల్గొన్నారు.

Faculty Development Programme at VNRVJIET

HANS NEWS SERVICE

Hyderabad: A Faculty Development Programme (FDP) on "Sensor Networks and Internet of Things (IoT)" is being held at Vallurupalli Nageswara Rao Vignana Jyothi Institute of Engineering and Technology (VNRVJIET). This FDP will be a 6-day hands-on training programme, which is sponsored by the MEITy under the Ministry of ICT of the Government of India, is being organised jointly by the Electronics & ICT Academy at the National Institute of Technology (NIT), Warangal and the Department of ECE along with the Professional chapters of IEEE, ISTE, and IETE at VNRVJIET.

Dr. R.R. Rout, Associate Professor-CSE at NIT-Warangal and one of the Coordinators of the programme, inaugurated the FDP and initiated the programme with an introduction to IoT and its applications and spoke about the communication protocols for sensor networks.

Speaking at the occasion, Dr. C.D. Naidu, Principal-VNRVJIET, said that IoT will impact our future and the participating faculty members must

work towards innovations in this domain. Dr. B. ChennaKesava Rao, Director for Advancement, advised that all faculty members must necessarily update themselves with technological advancements and that it is impossible for teachers to sustain a good career without such knowledge. Dr. Y. Padma Shayi, Professor and Head-ECE, said that participants must develop shrewd knowledge with the guidance of the Resource Persons of the programme.

Dr. Y. Chalapathi Rao, Associate Professor-ECE and one of the Coordinators for the FDP, said that this course is designed to provide an exposure to the fundamentals of Sensor Networks and Internet of Things (IoT) and help the participants

work with IoT devices, through hands-on training and practice sessions that teach Arduino architecture, IoT applications and devices, and other practical knowledge pertaining to working with IoT such as protocol stack, sensor cloud, Python programming, security and privacy, and data communication.The sessions will be delivered by experts from Depts. of ECE and CSE at NIT-Warangal and by industry experts from ORL Industries, ADRIN Department of Space, and FoGR Technologies, so that people get industry-oriented exposure to the subject, Dr. Chalapathi Rao added. The programme is being attended by about 50 faculty members and PhD scholars from various Departments.

సెన్సర్ నెట్ వర్క్స్, ఐఓటిపై అధ్యాపకులకు శిక్షణ

విఎస్ఆర్ విజెఐటిలో సెన్సర్ నెట్ వర్క్స్, ఐఓటిపై అధ్యాపకులకు
శిక్షణిస్తున్న డాక్టర్ ఆర్ ఆర్ రావత్

నిజాంపేట, ఆగస్టు 26 ప్రభాతవార్త : కుత్బుల్లాపూర్ నియోజకవర్గం వల్లూరుపల్లి నాగేశ్వర్రావు విజ్ఞానజ్యోతి ఇనిస్టిట్యూట్ ఆఫ్ ఇంజినీరింగ్ అండ్ టెక్నాలజీ కళాశాలలో "సెన్సర్ నెట్ వర్క్స్, ఐఓటిపై అధ్యాపకులకు సోమవారం శిక్షణ కార్యక్రమం నిర్వహించారు. ఆరు రోజుల నిర్వహించే ఈశిక్షణా కార్యక్రమం నేషనల్ ఇనిస్టిట్యూట్ ఆఫ్ టెక్నాలజీ, వరంగల్లోని ఎలక్ట్రానిక్స్ అండ్ ఐసిటి అకాడమి, విఎస్ఆర్విజెఐఈటిలోని ఈసీఈవిభాగంతో పాటు ఐఈఈఈ, ఐఎస్టిఈ, ఐఈటిఈ ప్రొఫెషనల్ సొసైటీ చాప్టర్ల ద్వారా సంయుక్తంగా నిర్వహించబడుతోంది. ఎన్ఐటి వరంగల్ సిఎస్ఈ విభాగం అసోసియేషన్ ప్రొఫెసర్ ఈకార్యక్రమానికి సమన్వయకర్త అయిన డాక్టర్ ఆర్ ఆర్ రావత్ ఈశిక్షణ కార్యక్రమాన్ని ప్రారంభించి ఇంటర్నెట్ ఆఫ్ థింగ్స్ గురించి పరిచయం చేసి, ఈసాంకేతికత వలన ఉవయోగాలు, సెన్సర్ నెట్ వర్క్లకు సంబంధించిన కమ్యూనికేషన్ ప్రోటోకాల్ గురించి వివరించారు. ఈసందర్భంగా ప్రధానాధ్యాపకులు డాక్టర్ సిడి నాయుడు మాట్లాడుతూ ఐఓటి మన భవిష్యత్తును ప్రభావితం చేయనుందని ఈరంగం లో శిక్షణను అందుకుంటున్న అధ్యాపకులు నూతన ఆవిష్కరణల దిశగా కృషి చేయాలని సూచించారు. ఈకార్యక్రమంలో యాభైమంది అధ్యాపకులు, కళాశాలలోని పిహెచ్డి విద్యార్థులు పాల్గొన్నారు.