

ece news SYNCOM

A Voice Of Electronics And Communication Engineering

KKR&KSR INSTITUTE OF TECHNOLOGY & SCIENCES | ECE DEPARTMENT | 2017

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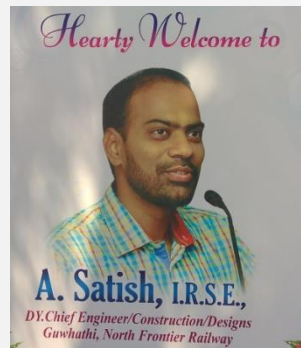
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Editors:

Dr. M.Siva Ganga Prasad HOD-ECE

Mr. M.Sudhir

Advisory Board

Prof. C. Satyanarayana

Mr. T.Bala Krishna

Mr. P.Ashok Babu

Mr. A.Sarath

Student Coordinators

Mr.K.Balaji

Ms.V.Naga Ramya

Ms.B.Sai Anjani

Mr.G.Saketh



About the Department:

Program Educational Objectives

- To produce graduates who would have developed a strong background in basic science and mathematics and ability to use these tools in their chosen fields of specialization.
- To produce graduates who have the ability to demonstrate technical competence in the fields of electronics and communication engineering and develop solutions to the problems.
- To produce graduates who would attain professional competence through life-long learning such as advanced degrees, professional registration, and other professional activities.
- To produce graduates who function effectively in a multi-disciplinary environment and individually, within a global, societal, and environmental context.
- To produce graduates who would be able to take individual responsibility and to work as a part of a team towards the fulfillment of both individual and organizational goals.

Department Vision

Developing highly Qualitative, Technically Competent and Socially Responsible Engineers.

Department Mission

To provide quality education in the domain of Electronics and Communication Engineering through

- Enriched curriculum for addressing the needs of Industry.
- Effective teaching learning processes through congenial environment.
- Gaining contemporary knowledge through research, development, curricular, co and extra-curricular

What is the difference between 4G LTE & VoLTE?

LTE stands for "**Long Term Evolution**".

VoLTE stands for "**Voice over LTE**".

Spell the letter V and o separately. it is V-o-LTE

Key Difference: VoLTE networks support both voice and data at the same time, without hampering the other. Whereas, the traditional LTE networks may or may not support data and voice together, or may affect the quality of the voice call.

What is VoLTE?

VoLTE, which brings voice call and video call to a brand new generation! VoLTE (Voice Over LTE) means connection of voice and video call through 4G LTE network. The terms LTE and VoLTE are often thrown around so much, especially for marketing, that their meaning is often confused and muddled. So much so that consumers often don't know what the terms mean or what they entail. The terms LTE and VoLTE are often used together for marketing, but in reality the two are completely different things, though one is depended on the other. LTE is basically a 4G network, or rather a prelude to a 4G network. First came 2G, then came 3G, however, technology still has not advanced to the stage where 4G, as described by 3GPP (3rd Generation Partnership Project), exists. However, technology and speeds have improved over 3G; hence, LTE, a network between 3G and true 4G. LTE stands for Long-Term Evolution. In fact, it is often marketed as LTE 4G or 4G LTE.

So, LTE is a type of network similar to 2G and 3G. It offers faster speeds than the previous two, thus making it easier and faster to transfer data over the network. This is also what enables VoLTE. VoLTE stands for Voice over LTE (Long-Term Evolution). It is a type of service that is available over the LTE network. It allows one to make calls, even video calls directly over the LTE network. As LTE is capable of higher speed downloads and uploads, it results in almost seamless calls.

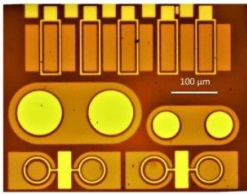
What are the Benefits to the user using VoLTE :

- HD Voice calls over 4G LTE
- Better Battery Life
- faster Call Setup
- Increased the Functionality of VoIP

By
Mr.G.Saketh
(II ECE)

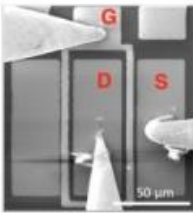
Deep-depletion: A new concept for MOSFETs

An international team of researchers has created a proof of concept that uses the deep-depletion regime in bulk-boron-doped diamond MOSFETs to increase whole channel carrier mobility



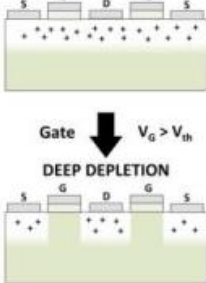
Deep Depletion MOSFET

Optical microscope image of the MOSCAPs and diamond deep depletion MOSFETs (D2MOSFETs) of this work.



FLAT BAND

Scanning electron microscope image of a diamond D2MOSFET under electrical investigation. S: Source, G: Gate, D: Drain.



D2MOSFET concept.

The on-state of the transistor is ensured thanks to the accumulation or flat band regime. The high mobility channel is the boron-doped diamond epilayer. The off-state is achieved thanks to the deep depletion regime, which is stable only for wide bandgap semiconductors. For a gate voltage larger than a given threshold, the channel is closed because of the deeply and fully depleted layer under the gate. CREDIT: Institut NÉEL.

Enter wide bandgap (WBG) semiconductors. Seen as significantly more energy-efficient, they have emerged as leading contenders in developing field-effect transistors (FETs) for next-generation power electronics. Such FET technology would benefit everything from power-grid distribution of renewable-energy sources to car and train engines.

Diamond is largely recognized as the most ideal material in WBG development, owing to its superior physical properties, which allow devices to operate at much higher temperatures, voltages and frequencies, with reduced semiconductor losses.

A main challenge, however, in realizing the full potential of diamond in an important type of FET -- namely, metal-oxide-semiconductor field-effect transistors (MOSFETs) -- is the ability to increase the hole channel carrier mobility. This mobility, related to the ease with which current flows, is essential for the on-state current of MOSFETs.

Researchers from France, the United Kingdom and Japan incorporate a new approach to solve this problem by using the deep-depletion regime of bulk-boron-doped diamond MOSFETs. The new proof of concept enables the production of simple diamond MOSFET structures from single boron-doped epilayer stacks. This new method, specific to WBG semiconductors, increases the mobility by an order of magnitude. The results are published this week in *Applied Physics Letters*, from AIP Publishing.

From the Journal: [Applied Physics Letters](https://doi.org/10.1063/1.4978881)

INTELLIGENT ELECTRONIC SYSTEM DESIGN USING BIO INSPIRED ALGORITHMS

The ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL conducted a one week Faculty Development Program on "INTELLIGENT ELECTRONIC SYSTEM DESIGN USING BIO INSPIRED ALGORITHMS" on 28th OCT - 2nd NOV, 2017 from 9.00 AM to 5.00 PM in the Seminar Hall. Prof. P.Siddaiah, Dean, ANU College of Engineering & Technology is the chief Guest for this FDP.



ABOUT PROGRAM:

Bio inspired intelligent algorithm (BIA) is a kind of intelligent computing method, which is with a more lifelike biological working mechanism than other types. BIA's has made significant progress in both understanding of the neuroscience and biological systems and applying to various fields. Emerging and evolving systems are integrating intelligent attributes to enable the thrust towards making technology adaptive and functional as an aid to improve existing designs.. Bio-inspired algorithms are always research topics in artificial intelligence communities. This FDP provides theoretical and practical knowledge on the design and implementation of intelligent systems related to areas of electronic systems, communication, computer vision, mechanical systems, soft computing and related issues.

Day 05 (01.11.2017)

On 5th day Dr. J. Ravi Kumar, Asst. Prof, ECE Dept explained Jaya Algorithm. He explained that JAYA is a simple and new optimization algorithm for solving constrained and unconstrained optimization problems. He said that this algorithm is based on the concept that the solution obtained for a given problem should move towards the best solution and should avoid the worst solution. This algorithm requires only the common control parameters and does not require any algorithm-specific control parameters. He explained Demonstration of the working of Jaya algorithm, Flowchart of Jaya algorithm, The multi-objective Jaya algorithm and Flowchart of MO -Jaya algorithm.



In the second Session **Dr. M. Siva Ganga Prasad, HOD ECE Dept., KITS Guntur**, explained Outcome based Education. He said Outcome based education is student centered instruction that focuses on measuring student performance i.e. outcomes. Outcomes include knowledge skills and attitudes Outcomes include knowledge, skills and attitudes. Outcome based accreditation – focus remains on evaluation of outcomes of the program, though Input and Output parameters are also important Input and Output parameters are also important . The Session received good response from researchers, and faculty members.

Day 06 (02.11.2017)

The last day of the FDP was started with the lecture of Prof. N.V.S.N Sarma, NITW. He said in earlier optimization is only present in one parameter, But the present day requires Optimization in all parameters this is called Multi Parameter Optimization. He gave a suggestion to the participants to think from electronic engineer to General engineer. He explained Biogeography based Optimization (BBO). In the second session he explained “Interference Reduction Using Adaptive Antenna”



At the end of the session the speaker was honored by the HOD sir with a Shalv and Memento. After the feedback from the participants, The Vote of Thanks was delivered by Mr. K. Raju, Associate Professor of ECE. On behalf of the department of Electronics and communication engineering, the hosting department, He extended her gratitude to the College Management, Principal, Vice Principal, in charge HOD, Delegates and Organizing Committee. The FDP came to end with the National Anthem.

Orientation Program on DELNET



On 08th November 2017 at 2.00 PM all faculty of Electronics and communication Engineering attend for the orientation Program conducted by the department of Library & Information Center on “DELNET SERVICES” by the Mr. Ch. Mallikarjun, Regional Delnet Coordinator, DELNET, with other department faculties.

In this Session Mr. Ch. Mallikarjun explained about the following things

- What is DELNET
- Services of DELNET
- About Delplus
- Inter library lone request
- Online database DELNET
- About info. trac, pro quest, world e book library
- Technical support
- Training areas

DELNET has been established with the prime objective of promoting resource sharing among the libraries through the development of a network of libraries. It aims to collect, store, and disseminate information besides offering computerized services to users, to coordinate efforts for suitable collection development and also to reduce unnecessary duplication wherever possible.

The Main Objectives of DELNET are:

- To promote sharing of resources among the libraries by developing a network of libraries, by collecting, storing and disseminating information and by offering computerized services to the users;
- To undertake scientific research in the area of Information Science and Technology, create new systems in the field, apply the results of research and publish them

Guest Lecture on “WORK WITH COMMITMENT”



Mr. A. Satish,
IRSE
Deputy Chief Engineer/ Construction/
Design Guwhathi
North Frontier Railways



On 16th November 2017 at 11.00 AM all faculty of Electronics and communication Engineering attend for the Guest lecture conducted by the College on “Work with Commitment ” by the Mr. A. Satish, Deputy Chief Engineer, IRSE, with other department faculties.

Education +Social
Understanding +
Sensitivity
=Teacher

Teacher role is to
create Hunger/
Curiosity of the
Subject

For any subject
“First impression
is the best
impression”

● **What is the Meaning of education?**

He explained education is giving **Information** and **Knowledge** to enhance the **imagination** and **creativity** in the student

● **Do we have bad teacher & Parents?**

He said there is no god and bad in teaching. If it is there Then there is a good and bad student also. Then

Good teacher a bad student

But a Bad student cannot learn from a good teacher

● **Are we really confident to teach?**

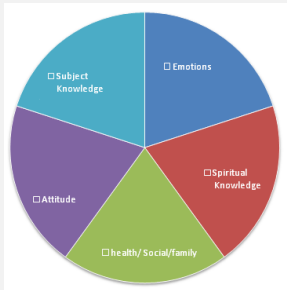
He answered with a table like as follows there are four levels depending upon opinion on ourselves and opinion on other faculties

Opinion of Self	Opinion on other faculties	Level
Low	Low	Cynical
Low	High	Insecure
High	Low	Arrogance
High	High	Confident

Time management

He explained that time management based upon Importance of the work and time available

Importance	Time	Level
Low	Low	Automate
Low	High	Regulate
High	Low	Effectuate
High	High	Debate



Mental stamina

The delivering the lecture base on the

- Emotions
- Subject knowledge
- Spiritual knowledge
- Health/social/ family
- Attitude

Orientation Program “OUTCOME BASED EDUCATION”

Prof. Koon Ramji
Dept. of Mechanical Engineering
Andhra University



On 18th November 2017 at 2.00 PM all faculty of Electronics and communication Engineering attend for the Orientation Program conducted by the College on “OUTCOME BASED EDUCATION ” by the Prof. K.Ramji, Andhra University.

How to formulate vision mission How to formulate vision, mission

- Bottoms up approach

- Involve all stakeholders
- Discussion, Brain storming
- Gap analysis
- Challenges before the institute
- What are the immediate and long term goals

Evolve vision, mission statements based on these discussions

The outcome based education design using



He said that OBE is The education that ensures that learners would achieve predefined outcomes for programme in which they are enrolled.

Monitoring of Achievements of the Outcomes is done in two ways

Direct Assessment Method: *using measurable performance indicators of students Exams Assignments Projects Tutorials Labs Presentations Rubrics*

Indirect Assessment Method: *Ascertaining opinion or self-reports Rubrics Alumni survey Employer survey Course-end survey, etc.,*

FACULTY ACHIEVEMENTS

Congratulations



Dr.Md. Zia Ur Rahman

is working as Professor, Dept. of Electronics and Communication Engineering in KKR&KSR Institute of Technology and Sciences, Guntur, A.P, India. He was nominated as an editor for the book titled **“Adaptive Filtering: Principles Concepts and Applications”** to be published by Nova Science Publishers, USA.

His book titled **“Adaptive Filtering techniques for remote Health Care Monitoring System”** is accepted for publication by Nova Science Publishers, USA.



Prof. K Madusudan Rao attended for the three day Faculty Development Program on “Real time control of Solar Inverters Using DSPACE & DSP” conducted by EEE department from 13th November 2017 to 15th November 2017





Dr. Khamuruddeen Shaik attended One-Week Workshop on “VLSI Circuits and Systems” from (13-11-2017 to 18-11-2017) Jointly Organized by UGC-HUMAN RESOURCE DEVELOPMENT CENTRE Jawaharlal Nehru Technological University Hyderabad and Department of Electronics and Communication Engineering SPOORTHY ENGINEERING COLLEGE. With his interest he presented a paper on “Layout and synthesis of 32* 32 bit multi- precision Reconfigurable Multiplier” in a International conference ICSTM-2017.

Mr. K.Raju, Assoc. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL



Mr. A.Sarat, Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL



Mrs. T.Bhavani, Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

Mr.E.Bahnu Prasad, Asst. Prof attended for the three day Faculty Development Program on “Real time control of Solar Inverters Using DSPACE & DSP” conducted by EEE department from 13th November 2017 to 15th November 2017



Ms. T.Revathi, Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL



Mr.T.Venkat Rao, Asst. Prof attended for the three day Faculty Development Program on “Real time control of Solar Inverters Using DSPACE & DSP” conducted by EEE department from 13th November 2017 to 15th November 2017

Mr.K. Mallikarjuna Rao, Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL



Mr. B.Venu, Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL.

With his interest he presented a paper on “Layout and synthesis of 32* 32 bit multi-precision Reconfigurable Multiplier” in a International conference ICSTM-2017.

Mrs. P.Sarala, Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL.



With her interest she presented a paper on “Ergodic Channel Capacity of Multiple Input and output System” in 12th International Conference on Recent Trends in engineering, Science and Management, At OU campus, Hyderabad.



Mr. K.Murali Krishna , Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

Mr. R.Ram Mohan , Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL



Mr. B.Brahmaiah , Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

Mr.T.Bala Krishna, Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL



Mr. K.Srinvas , Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL



Mr. P.Ashok Babu , Asst. Prof attended for one week Faculty Development Program on “ Intelligent Electronic System Design using Bio Inspired Algorithms” from 28th October to 2nd November 2017, organized by ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL.



With his interest he presented a paper on “Layout and synthesis of 32* 32 bit multi-precision Reconfigurable Multiplier” in a International conference ICSTM-2017.

Student achievements



NADIMPALLI MOURYA VAMSI (15JR1A04B8) Was awarded with NPTEL Online Certificate for successfully completing the course Design For Internet of Things with a consolidate score of 48% online assignments 18.5/25 proctored exam 29.25/75.



KKR & KSR Institute of Technology & Sciences

(Approved by AICTE New Delhi, Affiliated to JNTU Kakinada, Accredited by NAAC with "A" Grade)

Department of Electronics And Communication Engineering