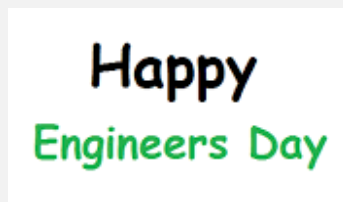
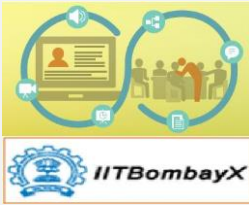


# ece news SYNCOM

A Voice Of Electronics And Communication Engineering

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



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**Editors: Dr. M.Siva Ganga Prasad** HOD-ECE & **Mr. M.Sudhir**

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Ms.V.NagaRamya

Ms.B.Sai Anjani

Mr.G.Saketh

## About the Department:

A resolution inspired by the growth in communication technologies has the potential to transform the country. Department of Electronics & Communication Engineering (ECE) promised to the part of it. Department has been postured in terms of very efficient and effective human resources and state the art of equipment in the different laboratories. The basic philosophy of teaching and learning process of the Department is based on the concept. All the perception of truth is detection of an analogy. The immense strength of the department lies in its teaching faculty who are prepared readily to adapt to the requirements of the students. Students are encouraged to participate in various Co and Extra-curricular activities through Department IEEE Student Chapter, Student Association SPACE. Professors also inculcate the research culture among the student's through funded research projects, innovative designing of the Electronic Circuits and publishing of the papers in reputed journals. Department is treasured by committed teaching faculty with 6 Ph.D holders and lot many are pursuing.

## 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 activities.

## Student Article:

### NRF24L01 RF TRANSCEIVER MODULE

NRF24L01 is a transceiver RF module. This module can be used as both transmitter and receiver i.e. It has Bi-directional communication capability. While the range of model can go up to 250 m to 1000 m in range external antenna model.

The module communicates using SPI protocol. Therefore, you should make looking at the arduino pin connector model SPI pins. Now, when we know



NRF24L01 module pinout we can now connect it to Arduino or some other board. SPI signals are in the ICSP connector. For connecting we suggest using female/female jumper wires (type FF). The rest of the signals can be connected using a female/male jumper wires (type FM).

The address is necessary if you have a few modems in the network, thanks to the address, you can choose a particular modem to which you are sending the data. In the “setup” function we call the method “radio.begin ();” . It activates the modem. Next we call “radio.setRetries(15, 15);” function. It shows how many times the modem will retry to the send data in case of not receiving by another modem.

The method of “ radio.openWritingPipe (rxAddr);” sets the address of the receiver to which the program will send data. Its argument is an array previously made with the receiver address.

The last method in the “setup” function is “radio.stopListening ();”. It switch the modem to data transmission mode. In the “loop” function, we start with creating a string that we want to send using modem..

By/-

**T. Jaya Kranthi Kumar (14JR1A04H0)**

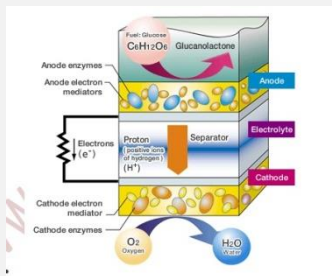
## Faculty Article:

## Bio Battery

Like a conventional fuel cell battery, Bio Battery basically consists of an anode, cathode, electrolyte and separator. However, Bio Battery has certain specific characteristics. First, biological enzymes are used as catalysts for the anode and cathode. Second, enzymes and electronic mediators (which transfer electrons between enzymes, and between enzymes and electrodes) are fixed on the anode and cathode.

## Previous attempts of Bio-fuel cells:

Several potential applications of BFCs have been reported or proposed in the literature for implantable devices, remote sensing and communication devices as a sustainable and renewable power source. However, there are no BFC design formats or templates that allow for the production of a working device with a size on the order of 1 cc, which are needed for several "real world" applications. An enzyme based BFC is very attractive, however it has been shown that electron flow is too slow to make a viable fuel cell.



This is due to the difficulty for enzymes to attain direct electrical contact with the electrodes of the cell and catalyze reactions effectively. The two largest obstacles with bio-fuel cells which must be overcome are increasing the power density and increasing the enzyme stability.

In addition, understanding of the determinants governing the direct electron transfer reaction and mutation of enzymes to tune the redox potential, to improve DET kinetics, or to reduce the enzyme size are also very important challenges facing the commercialization of bio-fuel cells.<sup>15</sup> To address these key issues, various enzyme immobilization methods have been attempted for constructing BFCs, such as adsorption, entrapment, and covalent attachment.

Recent advances in bio-nanotechnology are promising to improve the performance and stability of immobilized enzymes beyond the scope of these traditional approaches. The large surface area provided by nonmaterials for the attachment of enzymes will increase enzyme loading and possibly improve the power density of BFCs. Additionally, various nanostructured materials have shown great potential for stabilizing enzyme activity, which can be further employed in improving the lifetime of BFCs.

By/  
Mr. M.Sudhir,  
Assistant Professor

## Teacher's Day

**“Teachers Should Be the Best Minds in the Country”**

**– Sarvepalli Radhakrishnan**



In India, 5th September is celebrated as Teachers' Day as a mark of tribute to the contribution made by teachers to the society. 5th September is the birth anniversary of a great teacher Dr. Sarvepalli Radhakrishna, who was a staunch believer of education, and was a well-known diplomat, scholar, the President of India and above all, a teacher.

Students express their gratitude and appreciation for their teachers on this day. Students take the total responsibility of this event. This event was conducted in Micro Wave Lab of ECE Department.

At 3.30 Pm all the faculty members were assembled at MWE lab. The program started with the speech of a student. She said “Teachers play a major role in making their students responsible citizens of tomorrow and good human beings. It is impossible to imagine our lives without teachers. They are the cornerstone of our future. We can never thank teachers enough for their immense contribution in a student's life. Teacher's Day is celebrated to show our acknowledgement and recognition of the hard work put in by our teachers towards our development”.



Later few faculties expressed their views with the students. The event ended with words of wisdom by the Dr. Siva Ganga Prasad, HOD ECE, He said

***“A teacher,  
Is a beacon of light guiding  
Like a candle who burns selflessly  
To light a thousand new ones  
Enlightening the eager minds!”***

The cake cutting ceremony took place in the presence of the faculty members of ECE department.

## Industrial Visit

An Industrial visit has been organized by Department of Electronics and Communication Engineering for the III year I Semester Students on 08<sup>th</sup> September, 2017. The Main objective of the visit was to provide a technical Exposure to the students about Space Technology.

Totally 127 students of III year ECE of KITS (KKR&KSR INSTITUTE OF TECHNOLOGY &SCIENCES) Visited ISRO , SATHISH DHAWAN space center.



Students visited ISRO and learnt about

- LCC (launching control centre)
- MCC (machine control centre)
- SLP(second launch pad )
- FLP(first launch pad )
- ISTRAC(ISRO telemetry tracking and network centre)

We learnt about the computer system used in **LCC** for launch control. In

**MCC**(machine control centre) is the focal point controlling vehicle There are 8 hold buttons at different places around the range in case of abnormalities in sub-systems, the hold button is used to terminate the count down . In case the abnormality has been resolved the first row is used to supervise to control the operations on the vehicle .various chiefs of operations are seated in these rows is computers are connected by Ethernet and fiber optics.

**FIRST LAUNCH PAD ( FLP)** is the polar satellite launch vehicle (PSLV).It is one of the 2 orbit launch pads at the site the other been the second launch pad . Unlike the UMBILICAL type this is a PEDESTAL type the whole tower moves away from the rocket just before the blast off,





**SECOND LAUNCH PAD ( SLP )** is the geosynchronous satellite launch vehicle (GSLV) .This is the location that we seen every time a launch is broadcast on television .The rocket is assembled and brought to the launch pad. The rocket is electrically insulated from lighting by four lightening protection towers. these towers also house high resolution cameras at several levels to monitor the various stages of the rocket. The launch pad itself is about 70 meters high .An anchor is present to hold the rocket in place until the time of blast off.

**ISTRAC ( ISRO TELEMETRY TRACKING AND COMMAND NETWORK )** is about the ground stations which are located at Bangalore ,lucknow ,maurituis ,sriharikota ,portblair ,Thiruvananthapuram and the deep space network stations.

Forenoon session, we visited the **space museum** in the same campus. The visit came to an end at 4:30pm.It was informative, interesting and successful visit.



Many Students said that “THEY WANT TO WORK IN ISRO” due to the inspiration. They expressed their thanks to the management of KITS, Principal, head of the department of ECE who permitted them to go on the visit .

By/-  
**E.V.Narayana**  
**Assistant Professor**



## Engineer's Day

*"To give real service, you must add something which cannot be bought or measured with money"*

- Sir .Mokshagundam Visvesvaraya

Engineer's day 2017 is observed in the memory of **Mokshagundam Visvesvaraya**, one of the greatest engineers India has possessed. He is the chief engineer responsible for constructing **Krishna Raja Sagara dam** in Madhya district. M. Visvesvaraya is the key person behind many iconic constructions of India. He was born on 15th September which is celebrated as National Engineer's Day. The ECE department association "SPACE" celebrated Engineer's Day on 15<sup>th</sup> September 2017. In this occasion, The SPACE had conducted Technical Quiz, Paper Presentations & Project Expo for ECE students.



*"Engineering does not merely know and being knowledgeable; engineering is not merely analysis; engineering is not merely the possession of the capacity to get elegant solutions to non-existent engineering problems; engineering is practicing the art of the organized forcing of technological change".*





**Paper presentation Winners:**

S.NO	NAME	POSITION
1	15JR1A0427 G.SINDHU	Winner
2	16JR1A0419 G. BHANUSRI	Runner

**Technical quiz winners:**

S.NO	NAME	POSITION
1	14JR1A0484 M.GOWTHAMI	WINNERS
	15JR1A0450 D.ANAND RAI	WINNERS
	16JR1A0462 K.SIREESHA	WINNERS
2	14JR1A0490 H.SWETHA	RUNNERS
	15JR1A04F3 P.DARWIN	RUNNERS
	16JR1A0409 SUPRAJA	RUNNERS
	K. LAXMI SRAVANI (13JR1A0459)	RUNNERS

**Project Expo Winners:**

S.NO	ROLL NUMBERS	NAME OF THE STUDENT	PRIZE
1	16JR1A04D3	T.HARSHA VARDINI	<b>FIRST</b>
	16JR1A04B9	P.DIVYA SAI	
	15JR1A04A5	K.NISHANTH	
2	16JR1A04D8	T.TEJASWI	<b>SECOND</b>
	16JR1A04D7	V.S.L SUBHASHINI	
	14JR1A04H0	T.JAYA KRANTHI KUMAR	
	16JR1A04H2	V.VISHWA TEJA	
	16JR1A04H0	V.S.S.SUDHEER	
	16JR1A04G8	K,KRISHNA KALYAN	
3	15JR1A04A4	K.V. SIVA TEJA	<b>THIRD</b>
	15JR1A0453	D.SREE RAM SAI	

On 15<sup>th</sup> September 2017 prizes and certificates distributed to all the winners and runners of Paper presentation, Technical Quiz and Project expo.

## Students Achievements/ Activities:

### “Efforts never drain”

**Amareswari Ambati ( 14JR1A0405 )** got selected in TECHNOVERT campus drive conducted in college campus on 15th September 2017.

We wish to appreciate for your dedication and commitment to perform with excellence in campus drive of TECHNOVERT . You have proven your abilities and talents. Heartfelt obligation to you and keep your spirits.



**TECHNOVERT**  
TECHIE BY NATURE



**G.Krishna Saketh (16JR1A0446) & M. Surya Venkata Pavan Reddy (16JR1A0496)** participated in National Student's Space Challenge conducted by National Students Space Challenge 2017 held at IIT Kharagpur.



### Congratulations



**G.Sindhu (15JR1A0427) & D.Sai Yamini (15JR1A0425)** Got **1<sup>st</sup> prize** in Project Expo in National Level Technical meet **SAMKALP** for their project on “ Pick and Place Robot using Bluetooth Controller” at KHIT, Chowdavaram, Guntur. With their interest they participated in Paper presentation also .



## Faculty Activities :

### *FDP201x-Foundation Program in ICT for Education, by IIT Bombay*

**Mr.G.Malyadri, Mr.A.Sarat, Mr. K.Mallikarjuna Rao and Ms. T.Revathi**



Successfully completed FDP101x. Congratulations for their great efforts.

This course will help in you to create effective learning designs for online

and blended teaching-learning process.

This course will provide awareness to both technology and effective practices of technology integration. Participants of this course will be expected to use these technologies during the course, to design materials and activities for teaching-learning in their own topics. This will help them to become informed teachers and tackle teaching-learning problems competently.

# INTERNATIONAL SYMPOSIUM ON INTELLIGENT SENSING SYSTEMS-2017

*14th-16th, November, 2017*

*organized by*

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION  
ENGINEERING**

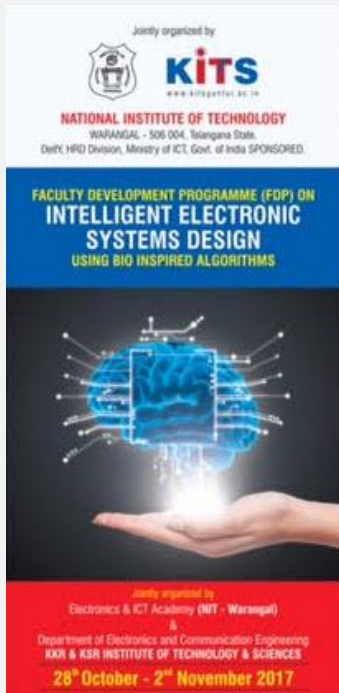
***KKR & KSR INSTITUTE OF TECHNOLOGY AND  
SCIENCES***

**(ACCREDITED BY NAAC WITH 'A' GRADE)**

## **About the Symposium:**

The International Symposium on Intelligent Sensing Systems 2017 (ISISS 2017) will take place during 14-16, November, 2017 in KKR&KSR Institute of Technology and Sciences (KITS), Guntur, A.P., India. The theme of the ISISS 2017 symposium is "Sensors Serve for Humanity", reflecting the ever growing interests in research, development and applications in the dynamic and exciting area of sensors, such as aerospace, biomedical, communications, defense, genomics, health care, nano technology, signal processing, and allied applications. The ISISS 2017 promises to be a great event for researchers and scholars in signal processing and robotics communication areas, with attractive technical and social programs.

# INTELLIGENT ELECTRONIC SYSTEMS DESIGN USING BIO INSPIRED ALGORITHMS



Dept. Of ECE, KKR & KSR Institute of Technology & Sciences (KITS) happy to inform you about 1 week National Level Faculty Development Program (FDP) on "Intelligent Electronic Systems Design using Bio Inspired Algorithms" sponsored by E& ICT division, Govt. of India from 28th October to 2nd November 2017.

Electronics and ICT Academy provides specialized training to the faculty of Engineering, Arts, Commerce & Science colleges, Polytechnics etc., by developing state-of-the-art facilities.

## Speakers

- 1) Dr J Ravi Kumar, Assistant Professor ,Dept of ECE, NITW, <http://www.nitw.ac.in/faculty/id/16305/>
- 2) Dr Swagatam Das, Assistant Prof, ISI, Kolkata,

<http://www.isical.ac.in/~swagatam.das/>

3) **Dr. Kota Solomon Raju, Principal Scientist, CSIR - Central Electronics Engineering Research Institute (CSIR-CEERI),** <https://sites.google.com/site/drsolomonrcswn/home>

4) Professor N.V.S.N Sarma , Professor, Dept of ECE, NITW, <http://www.nitw.ac.in/faculty/id/16287/>



*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*