ELECTRONICA

Newsletter

Department of Electronics & Communication Engineering
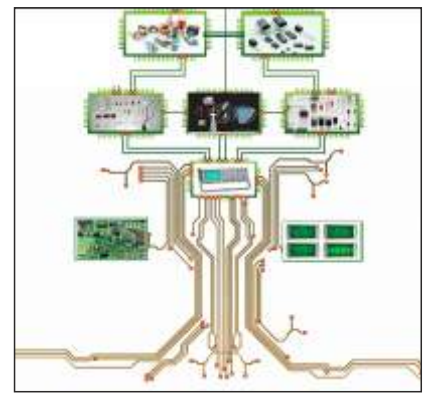
Volume 3	Issue 1	December-2017

Vision and Mission of the Institute

Vision

To be one of the premier Institutes of Engineering and Management education in the country.

Mission

- To provide Engineering and Management education that meets the needs of human resources in the country.
- To develop leadership qualities, team spirit and concern for environment in students.

Objectives

- To achieve educational goals as stated in the vision through the mission statements which depicts the distinctive characteristics of the Institution.
- To make teaching-learning process an enjoyable pursuit for the students and teachers.

Vision and Mission of the Department

Vision

To be a renowned department for education in Electronics and Communication Engineering in Karnataka State, moulding students into professional engineers.

Mission

- To provide teaching - learning process in Electronics and Communication Engineering that will make students competitive and innovative to adapt to needs of industry and higher learning.
- To imbibe professional ethics, team spirit and leadership qualities to succeed in changing technological world.
- To inculcate empathy for societal needs and concern for environment in engineering design and practice.

"Every day sees humanity more victorious in the struggle with space and time."

-Guglielmo Marconi

An inventor and engineer known for his pioneering work on long-distance radio transmission and for his development of Marconi's law and a radio telegraph system.

What's inside…

- *Articles*
- *Anagram*
- *Department Events*
- *Students Achievements*
- *Staff Achievements*

And more…

B. N. M. Institute of Technology

Vidyaya Amrutham Ashnuthe

From the Editors Desk

Dear Readers,

It is our pleasure to bring to you the 2017 Winter issue of the ELECTRONICA, official Newsletter, Department of Electronics and Communication Engineering, BNMIT.

Through this newsletter, the Editorial Team of ELECTRONICA assumes the agenda of delivering high quality content, year after year. This year's edition is no different. This platform has been used by students to express their talents, creativity, critical analysis, hands-on capability, and in general to spark their interests with respect to several topics, technical and non-technical. In this current age of Electronic Automation and Artificial Intelligence, it is worth noting that when technology is shared, it is this technology which really advances humanity as a whole to a new age; which is why we take immense joy in providing a platform to our students to share their knowledge and opinions.

The Editorial Team eagerly anticipates contributions for the Newsletter in the form of ideas and suggestions; and we hope to improve the quality of content for future versions of ELECTRONICA. Looking forward to hearing from you all,

Tanish Islam, V ECE C

About the Department

The Department of Electronics and Communication Engineering started in the Year 2001. Currently, the department is headed by Dr.P.A.Vijaya. The Department has 2 programs; B.E and M.Tech (VLSI design and Embedded Systems), affiliated to VTU.The Department has a VTU recognized Research Centre and currently there are thirteen registered candidates who are pursuing for doctoral degrees.The Department has a team of highly qualified and dedicated staff with teaching, research and industrial experience. Well-equipped laboratories with State-of-the-art infrastructure and class rooms with LCD projectors provide enhanced learning environment to cater to the budding engineers of tomorrow.

Faculty Development programmes, workshops, seminars and invited talks for students and staff are regularly organised in the department for continuous learning and updation of knowledge and skills. Academic performances of the students are excellent with twelve university ranks from the inception. Students do innovative projects, internship training in industries and academic projects in reputed organisations. Students regularly participate in inter-college and intra-college technical, cultural & sports events and have regularly brought laurels to the department.

Dr. P.A. Vijaya
Professor & Head, Dept. of ECE

BNMIT has been accredited with 'A' Grade by the National Assessment and Accreditation Council.


Happy Times

BNMIT Alumni Get together with Director Prof. T.J. Rama Murthy in Sunny Vale, USA on 29th Sept 2017

Happy to share with all students and staff about my visit to USA and attending BNMIT Alumni get together in Sunnyvale on 29th September 2017. The get together was a platform to bring back the alumni to the almamator for encouragement and mentoring the budding engineers of our Institution. In the get together it was proposed to initiate a BNMIT alumni chapter in the Bay area which is well received by the management. BNMIT alumni will be an integral part of our endeavors.

Prof. T. J. Rama Murthy
Director, BNMIT

ACTIVE ELECTRONICALLY SCANNED ARRAY RADAR

Radars form an important part of surveillance for multiple reasons. Radars are primarily used by airports, defense establishments, weather monitoring, etc. RADAR stands for **RA**dio **D**etection **A**nd **R**anging. Radars can be divided as – PESA (passive electronically scanned array) and AESA (active electronically scanned array). AESA Radar is a type of phased array that emits multiple frequencies over a large bandwidth simultaneously though multiple antennas. AESA radars are pulsed radars. They differ from conventional radars which emit radiations of a single frequency at a time as one single beam. AESA radar consists of individual radiating elements/antennas, each equipped with a solid-state transmit/receive module (TRM).
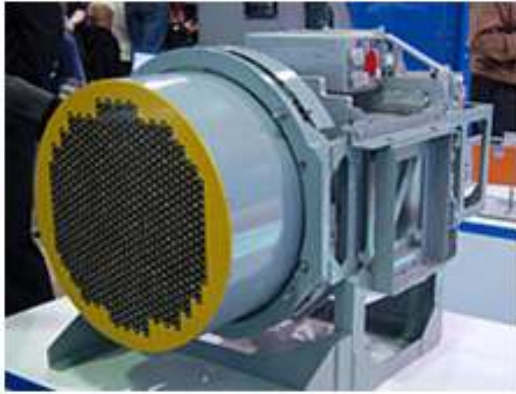
Russian Zhuk AESA radar
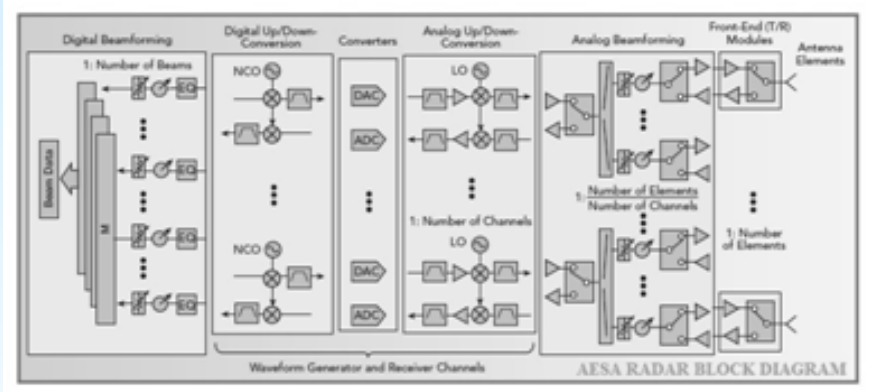
Block diagram of a typical AESA radar system

It consists of a low noise receiver, power amplifier and digitally controlled gain/phase elements. The AESA radar employs both analog beam forming and digital beam forming elements. Each TRM has its own transmitter, receiver, processing power and a radiator antenna attached to it. Each TRM can be configured to act either as a transmitter or a receiver or as radar. These individual TRMs work in sync, with some acting as a radar warning receiver, or as a jammer while the rest act as radar. The output power or receiver sensitivity can be tweaked depending on the number of modules based on these temporary associations with the subsystems.

The basic difference between AESA radars and classical pulse-doppler radar is how the beam is formed and how they aim the radar beam towards a target. It takes the phased array concept a step further. Instead of varying the phase of radar beam from a single high power transmitter (as in PESA radar), the AESA radar employs multiple TRM that are interlinked by high speed processors. A computer sends a command to these TRMs to emit a beam of certain frequency with a certain amount of delay between 2 consecutive beams. The composite beam thus obtained has its own interference pattern. When this beam hits a target, a part of the beam is reflected back. The AESA radar can either pick up these reflected beam or the signals emitted from the object (such as the signals emitted from enemy radar aircraft). The system processes the interference pattern from the received signals and is displayed on the radar screen.

The AESA radar can target multiple objects. As they switch between frequencies, they are nearly impossible to get jammed. Another advantage of this feature is its extremely high rate of scan. These radars are used in military aircrafts and navy vessels. The AESA radars aboard these vehicles can detect and identify nearby objects. Thus, AESA radar can easily distinguish between friendly and enemy aircrafts during dogfights and war time scenarios. AESA radars also help in tracking missiles. Since AESA radars employ multiple TRMs, they can identify multiple targets simultaneously. The AESA radar doesn't have to move mechanically within the nose of the aircraft unlike PESA radars as multiple beams are emitted in multiple directions. Hence they are lighter than PESA. AESA radars have higher power compared to PESA radars. AESA radars consume less power than PESA radars. AESA radars also have a low probability of intercept. If any transmitter is found faulty, it would not affect the radar. This gives AESA a high advantage over PESA where a faulty transmitter would virtually disable the entire radar.

The main drawback of this technology is the high investment. The field of vision of AESA radar is 120^{0}. In real time war scenarios, this is very limited. This can be rectified using mechanical steering. Another issue faced by AESA radar is heating issues. This is due to the large number of TRMs. This means that the system needs a highly efficient cooling system which again means higher cost per unit.

Varun G., V ECE C

THE 2 MOST COMMON MYTHS ON A SMARTPHONE

CAMERA

The smartphone arena is extremely competitive and each brand is constantly working towards creating a differentiator to get our interest. The trend currently revolves around photographic experience and like many of you must have noticed brands are bringing in new innovative technology for their consumers.

We often look at specifications when buying a smartphone, this more than often seems the correct trail to take an intelligent decision since the market is cluttered with competitors. Truth be told that there is a common misconception that more megapixels mean that the image quality offered by a particular smartphone is better than the other. While, this is true to some extent that having more megapixels will produce more detailed images; however, this is not the only parameter in deciding the perfect image quality. Other important parameters are lighting, new and creative angles, the various modes, minimum chromatic aberration, good focusing speed and list can go on. But the two pivotal factors that should be kept in mind when comparing camera phones is firstly hardware; parameters such as the sensor size and the aperture of the lens are important and secondly the software, photo-processing algorithms is an essential component that influences the quality of photos.

Here's an insight on how these variables function while clicking a photo with a smartphone.
A mix of mega pixel and sensor is a must but creating a balance between the two is the key to creating a clear, bright and strikingly rich in colour photographs. Smartphones now come with an aperture technology. A smaller aperture number means that the camera allows more light into the lens. The higher aperture value will adversely affect the image quality in low light conditions. Last but not the least, a phone camera also needs good optimization on the software to make camera interface easier and more intuitive for the user. There are various applications that a user can find on the play store, while there are brands that come with in - built applications.

In the end I would like to say that choose a camera with a smaller aperture over a greater pixel count. Optical image stabilization is a huge plus. A 12MP camera is the best on a phone (with F<2.0). P.S. The dual camera trend is going to fade away all thanks to the pixel 2. The sum is greater than it's parts. One good sensor is better than 2 average ones.

CLOCK SPEED

The processor speed is not the most important aspect of a processor. For example: At a time when every company is talking about their phones powered by 8-core processors, Apple continued with a dual-core processor in the iPhone 6. Just two cores in the iPhone 6, Sounds implausible for one of the most expensive phones in the world when something like the Xiaomi RedMi Note, which sells for less than Rs 10,000, rocks a 8-core processor.

To understand why the number of cores and clock speed of the processor is not the main reason for the prowess of a processor, lets go back to 2014. The dual-core processor in the iPhone 6 was the world's fastest mobile processor. The A8 processor, which has two cores and runs at 1.4 GHz, in the iPhone 6 is faster than the Qualcomm Snapdragon 805, which is the fastest smartphone processor that was available to Android phones, even when the Snapdragon 805 has four cores and runs at a speed of up to 2.7GHz.

Most of the applications use single core to run. Hence single core performance is given more priority over multi-core performance. More important aspects when it comes computing performance is memory bandwidth, latency and ability to execute threads in a more efficient way. This governs the instructions per cycle (IPC) that a processor can out put. IPC depends on many aspects but it is not that high clock speed or more number of cores leads to better IPC.

I would conclude by saying that when you buy a phone make sure you're well informed on what you're buying because it's an investment.

Vignesh S R, V ECE C

ELECTRONICS IN MOTORCYCLES

In the early days of motorcycling, there were hardly any kind of electronics. The bikes were as mechanical as they could be. A simple internal combustion engine powered the rear wheel. A simple gearbox with very few cogs supplied the power and torque to the rear wheel via a belt or chain. With time technology progressed. Today motorcycles have become so sophisticated that there are engineers who are hired by companies specifically to develop electronics that make the motorcycle safer, faster and highly efficient. They are called Bikes with Brains because these bikes have been developed so much in terms of electronics that you require a laptop in your tool kit if you wish to change something on it!

There are many advantages and disadvantages of introducing electronics in motorcycles. For example, the traction control and wheelie control, which are race-bred technologies that heavily depend on electronics, are available in high-end value bikes. These motorcycles produce more than 200 PS, making them very difficult to control if there are no electronics. The only setback is the complexity that goes into the design of these electronics and believe me, it's not cheap.

There was a time where bikes with two stroke engines dominated the MotoGP races. These bikes were basic machines with outstanding amount of power. In those days riders were considered gods because they were brave and overly courageous men who were able to tame those crazy machines with nothing but their skill. Modern day electronic aids made their debut on racing motorcycles. MotoGP rules the roost with its astronomical budget and F1-like levels of outstanding engineering.

ABS (Anti-lock Breaking System) which is now being used in many vehicles plays a major role in the control of the bike. Many people think that ABS is used usually for braking, but it is used in many applications such as traction control, cornering, etc. ABS was first introduced on a production motorcycle by BMW way back in 1998. By electronically modulating braking effort via a computer controller module, what ABS did was prevent a motorcycle's wheels from locking up under hard braking, thus preventing them from skidding, thereby circumventing the almost inevitable crash under most such circumstances. In the last decade, companies like Continental and Bosch have taken the development of motorcycle ABS to entirely new levels, promoting rider safety in a very big way and making a significant reduction in the number of fatal crashes. In the past three decades, ABS has been used primarily as an electronic safety net, which greatly reduces the chances of crashing under hard or sudden braking. But now, manufacturers are also using a variant of ABS sometimes known as ABS Pro or Cornering ABS to enhance the performance potential of a motorcycle using this technology.

As much as the global stage of World Superbike racing is an extreme amalgamation of supremely talented racers and focused machines, much of its appeal lies in the relative accessibility of the hardware, which more closely resembles consumer grade superbikes than the exotica on display in MotoGP.

Tejas S, V ECE C

EVOLUTION OF PC GAMES

Games, a competitive activity involving skill, chance, or endurance on the part of two or more persons who play according to some set of rules, usually for their own amusement or for that of spectators.

Back in 1962, Steve Russell created his first digital game "Spacewar!". The game ran on the DEC-PDP-1 system, the objective of the game was to avoid colliding with the star while trying to shoot the other ship with missiles.

Even though Steve Russell created the first game, we gamers have given the title for Ralph Baer as the father of video games. That's because Ralphie here created the first gaming device the"brown box". So this is the background of the emergence of virtual games into the reality. From here the developers made sure that games were a main part in the civilization.

As of today there are so many game developing companies which are successful. Some of them are: Ubisoft, Square Enix, Activision, Konami, Electronic Arts, etc. All these developers tend to stick onto one game and produce series. For e.g., Assassins creed was developed by Ubisoft and as of now they have 19 episodes showcasing different revolutions.

Game developers are always keen on making people interested by releasing trailers and announcing the releases on their conferences. There are different genres of games that exist on every computer/laptop in the world. The most famous ones are the FPS, MMORPG, RPG, Action-Adventure, TPS, Survival-Horror. But the most favorite genre of game played is the RPG(**R**ole **P**laying **G**ame, in this type of games you are assigned a character and made to accomplish some goals, achievements etc.).

The first need for speed pc edition supported 640x480pixels. As time passed the demand for graphics increased abruptly. As time made it to the year 2017, ultra realistic games are being released everynow and then. For e.g. Forza motorsport7 which was released on Oct 3rd, 2017.The demand for graphics is so high that the graphic driver companies are not able to meet the expectations. The newest graphic card that was released was the GeForce GTX TITAN X. This is the only graphic card that can handle all the pc games that are out there.

Well the evolution of games is limitless, this is just for a regular system that obeys to your command and runs the game on your control. There are so many different types of gaming systems that are evolving day to day. The huge leap of advancement in gaming was the addition of VR (Virtual Reality) to systems where you actually stress your whole body physically to complete the game instead of sitting and using your fingers to control the character.

The other development in the gaming field was the AR(augmented reality) where you roam around your house, neighborhood, parks, to get some clues in order to complete the goals specified. The most famous and addictive mobile game is the Pokémon go from Niantic labs.

There are rumors from gaming developers that they are trying to simulate our brain waves to create virtual surroundings using a neural helmet and use your imagination to create your own game. When this advancement is achieved there'll be no systems, no laptops,no processors (brain will be your processor). Well let's see what happens next!!

Vishnu Vardhan, V ECE C

ANAGRAM IT!!!

An anagram is a word/ phrase formed by rearranging and adding letters to a subject word. Here the subject word is the answer

Easy
To do:
- Rearranging

#1 _____ can be analyzed by the use of discrete /fast Fourier transform

CRUMPETS

#2 A system task used in hardware description language
[Clue: usually used with "$"]   **TWIER**

#3 passive, active, finite impulse responses

TRIFLES

4 Information theory and coding applied in breaking German machine codes. what is the name of the machine?

[clue: Alan Turing]

GAMINE

Medium
To do:
- Rearranging
- Adding a letter

#1 Electronic design automatic software a.k.a designing IC layout

ACCEND

#2 Father of information theory
[if you google it, then it's his last name]

HONANS

#3 Chains in probability theory

KORMA

#4 Sensors in a smartphone

ISOMETRIC

Hard
To do:
- Rearranging
- Adding two letters

Algorithm for efficient evaluation of individual terms of discrete sequences
Application: recognition of tones produced by the buttons pushed on a telephone keypad.

REGLET

Answer key:
Hard: goertzel

Medium: #1 cadence #2 shannon #3 markov #4 biometrics

Easy: #1 spectrum #2 write #3 filters #4 enigma

Sujatha Kamath, V ECE C

EVENTS ORGANIZED BY THE DEPARTMENT

◆ **Tatva-2017, a college level technical fest,** was organised by the department of ECE on 3rd and 4th March 2017 with the coordination from the staff and students from all the departments. Many ECE students organised several events, actively participated and won prizes. Student core team was led by Keerthan Bharadhwaj of 8th semester, ECE.

◆ **Workshop on MATLAB** was organised for students by IEEE BNMIT Student branch during 28th April to 5th May 2017. This workshop aimed at creating familiarization among the participants about MATLAB by introducing the basic features and commands of the program.

◆ Faculty Development programme, **"MSP430 Microcontroller and Its Applications"** was organised by the department during 31st July to 5th August 2017.

◆ Talk on **"Entrepreneurship-Are you ready for it?"** by Sri. Girish Hampalli, Senior Manager, Infosys Technologies Ltd., Bangalore, was organised on 30th August 2017 under ISTE Chapter, BNMIT.

◆ Talk on **"User Interface Development"** by Ms. Farheen Farhath, Learning and Development head, Prinston Smart Engineers, Delhi was organised on 11th Oct 2017, by ISTE Chapter, BNMIT.

◆ **Workshop on "MSP430 Microcontroller",** was organized on 14th & 15th Oct 2017 to train 5th semester ECE students in MSP430 programming to meet the needs of practical learning for real time applications.

◆ Talk on **"Life long learning skills"** by Dr. S. Rajesh, SoC Design Engineering Director, Cadence Design System, Bangalore, was organized on 31st Oct 2017 under BETA. This was followed by distribution of mementos to FCD holders.

◆ Talk on **"Preparation for higher studies"** was given by Sri. Abhiman R Keshav, from GATEFORUM on 4th Nov 2017 to motivate and guide 5th semester ECE students to take up competitive exams.

◆ Department level **IPL Winter competition** was held on 8th Nov 2017 and nine teams successfully demonstrated their projects.

◆ **DRISHTI Online Contest under Texas Instruments University Program on MSP430** was organized for 5th semester students on 11th Nov 2017 in MSP430 programming to meet the needs of practical learning for real time applications. There were 58 registrations, out of which 52 students took the test. All the students were given participation certificates under TI program. Amogha Lokesh and Prarthana have secured the first & second place in this test. Both of them have been awarded with MSP430 launchpad kits.

◆ Sri. N.V. Krishna, A successful entrepreneur delivered a talk on **"Entrepreneurship",** organized by ED Cell, BNMIT, sponsored by EDII under EAC Scheme on 15th Nov 2017 for ECE Students.

Inauguration of FDP on
"MSP430 Microcontroller & its Applications"

One day Industrial visit to ISRO,
Bangalore as a part of Faculty development programme

Participants of FDP on
"MSP430 Microcontroller & its Applications"

Best project award of Rs. 5000/- was awarded
to 1st sem ECE students for the project "Li – Fi".

Students exhibiting projects during department level
IPL winter competition.

Students exhibiting projects during department level
IPL winter competition.

Student Core team of TATVA 2017

Staff coordinators at Tatva Stalls

iBrella: A Smart Parasol

"Techniche 2017" is a Techno-management fest organized by the **IIT Guwahati**. One of the events organized under this, **Techexpo** consisted of more than 16,000 participants from all over the country.

We, Zeeshan Saquib, Sana Anaum and Ujwal S S of 7th semester, Electronics and communication department, BNM Institute of Technology represented the team 'iBrella' were short listed among 47 other teams after a preliminary round of selection based on the project abstract and the social impact it would make to the society.

The three day event (31st Aug– 3rd Sept 2017) consisted of a two day exhibition followed by the prize distribution. The project had spectators from all over the country, international visitors and over 500 visitors from the state itself. The judging panel included Brookes T. Moore who is a Canadian television narrator famous for the show "How it's Made?", a Research scientist from NASA and the heads of IIT Guwahati.

Our team bagged the **2nd runners up** and the **"Best Social Innovation"** title declared by 'the Better India' in the competition. Team also received a cash prize of Rs. 45,000/- in total, along with lot of positive feedback and appreciation from the spectators.

Brief Project Description:
The main motivation for the prototype has been the various incidents related to the harassment faced by women all over the world in their day to day lives. The team focused on benefiting the society by giving the best form of women empowerment through technology. The concept of iBrella is based on the incorporation of creative features in an umbrella. These features include conversion of solar energy for different purposes, women safety and use of sensors for predicting rain, temperature and humidity of the environment. The combination of CMOS videography and safety alert through a text message system forms the major advantage for the security of the women. This enables the user to move about independently.

Sana Anaum, VII ECE B

Dr. M. S. Suresh, Dean, BNMIT addressing the students during award function for FCD holders on 31st Oct 2017

Talk on "Life long learning skills" by Dr.S.Rajesh, Director, Cadence Design System, Bangalore on 31st Oct 2017

STUDENTS ACHIEVEMENTS

Technical achievements

- Zeeshan Saquib, Suhas N. Bhargav, Vishaka Murari VI Sem were one among top 26 projects selected at national level to showcase their project "BlinDar: The invisible eye" at 12th National Innovation Challenge, IIT Delhi during 14th -15th July 2017.

- Kritika M Sharma, Aishwarya A, Dr. Yasha Jyothi M Shirur published a journal titled "Power Efficient Destination Address Generator of Direct Memory Access Controller in Multiprocessor SoC" in IJIRCCE, Vol. 5, Issue: 7, July 2017.

- Akhila K, Karuna N, Kavya C, Dr. Yasha Jyothi M Shirur published a journal titled, "Design and implementation of Power Efficient Linear Feedback Shift Register for BIST using Verilog" in IJIRCCE, Vol. 5, Issue: 7, July 2017.

- Project "iBrella", by Zeeshan Saquib, Sana Anaum & Ujjwal S S, VII Sem were declared as 2nd Runner up in Senior category of Techniche, IIT Guwahati (31st Aug–3rd Sept 2017). It was also declared as "The Best Social Innovation Champions" by Better India and won a cash prize of Rs. 45,000 in total.

- Tejas C, Tejashwini V, Shuvankar Dhal & Sirisha P.S. of VII Sem presented a paper titled, "Flex controlled robotic arm for the amputees", in ICCES 2017 organized by PPG Institute of Technology, Coimbatore during 19th -20th October 2017.

- Zeeshan Saquib, Sana Anaum & Ujjwal S S of VII Sem presented a paper titled, "iBrella: A Smart Parasol", in ICICI 2017 organized by Ranganathan Engineering College, Coimbatore during 23rd -24th November 2017.

- Sapna, Keerthi G Reddy, Bindhu G B, Sagar R, Kavya M, Pavitra N, Meghashree D, Sharada Pattar, K. Shreshta Subodh Shetty, Varshini J, Ullas M and Devaraj M of 4th sem M.Tech (VLSI & ES), published their papers in international journals / conferences, along with their project guides.

Sports achievements

- Raksha Ramkumar & Sowmyashree, of Vsem are the runners up in VTU Intercollegiate Bangalore Central Zone Table tennis tournament, organized by HKBKCET Bangalore on 28th and 29thAugust 2017.

- Shreya Deepak of VII sem, won 2nd and 3rd place in 200 mtrs Fly and 400 mtrs Medley in VTU State level Swimming Competition, organized by BNMIT, on 30th August 2017.

- Raksha Ramkumar & Sowmyashree, of V sem are the runners up in VTU Inter Zone Table Tennis (women) Competition, organized by RLJIT, Doddaballapur, during 31st August & 1st September 2017.

- Ujwal S S of VII sem & Raksha Ramkumar of V sem, are the winners in VTU Inter Zone Lawn Tennis Tournament, organized by VVCE Mysore during 12th to 14th September 2017.

- Shreya Deepak of VII sem secured Gold Medal in 5000 mtrs, 10000 mtrs, 21km Half Marathon in VTU Inter – Collegiate Athletic Meet organized by Visvesvaraya Technological University, Belgaum during 2nd to 6th November 2017.

STAFF ACHIEVEMENTS

- Dr. Yasha Jyothi M Shirur received her provisional degree certificate for her Ph.D work on 18th July 2017 from VTU, Belgaum.

- Mrs. Bhuvana Suganthi D has submitted her Ph.D thesis to VTU, Belgaum in July 2017.

- Mr. Subodh Kumar Panda and Mrs. Rekha P, have submitted their Ph.D thesis to VTU, Belgaum under the guidance of Dr. M. S. Suresh, Dean, BNMIT.

- Mr. N. Sheshaprasad, Mr. Kiran K N and Mrs. Chaitra N., successfully completed their pre Ph.D Comprehensive viva voce examination during June-Oct 2017.

- Dr. P. A. Vijaya is nominated as a BOS member for ECE/TCE board of VTU, Belgaum for the duration 2016-2018.

- Mrs. Keerthi Kulkarni & Dr. P. A.Vijaya, presented a paper titled, "A comparative study of land classification using Remotely Sensed Data", at ICCMC 2017, organized by Surya Engineering College during July 18th-19th, at Erode, Tamil Nadu.

- Mrs. Ashwini S Savanth & Dr. P. A. Vijaya, published a paper titled, "Artificial Neural Networks for fMRI Data Analysis: A survey",in IJETT, V49(8),pp.487-494 , July 2017.

- Mrs. Bindu S, Mrs. Priya R Sankpal & Mrs. Lakshmi Bhaskar, published a research paper titled, "A survey on Smart Materials to Mitigate Spacecraft Charging", in IJIRSET, Volume 6,Issue 7,July 2017.

- Mrs. Chaitra N, visited and worked at AU MRI Research Center, Auburn University, USA during July 2017, to carry out a part of the collaborative research under Dr. Gopikrishna Deshpande, Associate Professor, Auburn University for her Ph.D work.

- Mrs. Rekha P & Mr. Subodh Kumar Panda received best paper award for the paper titled, "Pencil Drawn Films as Ammonia Gas Sensors", presented in the conference IEEE-ICSPACE, held at GAT, Bangalore during 17th – 19th August 2017.

- Mr. P Venkat Rao delivered a Guest Lecture on "Fourier Transforms and its applications in Electrical Engineering" for 5th semester Electrical Engineering Students at Sri Sairam College of Engineering, Bangalore on 7th Nov 2017.

EDITORIAL TEAM

CHIEF EDITOR
Dr. P.A. VIJAYA,
Professor & Head, Dept. of ECE.

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Any suggestions and articles, kindly mail to: bnmecenewsletter@gmail.com