SRMS College of Engineering, Technology & Research, Bareilly

SEPTEMBER, 2016

CAMPUS-ANVESHAN

e- NEWSLETTER

EDITORIAL MEMBERS

CONTENTS

PRINCIPAL'S DESK

Importance of Interdisciplinary approach

A recent research article on quantum computing and photonics emphasizes the applications of the theory of quantized photons in computing and technology development. It has also highlighted the importance of interdisciplinary approach as it described the applications of physical science, electronics and computing.

The article started with the statement "The emerging disciplines of study would be interdisciplinary in nature where academic institutions are supposed to excel".

That article described the extents of the possibilities for innovations in computing and electronics with quantum photonics. The article also quoted one innovation as "For the first time, scientists now have succeeded in placing a complete quantum optical structure on a chip. This fulfills one condition for the use of photonic circuits in optical quantum computers".

The article further highlighted the possible advancements in the development of technology by using the concepts of basic physical science as "Whether for use in safe data encryption, ultrafast calculation of huge data volumes or so-called quantum simulation of highly complex systems: Optical quantum computers are a source of hope for tomorrow's computer technology".

Whenever we go through the latest innovations and advancements in science and technologies we found that the contemporary innovations are primarily interdisciplinary in nature. The methodology of teaching institutions must incorporate interdisciplinary projects to meet the demands for skilled and competent work force for the nation on emerging technological frontiers.

Dr A K Srivastava
Principal

PUBLISHED BY

SHRI RAM MURTI SMARAK COLLEGE OF ENGINEERING, TECHNOLOGY & RESEARCH

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Engineers' Day: 15th September, 2016

Celebration with
SPARK THE BRAIN
A Poster Based Engineering Design Competition

On the birth anniversary of Bharat Ratna Sir (Er.) Mokshagundam Vishvevaraya, 49th engineer's day was celebrated in the SRMS Centennial Auditorium on 15th of September 2016. The guest of honor Er. Nikhil Pandey, DRM, NE Railway Izzatnagar, Bareilly and Er. R.K. Srivastava, G.M. IFFCO Aonla graced the occasion with their presence.

After the lightning of the lamp and Saraswati Vandana, the welcome speech was given by the Trust Administrator Er. Subhash Mehra. The invited guests enlightened the students with their motivational words. After that, the prizes were distributed to the students. Ms. Vanshika Shukla (CS-13) got the award for the best engineer and Ms Shamama Kamal (CS-14) and Ms Oshin Kandpal (CS-14) got the first consolation prize for the "Digital Marketing" competitive event held in August, 2016. Then Trust Secretary Aditya Murti sir addresses the gathering with their motivational words followed by the vote of thanks by the Verve President Ms Shubhi Rastogi..

On the Eve of Engineers day, an event was organized by the *Reformers club of* VERVE (student club) at SRMSCETR.

This event emphasized on bringing out the ideas of *sparky brains* and the ways to implement those ideas. Principal Dr. A. K. Srivastava and HODs of various departments were invited to Judge the event.

WINNERS OF THE EVENT ARE

Ms Rashmi Mishra and Ms Deepanshi Verma(CETR)

FIRST RUNNER UP:

Ms Rashmi Singh and Ms Sandhya Singh (CETR)

SECOND RUNNER UP:

Ms Megha Agarwal and Ms Surabhi Sahu(CET)

Workshop on Virtual Labs: A Project of Ministry of HRD and IITs for Higher Education through ICT

16-September-2016

A workshop on *Virtual labs* was conducted on 16th September, 2016 from a team of IIT Delhi. The members of team were welcomed followed by the lamp lighting.

A description of Virtual Labs was given by the mentor *Prateek sharma*. He said that "*Virtual labs* are the labs which are required to nurture the brains of an individual by knowing the virtual aspects of the experiments". The major topic included during the workshop was: Electronics and Communication labs (signal analysis, temperature measurement etc) Electrical Engineering (KCL, KVL etc)

Machine labs, RT labs. Basic labs , PC labs, Chemistry labs etc. These labs could be accessed from website VLAB.CO.IN and it consists of *simulations* along with *procedure, theory, quiz, references* and *feedback* to the experiment. This is a project of MHRD and IITs for higher education though ICT. The college can also be part of this project by developing the lab modules.

TEACHERS DAY CELEBRATION

5th September, 2016

Teachers' day was celebrated in the college in which all teachers were invited by the Verve Club students. It started with the welcome and honour of the faculty members by students. After the motivational address the Principal Dr A K Srivastava some games were enjoyed by the faculty members. DSW and HODs also shared their views on this occasion.

VISHWKARM PUJA & ALUMNI TALK: 17th September, 2016

Vishwkarma Pooja was organized in the workshop on 17th September, 2016. It was followed by a motivational talk by the Alumni for the Final and Pre-final year students of SRMSCETR and SRMSCET. Alumni of SRMS Mr. Umesh Kumar Kushwah, CEO & Co-founder of RENNLAB TECHNOLOGIES, Greater Noida motivated the students with his inspiring address.

The event started with lighting of lamp and Saraswati Vandana, followed by a warm welcome of the guest and all the dignitaries. After some valuable words by Mr Umesh, session started with the presentation and some interesting video clips. Mr Umesh asked various questions to the students regarding their field and dreams and gave them solutions in their own unique way. He promoted entrepreneurship and bonded the students with the story of his journey. After this, an interactive query session was held in which Principal Dr A K Srivastava also interacted with the alumni. The session ended with a vote of thanks to the Guest of honor, Principal, HOD's, faculty members and all students.

SPOKEN TURORIAL and NPTEL LOCAL CHAPTER

The College has implemented Spoken Tutorial Classes as per the guidelines of AKTU. As being a Local Chapter of NPTEL, the online Video lectures are accessible to the students and faculty members.

VERVE CLUB: 22nd September, 2016. VALEDICTION CEREMONY FOR 2015-16 AND OATH CEREMONY OF 2016-17 TEAMS

The function started with the garlanding ceremony of Goddess Saraswati by the Chairman Shri Dev Murti Ji, Trust Secretary Shri Aditya Murti ji, Mrs.Richa Murti Madam, Principal Dr. Anant Kumar Srivastava and members of Verve.

Verve president for the session 2015-16, Ms. Riya Singh was invited for her valedictory speech as president of the student welfare association 2015-16. It was followed by a video which gave a glance to the journey of verve 2015-16. Verve 2015-16 Secretary Ms. Surabhi Mishra presented the annual report of the team. After this, the most awaited event took place, the Oath Ceremony of 2016-17. The top panel of verve 2016-17 including President Ms. Shubhi Rastogi, Secretary Ms. Mani Shukla, Vice Presidents Ms. Shamama Kamal and Ms. Neel Kamal Parmar and Treasurer Ms. Vandana Kashyap took the oath. Later, the oath ceremony took place for event organizing secretaries, chairpersons and secretaries of different clubs and executives. President (2016-17) spoke her heart out on this occasion. The gathering was later blessed by the words of Trust Chairman, Trust Secretary and Principal. The ceremony was ended with a vote of thanks delivered by Secretary Verve (2016-17).This time Media Club was also formed and judgment committee was also formed

SEMINAR PRESENTATIONS

Regular activity has been planned in each department during Zero hour in which presentation and discussion were done by the faculty members on their research area. Some Presentations held in the month of September are:

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

1st September, 2016

Mr Shailesh Saxena : Job Scheduling in Multi cluster Grid.
Ms Kirti Shukla : Congestion Control in Vehicular Ad-hoc Network

8th September, 2016

Mrs. Ankita Saxena: Integration of Image Processing with cloud computing
Ms. Arti Mishra : Morphology in English Language using Information Retrieval.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

1st September, 2016:

Ms. Nazia Parveen : Wavelet Analysis of EEG Spectrum
Ms. Sonali Gupta : Uplink & Downlink Design for OFDMA (Orthogonal Frequency Division Multiple Access) Transmission in Cognitive Radio Network

8th September, 2016

Ms. Pritee Verma (Asst. Professor) : Economic Electrification Using Solar Tree

15th September, 2016:

Ms. Sonam Rathore (Asst Professor): Low Leakage Architecture of Static Random Access Memory using Cluster Technique

DEPARTMENT OF ELECTRICAL ENGINEERING

1st September, 2016:

Er. Mohammed Mustaqeem: Applications of Thevenin's Theorem

DEPARTMENT OF BASIC SCIENCES

1st September, 2016:

Dr Prashant Singh : Transient Signal Processing of Surface Acoustic wave sensors Based Electronic node

8th September, 2016

Mr K K Agarwal : Tailor Welded Blank Technique

TEACHING WORKSHOP & FDP

A Five Days Teaching workshop was organsied by the department of EC in collaboration of NITTR, Chandigarh. This workshop was conducted through Video conferencing. On the first day, sessions was taken by Dr. Ritula Thakur (Prof. NITTTR) on architecture of 8051 and programming languages namely machine language, assembly language and embedded C. On second day, Dr. Baban Kumar (Senior Scientist, CSIO-Chandigarh) explained interfacing of real time devices with 8051 such as seven segment display, LCD etc. In last three days, industry experts, Ms Sakshi Rana (STrobotix, Chandigarh) and Mr. Aditya (Scientech Technologies, Indore) conducted sessions on Circuit Simulation using Proteus Software and Hands on experience on 8051 kit respectively. The faculties of ECE, EEE & CSE department attended various sessions to enhance their expertise on the embedded platform.

IDENTIFIED DEPARTMENTAL PROJECT

ECONOMIC ELECTRIFICATION USING SOLAR TREE

Department of Electronics and Communication has conceptualized a project on "Economic Electrification using Solar Tree". This project is intended to come out with a feasible and environmental solution of energy problem. Solar tree sounds like the perfect solution for our future energy needs. A Solar tree is nothing but an artificial tree with photo-voltaic cells arranged in Fibonacci series manner in place of leaves. The amount of energy produced by this tree is more than that of normal flat array of solar cells.

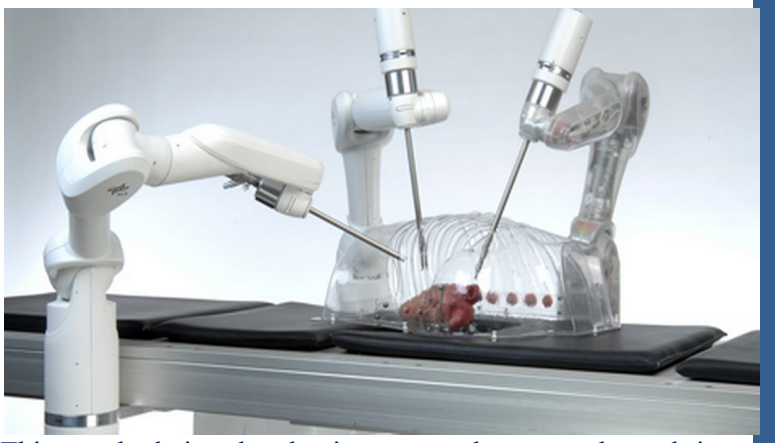
Stage : Feasibility Analysis

COURSE DEVELOPMENT

Mr Bishwajeet Kumar, Asst. Professor-CS, developed a 6 hour practical training module on computer networking with special emphasis on experiments and implementation. It consists of details of IP addressing and network protocol implementations. It also consists of specifications about the hardware to be used in networking. It will help the students to get trained and have sufficient expertise and skills in computer networking and basic trouble shootings. The training started for different batches of the students.

ROBOT ASSISTED MINIMALLY INVASIVE SURGERY

Robotic Surgery is a modern sophisticated surgical technique used by surgeons involving minimal invasion and trauma to the patients. In this technique, surgical tools are inserted through small incision into the patient body using robotic arm. Robotic arm inserted into patient body acts as slave. The motion is transferred from master surgeon handle to the slave arm in the form of encoder pulses. The pulses from the encoder are processed and fed to the slave, which mimics the hand motion of master configuration. A two channel encoder with DC motor is used in master-slave configuration. This technique has wide applications as it provides high accuracy, efficiency, safety and superior performance.



This method is already in use and expected to bring significant changes in the uses of robotics in medical science also.

Source: Inderscience publisher's journal

-Nazia Parveen
(HOD -ECE)

INTERNET SLANG

404: Originally a technical term for Not Found 404 (which is an error message seen on a Web page to indicate a requested URL was not found on a server), in slang to say "404" is to imply someone is clueless, as in "There's no use asking him; he's 404

NETWORK LIFETIME & STABILITY PERIOD IN WIRELESS SENSOR NETWORK

Wireless Sensor Networks is a rapidly evolving technological platform with tremendous and novel applications. Some of the application areas of sensor networks are health, military, and security.

One of the constraints on sensor nodes is the low power consumption requirement. Sensor nodes carry limited, irreplaceable, power sources. Therefore sensor network protocols focus primarily on power conservation. Energy conservation in a WSN maximizes network lifetime and is addressed through efficient reliable wireless communication, intelligent sensor placement to achieve adequate coverage, security and efficient storage management, and through data aggregation and data compression.

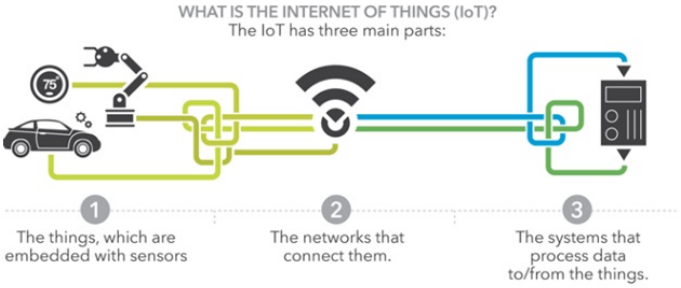
As sensor nodes operate on limited battery power, energy usage is a very important concern in a WSN; and there has been significant research focus that revolves around harvesting and minimizing energy. When a sensor node is depleted of energy, it will die and disconnect from the network which can significantly impact the performance of the application. Sensor network lifetime depends on the number of active nodes and connectivity of the network, so energy must be used efficiently in order to maximize the network lifetime.

Energy harvesting involves nodes replenishing its energy from an energy source. Potential energy sources include solar cells, vibration, fuel cells, acoustic noise, and a mobile supplier. In terms of harvesting energy from the environment, solar cell is the current mature technique that harvest energy from light. There is also work in using a mobile energy supplier such as a robot to replenish energy. The robots would be responsible in charging themselves with energy and then delivering energy to the nodes

- **Mr Ankur Kumar**
(Asst. Professor-CS)

Internet of Things (IoT)

The term "Internet of Things" was coined in the late 1990s by entrepreneur Kevin Ashton. Ashton, who's one of the founders of the Auto-ID Center at MIT, was part of a team that discovered how to link objects to the Internet through an RFID tag. He said he first used the phrase "Internet of Things" in a presentation he made in 1999 – and the term has stuck around ever since.



Internet of Things (IoT) is emerging with various applications. Some of them are:

1. Intelligent transport solutions speed up traffic flows, reduce fuel consumption, prioritize vehicle repair schedules and save lives.
2. Smart electric grids more efficiently connect renewable resources; improve system reliability and charge customers based on smaller usage increments.
3. Machine monitoring sensors diagnose and predict pending maintenance issues, near-term part stockouts, and even prioritize maintenance crew schedules for repair equipment and regional needs.
4. Data-driven systems are being built into the infrastructure of "smart cities," making it easier for municipalities to run waste management, law enforcement and other programs more efficiently.

Source: IEEE

Ms. Sonam Rathore
(Asst Prof. EC)

DETECTING EMOTIONS WITH WIRELESS SIGNALS

Researchers from MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL) have developed "EQ-Radio," a device that can detect a person's emotions using wireless signals. By measuring subtle changes in breathing and heart rhythms, EQ-Radio is 87 percent accurate at detecting if a person is excited, happy, angry or sad -- and can do so without on-body sensors.

MIT professor and project lead **Dina Katabi** envisions the system being used in entertainment, consumer behavior, and health care. Existing emotion-detection methods rely on audiovisual cues or on-body sensors, but there are downsides to both techniques. Facial expressions are famously unreliable, while on-body sensors such as chest bands and ECG monitors are inconvenient to wear and become inaccurate if they change position over time.

EQ-Radio instead sends wireless signals that reflect off of a person's body and back to the device. Its beat-extraction algorithms break the reflections into individual heartbeats and analyze the small variations in heartbeat intervals to determine their levels of arousal and positive affect. These measurements are what allow EQ-Radio to detect emotion. Compared with Microsoft's vision-based "Emotion API," which focuses on facial expressions, EQ-Radio was found to be significantly more accurate in detecting joy, sadness, and anger.

Source: Tech News, Sciencedaily.com

-Ms. Arti Mishra
Asst. Professor
(CS)

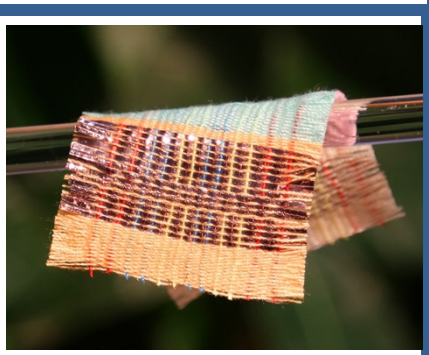
TECHNOLOGY THAT CAN CHANGE THE LIFE

SMART TEXTILE' TURNS BODY MOVEMENTS INTO POWER SOURCE

According to a new study a fabric has been designed to power wearable devices by harvesting energy from both sunlight and body movements.

Scientists in China and the United States have demonstrated how a glove-size piece of the "**smart textile**" could continuously power an electronic watch or charge a mobile phone using ambient sunlight and gentle body movements.

:Source Livescience



TRAFFIC MANAGEMENT USING PROGRAMMABLE ROUTERS

In the age of internet, fast data transmission is essential so to provide this feature the work has been done on routers. When network traffic is heavy, packets of data can get backed up at network routers or dropped altogether. The routers that direct traffic in a server farm need to be superfast; the control algorithms are hardwired into the routers' circuitry. That means that if someone develops a better algorithm, network operators have to wait for a new generation of hardware before they can take advantage of it.

Researchers at MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL) and five other organizations hope to change that, with routers that are programmable but can still keep up with the blazing speeds of modern data networks. The researchers outline their system in a pair of papers being presented at the annual conference of the Association for Computing Machinery's Special Interest Group on Data Communication

Source: MIT News

Meenakshi Pathak
Asst Professor-CS

PROPERTIES OF NANO STRUCTURED ZINC OXIDE (ZnO)

In the last decade or so, nanostructured zinc oxide (ZnO) has drawn worldwide attention for its path breaking properties. Zinc oxide (ZnO) nanoparticles are important due to their vast area of applications, e.g., gas sensor, chemical sensor, bio-sensor, cosmetics, storage, optical and electrical devices, and window materials for displays, solar cells, and drug-delivery. ZnO is an attractive material for short-wavelength optoelectronic applications owing to its wide band gap 3.37 eV, large bond strength, and large exciton binding energy (60 meV) at room temperature. In addition, one of its most extensively-studied properties is its ability to generate power when subjected to mechanical vibration. It can generate a potential within a wide range of frequency vibrations, from a few Hz to thousands of KHz. This can lead to extensive application prospects in many important fields, like self-power generating devices for medical applications, wireless technologies and various sensors, etc. Different types of nanogenerators of electricity and photovoltaic cells based on the ZnO nanostructures have been largely studied, developed and device realized by scientists all over the world. ZnO nanowires are being increasingly used as photocatalysts to inactivate bacteria and viruses and for the degradation of environmental pollutants.

Aarti Tiwari
Asst.Prof. (Basic Science.)

JUST THINK!

Can we use sensors on commodity devices such as smart phones and laptops to generate wireless data transmissions that are confined to the human body? A positive answer would enable a form of physical layer security that is currently non-existent on commodity devices. Specifically, a communication primitive that transmits information directly through the body would create links immune to eavesdropping or man in the middle attacks. Computer scientists and electrical engineers have devised a way to relay the signal from a fingerprint scanner or touchpad through the body to a receiving device that is also in contact with the user. These "on-body" transmissions offer a secure option for authentication that does not require a password. The researchers devised a way to use the signals that are generated by fingerprint sensors and touch pads as output, corresponding to data like a password or access code.

Source : Live Science

Ms Shikha Arya, Asst Professsor, CS

SRMS College of Engineering, Technology & Research, Bareilly

FACULTY ARENA
(UPDATES IN SCIENCE & TECHNOLOGY)

4G TECHNOLOGY OF RELIANCE Jio

With Reliance Jio shaking up the market with the announcement of their 4G service, there seems to be a growing confusion among buyers regarding the technology the network will deploy. This article is written just to understand this technology and various terms such as VoLTE, LTE, 4G and the likes so that we know exactly what you're getting into with the Reliance Jio service.

What is VoLTE?

VoLTE stands for Voice over LTE and is a new protocol for transmitting voice data over the LTE network. While 2G and 3G networks are circuit-switch based, 4G or LTE networks utilize Packet Switching. When a call is made over a 2G or a 3G network, a certain amount of network bandwidth is assigned to that call as a pipeline, which does not terminate till the call ends. On a VoLTE network, voice calls are broken up into packets of information, sent over the full data pipeline and then reconstructed at the receiver's end. The result is that voice information can be carried over a higher bandwidth pipe, resulting in better call quality.

LTE and VoLTE is NOT the same?

It is essential to understand that LTE (also referred to as 4G-LTE) is a wholly IP-based communications protocol. Existing carriers have all 2G, 3G and 4G setups on their network, allowing data to go through the 4G band while pushing calls through the 2G/3G band. While LTE is the next generation data transmission protocol with higher two-way bandwidth, it is capable of only transmitting data. VoLTE is the way in which a voice call can be converted to digital packets and transmitted over the LTE network. In effect, VoLTE is a subset of the LTE technology.

Phone Compatibility

Reliance Jio's network is purely LTE, and does not have any 2G and 3G bands and as such, calls made on this network will only be VoLTE based. Therefore, in order to use the feature, you must have a handset which is VoLTE enabled. While VoLTE is baked into most of the modern Qualcomm and several Mediatek SoCs, the feature may not be enabled on the handset and can be done so by means of a software update to be pushed out by the handset manufacturer.

- **Mr Bishwajeet Kumar, Asst. Professor (CS)**

CONFIRMATION OF FOUR NEW ELEMENTS TO COMPLETES SEVENTH ROW OF PERIODIC TABLE.

Confirmation of four new elements with atomic numbers 113, 115, 117 and 118 has come from International Union of Pure and Applied Chemistry completing seventh row of periodic table. The groups credited for creating them are from Japan, Russia and U.S. all four are highly unstable super heavy metals that exist for only a fraction of a second. They are made by bombarding heavy metal targets with beams of ions and can only be detected by measuring the radiation and other nuclides produced as they decay. Element -113 called Ununtrium, 115-Ununpentium, 117-Ununseptium, 118-Ununcotium are added as discoveries have come officially. Permanent names and symbols will be assigned by inorganic Chemistry division of IUPAC. Researchers hope that an island of stability may exist beyond element 118, although it is still a matter of debate. So for no one claim to have discovered 119 element or any elements heavier than this.

Dr Ritu Singh (HOD-Basic Sc)

WINNERS VERSUS LOSERS

The winner is always a part of the answer.
The loser is always a part of the problem.
The winner always has a program.
The loser always excuses.
The winner says "let me do it for you".
The loser says "that is not my job".
The winner sees an answer for every problem.
The loser sees a problem for every answer.
A winner makes commitments.
A loser makes promises.
Winner has dreams.
Loser has schemes.
Winner says" I must do something".
Loser says "something must be done".
Winner is a part of team.
Loser is a part from the team.
Winner sees possibilities.
Loser sees problem.
Winner sees the gain.
Loser sees the pain.

Deepti Yadav
EC II Year

LET ME LIVE

Let me live, Let me bloom.
Let me shine like beautiful moon.
Let me come & see this world,
Let me fly like beautiful bird.
Don't be so cruel oh selfish!
Let me swim like colorful fish.
Listen my cry, Listen my screams.
Let me fully fill my wishes & dream.
Let me see this beautiful earth,
Please don't kill me before my birth.

Sonali Gangwar
CS I Year

IF YOU WANT TO

If you want to see, see yourself
If you have to kill, kill your bad habits
If you want to die, die for your mother land.
If you want to come, come for the help of the poor peoples,
If you want to get, get education
If you want to serve, serve mankind,
If you want to enjoy, enjoy the beauty of nature,
If you want to leave, leave violence,
If you want to take, take blessings from elders.
If you want to win, win love of others.

Himanshu Bisht
CS I Year

LIFE IS..

Life is an opportunity benefit from it
Life is a beauty admize it.
Life is a dream, realize it.
Life is a challenge, meet it.
Life is a duty, complete it.
Life is a game, play it.
Life is a promise, fulfill it.
Life is a sorrow, overcome it.
Life is a song, sing it.
Life is a struggle, accept it.
Life is a tragedy, confront it.
Life is an adventure, dare it.
Life is luck, make it.
Life is life, fight for it.

Aditi Upadhyay
CS II Year

ACCIDENTAL DISCOVERY

TEFLON

In 1938, Roy Plunkett, a scientist with DuPont, was working on ways to make refrigerators more home-friendly by searching for ways to replace the current refrigerant, which was primarily ammonia, sulfur dioxide, and propane. After opening the container on one particular sample he'd been developing, Plunkett found his experimental gas was gone. All that was left was a strange, slippery resin that was resistant to extreme heat and chemicals. In the 1940s the material was used by the Manhattan project. A decade later it found its way into the automotive industry. It wasn't until the '60s that Teflon would be used for its most noted application i.e nonstick cookware.

SWARM ROBOTICS

Swarm robotics is a field of multi-robotics in which large numbers of robots are coordinated in a distributed and decentralized way. It is based on the use of local rules, and simple robots compared to the complexity of the task to achieve, and inspired by social insects. The research of swarm robotics is to study the design of robots, their physical body and their controlling behaviours. It is inspired but not limited by the emergent behaviour observed in social insects, called swarm intelligence. Large number of simple robots can perform complex tasks in a more efficient way than a single robot, giving robustness and flexibility to the group. In this article, an overview of swarm robotics is given, describing its main properties and characteristics and comparing it to general multi-robotic systems.

Relatively simple individual rules can produce a large set of complex swarm behaviours. A key-component is the communication between the members of the group that build a system of constant feedback. The swarm behaviour involves constant change of individuals in cooperation with others, as well as the behaviour of the whole group. The two other similar fields of study which more or less have the same team structure and almost the same goals are multi-robot exploration and multi-robot coverage

Pranjali Singh
EC Fourth Year

HIGH PERFORMANCE CURRENT SENSING TECHNIQUE WITH INTEGRATED CURRENT MODE CMOS DC-DC CONVERTER

A high performance current sensing technique with integrated current mode CMOS DC-DC converter is thoroughly simulated in this paper. This paper is to focus on the CMOS implementation of low-power power conver ter such that power management and mixed-signal circuitries can be fabricated on the same chip for low-power application. The inductor current sensed with the proposed accurate on chip current sensor and combined with the internal ramp signal can be used for current mode DC - DC converter feedback control. There is no external component required and no extra input and output pins are needed for the current mode controller .The absolute measured error between the inductor current and sensed signal is less than 4%.This suitable for single cell lithium-ion battery supply application because experimental results shows that this converter with on chip current sensor can operate from 300 KHz to 1MHz with supply voltage from 3 to 5.2V.The output ripple voltage is about 4.7µH off chip inductor and 20 mV with a 10μF off chip capacitor. The power efficiency is over 80% for load current from 50 to 450mA.

Vishakha
EC Final year

IDEA THAT CHANGED THE WAY WE THINK

FIBONACCI SEQUENCE

The Fibonacci Sequence or Fibonacci Number is a series of numbers where a number is found by adding up the two numbers before it. Starting with 0 and 1, the sequence goes 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, and so forth. Written as a rule, the expression is $x_n = x_{n-1} + x_{n-2}$. Named after Fibonacci, also known as Leonardo of Pisa or Leonardo Pisano, Fibonacci numbers were first introduced in his *Liber abaci* in 1202. The son of a Pisan merchant, Fibonacci traveled widely and traded extensively. Math was incredibly important to those in the trading industry, and his passion for numbers was cultivated in his youth. The Fibonacci sequence appears in Indian mathematics, in connection with Sanskrit prosody. It has wide ranges of applications in computing algorithm

ACHIEVEMENTS & RECOGNISIONS

Research Publications

Research articles of following faculty members are published in September, 2016

Mr Jitendra Singh
(Asst.Professor-CS)

A coauthored research article on **Image processing using Image Compression Method** was published in Elixier International Journal (September, 2016).

To access the journal and abstract of the Article Click .

Mrs Ankita Nitin Saxena
(Asst Professor-CS)

A research article on **Medical image processing in cloud computing** was published in -IFRSA's INTERNATIONAL JOURNAL OF COMPUTING (IIJC) (September, 2016).

To access the Journal and Article Click

Best Engineer Award to Ms Vanshika Shukla

Digital Marketing Prizes for Ms Samama and Ms Oshin

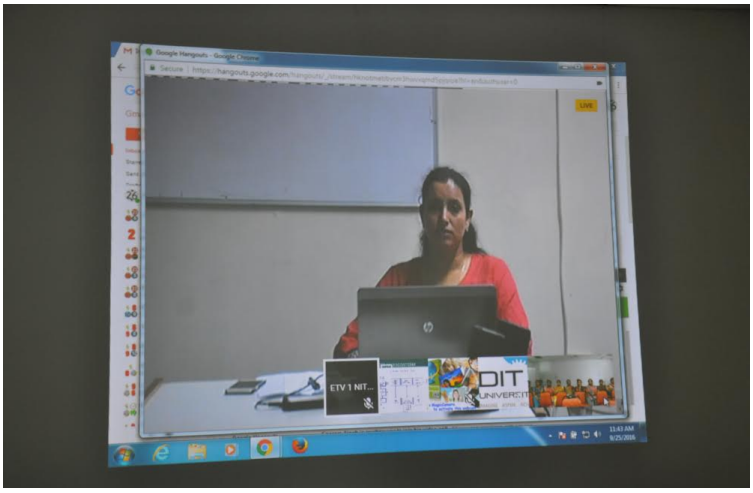
STUDENTS OF SRMSCETR FINAL PLACED IN BALARKA TECHNOLOGIES

1. Arshita Srivastava (CS)
2. Astha Tewari (CS)
3. Juhi Verma (CS)
4. Nikita Sethi (CS)
5. Shubhangi Bansal (CS)
6. Vanshika Shukla (CS)
7. Anjali Shishodhia (EC)
8. Kanchan Joshi (EC)
9. Megha Sinha (EC)
10. Pranjali Singh (EC)
11. Renu Verma (EC)
12. Riya Singh (EE)
13. Ayushi Varshney (IT)

NEWS IN PICTURE

SOME GLIMPSES

FACULTY MEMBER INTERACTING FROM THE COLLEGE CAMPUS WITH THE RESOURCE PERSON OF NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING INSTITUTE, CHANDIGARH THROUGH VIDEO CONFERENCING DURING FDP .



OATH TAKING CEREMONY OF VERVE 2016-17

TEACHERS DAY CELEBRATION

STUDENTS DURING SPARK THE BRAIN

VISHWKARMA PUJA