



Vidya Vikas Education Trust's

# Universal College of Engineering

( Permanently Unaided | Approved by AICTE, DTE & Affiliated to University of Mumbai )

(Accredited with B+ Grade by NAAC)

## Coffee & Code ;

An Initiative by the Department of Computer Engineering

### SEE INSIDE

Page 2 : Departmental Activities

Page 6 : Articles

Page 8 : His Story at a glance

### VISION

To be recognized as a department that provides quality technical education and research opportunities that eventually caters to helping and serving the community.

### MISSION

- To groom the students to participate in curricular and co-curricular activities by providing efficient resources.
- To motivate the students to solve real-world problems to help the society grow.
- To provide a learning ambience to enhance innovations, team spirit and leadership qualities for students.

### PROGRAM EDUCATIONAL OBJECTIVES

The graduates will:

- PEO 1) Establish a career in the field of computer engineering
- PEO 2) Pursue higher education or become entrepreneurs
- PEO 3) Be lifelong learners



**Dr. Chandrakanta Kumar**  
**MTech, PhD**

ISRO · ISRO Satellite Centre (ISAC)  
Dy. Project Director  
Chandrayaan-2

“

*Chandrayaan - 2 , Taking Billion dreams to the Moon...*

”

**Compiled By:**

The Department of Computer Engineering

**Designed and Edited by:**

Mr. Sridhar Iyer  
Mrs. Hezal Lopes  
Ms. Apurva Chaudhari

# Departmental Activities

## Introductory Session Conducted on “Virtual Labs”

**DATE:** 20th July 2019

**VENUE:** Computer Center

**TIMING:** 9:30 am to 10:00 am

**Resource Person:** Mr. Ravi Nagar



An interactive session on “Virtual Labs - in association with the Ministry of Human Resource and Development (MHRD) was conducted by one of our faculty Mr. Ravi Nagar. The session was mainly focussed on delivering quality education among the students in the form of virtual lab practical sessions conducted remotely from the college premises itself. The objectives of the Virtual lab sessions are as follows:

1. To provide remote-access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate level, post graduate level as well as to research scholars.
2. To enthuse students to conduct experiments by arousing their curiosity. This would help them in learning basic and advanced concepts through remote experimentation.
3. To provide a complete Learning Management System around the Virtual Labs where the students can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self evaluation.

# Departmental Activities(cont.)

## Session on “ICT Enabled Tools”

**DATE:** 20th July, 2019

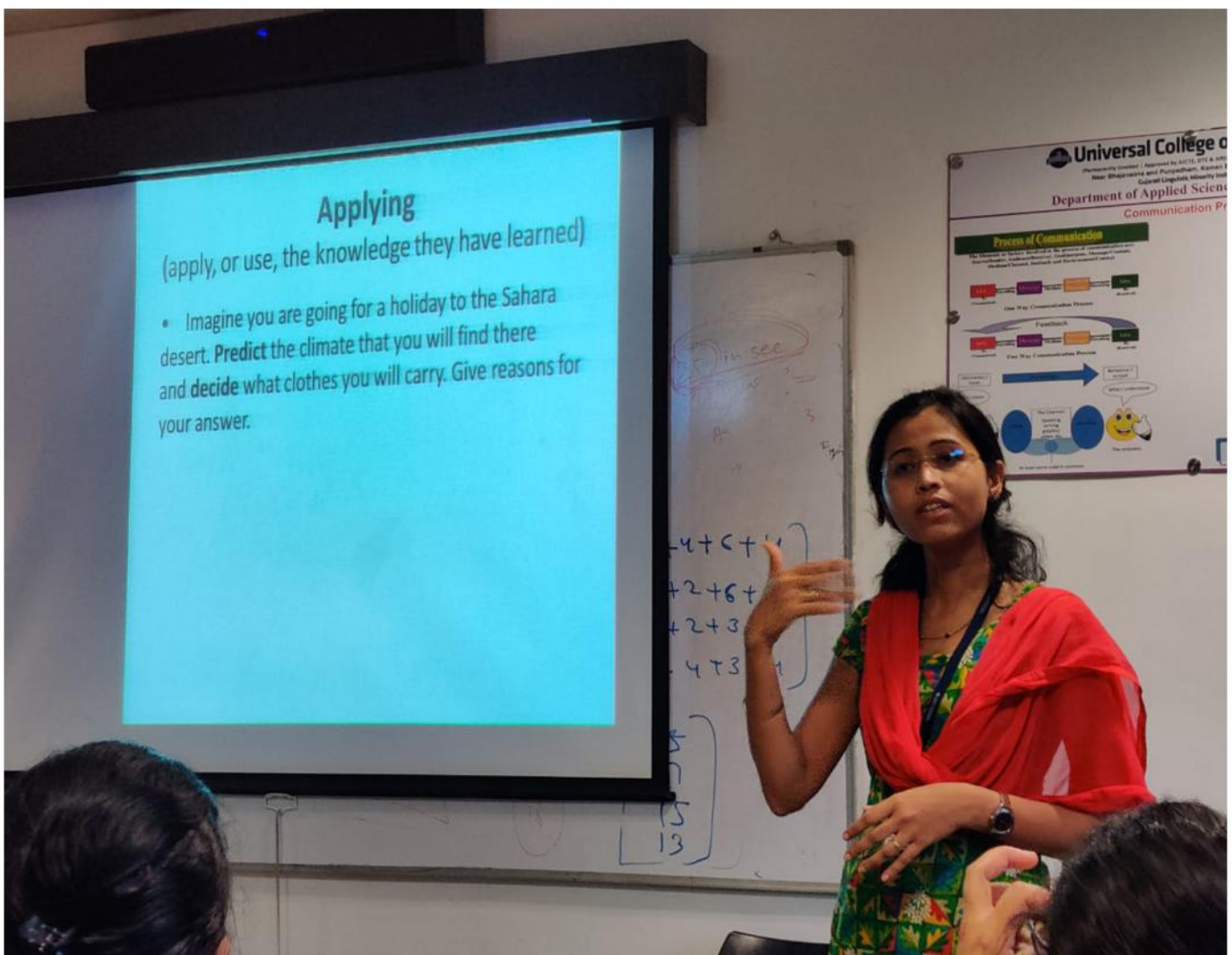
**VENUE:** 219

**TIMING:** 3.30 pm to 4.30 pm

**Resource Person:** Mrs. Hezal Lopes

On 20 th July 2019 Mrs. Hezal Lopes, faculty from the Department of Computer Engineering had taken a session on “ICT Enabled Tools”. She started her session with a very interactive tool called Mentimeter, powered by <http://www.menti.com>. This tool creates a environment replicating a virtual whiteboard. Mentimeter is a cloud-based solution that allows you to engage and interact with your target audience in real-time. It is a polling tool wherein you can set the questions and your target audience can give their input using a mobile phone, laptop or any other device connected to the Internet.

She then explained Bloom’s Taxonomy for Active Learning . Mam had also covered various topics, such as “How to use active verbs to set up question paper” with various real-time examples. She also focused on various classroom assessment techniques and how to use ICT tools to make the lectures more student-centric rather than teacher-centric. The best part was the flipped classroom session where she explained how to record our own lecture using open source tools such as “**Screenomatic**” and deliver the contents among the students as a video lecture. Every faculty from our department had decided to pick up at least one technique and implement the same.



# Departmental Activities (cont.)

## Session on Management Information System (MIS) implementation in College Campus

**DATE:** 20th July, 2019

**VENUE:** Computer Center

**TIMING:** 2.30 pm to 3.30 pm

**Resource Person:** Mrs. Sharvari Patil, Mr. Chinmay Raut, Mr. Sridhar Iyer



UCOE-MIS is a software system which makes way for easy facilitation of resource intensive and otherwise manual tasks such as Attendance Monitoring, Assignment and Test Marks Evaluation, CO-PO generation, Report generation, Staff Leave management, Defaulter List Generation etc. This system is developed and maintained In-House by Computer Engineering faculty Mrs. Sharvari Patil, Mr. Chinmay Raut and Mr. Sridhar Iyer. The system is currently implemented and deployed in the college premises under a local LAN server environment, which can be accessed by computers connected to the Universal Education WiFi Networks, viz.

### How to access the portal ??

The MIS Portal can be accessed through the following URL:

<http://192.168.9.1/MIS>

The system is currently under modular development and each module is deployed in batches as and when ready.

Modules developed so far :

- 1) Student Unique PID Generation
- 2) Student Attendance
- 3) Report Generation
- 4) Elective Subject Staff and Student Allotment.

The screenshots of the same are as shown.



Developed and maintained by :  
1. Mrs. Sharvari Patil,  
2. Mr. Sridhar Iyer,  
3. Mr. Chinmay Raut,  
Department of Computer Engineering, Universal College of Engineering

# Departmental Activities (cont.)

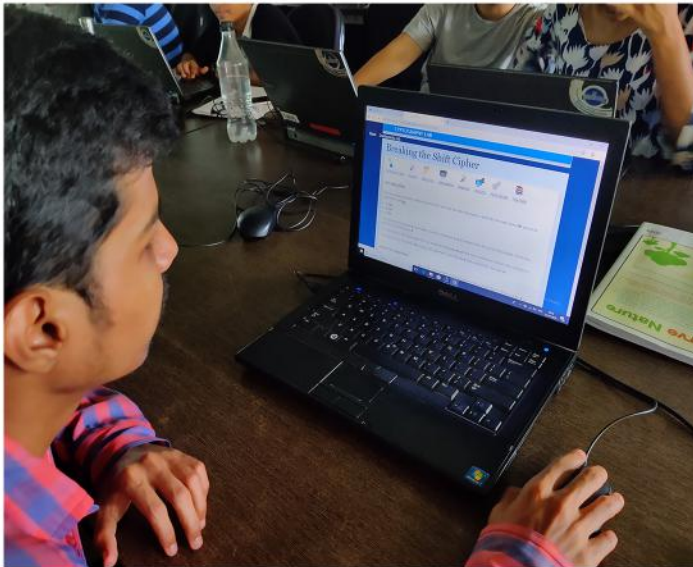
## Virtual Lab Session on “Cryptography Lab”

**DATE:** 22nd July, 2019

**VENUE:** Computer Center

**TIMING:** 3.00 pm to 5.00 pm

**Resource Person:** Mr. Sridhar Iyer



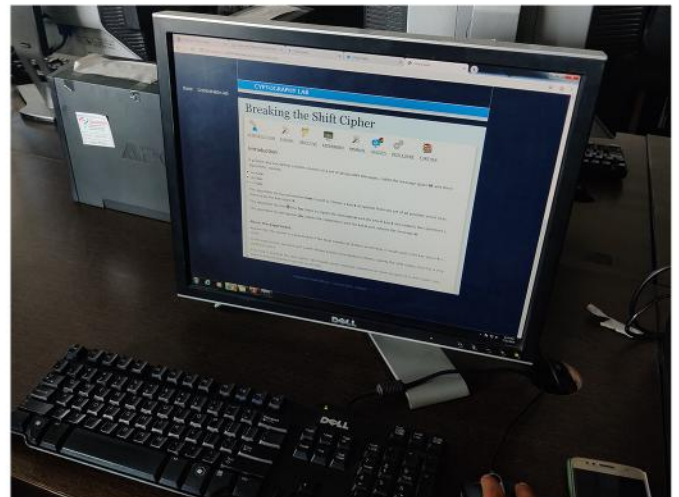
A virtual lab session on the “Cryptography Lab” was conducted on 22nd July by our Computer Engineering Faculty, Mr. Sridhar Iyer. This session was targeted towards the Final Year students studying a subject “Advanced System Security and Digital Forensics”

This Virtual lab session was quite intuitive and interesting as the students got a hands-on experience on how cryptographic ciphers work in real life.

The whole syllabus designed by MHRD and various IIT’s is Industry centric and focuses on the various aspects of data security expected according to the industry standards.

In this lab session, virtual experiments were conducted to make the students understand the basic mathematical foundations of cryptography, to gain insightful experience by working with fundamental cryptographic applications. The experiments listed are as follows:

1. Breaking the Shift Cipher
2. Breaking the Mono-alphabetic Substitution Cipher
3. One-Time Pad and Perfect Secrecy
4. Message Authentication Codes
5. Cryptographic Hash Functions and Applications
6. Symmetric Key Encryption Standards (DES)
7. Symmetric Key Encryption Standards (AES)
8. Diffie-Hellman Key Establishment
9. Public-Key Cryptosystems (PKCSv1.5)
10. Digital Signatures



The entire curriculum consisted of 10 experiments, each focusing on the various cryptographic techniques used for encrypting and securing the data. The students came to know the nuances and real life applications of each of the techniques by going through the “self-paced driven” tutorials along with the virtual lab setup.

**SOURCE:** <http://cse29-iiith.vlabs.ac.in/>

## 14 Year Olds From India Bag First Prize in Asia's Biggest Robotics Competition for Second Time

Robotics might still be a relatively new topic in the Indian circuit, but young students have not only heard of it but have also started to try their hand in creating robotic applications which can perform a variety of tasks and make life easier. **'Part Time Tech Einsteins'** - a team of young 14-year-olds from Venkateshwar Global School, New Delhi - bagged the first prize in Asia's Biggest Robotics Competition, IRC Open League, and secured an international education trip. This was in fact the team's second win at the robotics competition as they had secured the first position even in the last season of the International Competition. The students have been involved in robotics for only around a year or two now as they are learning it at school.

### **Why is the IRC Open League hosted?**

Avishkaar, India's Largest Robotics Company, which also shoulders the task of creating Atal Tinkering Labs in hundreds of schools in India, hosts the IRC Open League every year as a way to inspire kids to become future tech enthusiasts and make parents aware of the fast-rising field of robotics. The robotics competition this year, held at Ambience Mall, Gurugram on June 30, saw 46 teams comprising of 250 students compete in three different levels - Junior, Middle and Senior - split according to the students' ages. The Part Time Tech Einsteins from the Middle Level were declared the Overall Winners of IRC Open League for the two robots they created.

### **What is the story behind their winning robot?**

"We had two robots -- one manual and one autonomous. We tried many designs on both the robots to choose the best," explains Samarth Bhutani. The manual robot can quickly move an object or a number of objects either by grabbing or dragging from one place to another. The compact autonomous robot can follow a black line, place blocks in the drop area and stop at the required location. "It didn't take a long time to design but took a little more time to make some amendments and customization of the bots," says Nischal Wadhwa. "Sumit sir gave us the green signal for this great achievement," he adds. "He trusted us and gave us the freedom to think and design the robot," says Nischal, crediting their teacher.

### **How long have the kids been learning robotics?**

Though all the team members didn't start learning robotics at the same time, their primary training took place at school. "Not all of us started robotics at the same time. Nischal, the controller of our team, and I joined the team in the school league during the season 9 of the robotics competition, after that, we never looked back," says Utkarsh Agarwal.



SOURCE: <https://bit.ly/2YvKz94>

## Chandrayaan 2 launch successful: 5 reasons why every Indian will be proud of ISRO's Moon mission today!

The country salutes ISRO and its scientists as India scripts history in space exploration and technology. Here are five reasons why every Indian will be proud today:

### 1. India's maiden landing on the Moon!

With ISRO's Chandrayaan 2, the country will land on the lunar surface for the very first time. During the premier lunar mission, Chandrayaan 1, the spacecraft was orbiting around the Moon and analyzed lunar surface. However, in this mission, Chandrayaan 2 has three components, namely, the Orbiter, the Lander 'Vikram' and the 'Pragyaan' Rover. While, the Orbiter will orbit around the Moon, the Lander will attempt a soft landing on the moon to deploy the six-wheeled artificial-intelligence powered Rover. The Rover will analyse the lunar surface and conduct in-situ experiments for exploration and further studies. These results will pave the way towards creating a paradigm shift in lunar expeditions.

### 2. First space mission to land on the Moon's South Polar Region!

Chandrayaan 2 holds a distinguished significance as it will pin the country's flag across global space research. This is because it is the first ever space mission to conduct a soft landing on the Moon's South Polar region. It is also the first Indian lunar expedition to attempt a soft landing on the lunar surface with home grown technology. This has made the mission even more unique as the South Polar region of the moon's terrain has not been explored or sampled by any other country in the past. The mighty launch vehicle GSLV Mk -III has been completely designed and made within the country, making it a fully home-grown technology, hence Chandrayaan 2 is a fully indigenous mission.

### 3. Lunar Mission led by India's 'Rocket Women'!

Apart from having many first-time milestones, the Chandrayaan 2 project is being spearheaded by two senior women scientists of ISRO. ISRO's very own Ritu Karidhal and Muthayya Vanitha, popularly known as India's 'Rocket Women' were leading the project for all its main components, which includes the project oversight as well as the crucial final phase of landing. Ritu Karidhal is the Mission Director, while Muthayya Vanitha is Project Director for Chandrayaan 2. With their illustrious scientific prowess and critical expertise for space engineering, these senior women space scientists have been associated with ISRO for almost two decades and have been a part of sub-system development for satellites and past launches.

### 4. India joins illustrious league of nations to ever land on the Moon!

With Chandrayaan 2, the country has joined the illustrious league of four nations across the world to make a soft landing on the lunar surface. Previously, China, the United States and the former Soviet Union have attempted soft landing on the moon. This puts India among the global leaders for space technology and research, while the discoveries during the mission will scale new frontiers for science.

### 5. Space mission at frugal cost of Engineering

Chandrayaan 2 also stands out for its frugal cost of engineering as its total cost is way lower than several other lunar missions. Specifically, the total cost of Chandrayaan 2 is Rs 978 crore or \$142,651,080 (\$142 million) which includes the mission cost of Rs 603 crore and the cost of its launch which is Rs 375 crore. Interestingly, this cost was estimated to be lower than many of the high-grossing Hollywood movies such as Avengers Endgame, Titanic, Avatar, Spider Man 3. In this way, ISRO has carved a niche for itself across the globe, in the sphere of astronomy and space research for running cost-effective as well as less expensive projects.



SOURCE: <https://bit.ly/2LK4YRT>

# His story at a glance



ISRO's Chandrayaan 2 Latest News: Among the extraordinary people of ISRO who made this launch possible is a brilliant scientist with his own inspirational story.

ISRO successfully launched its Mooncraft on July 22 on-board the giant rocket GSLV Mk III M-1 as promised by the ISRO chief K Sivan. The launch was smooth and hassle-free and has propelled the Chandrayaan 2 spacecraft on its way to the Moon's south polar region to find water based on the findings of its first lunar mission Chandrayaan 1. Among the extraordinary people of ISRO who made this launch possible is a brilliant scientist, 'Chandrakanta Kumar', who has his own inspirational story. Hailing from Hoogly's Shibpur Village, in West Bengal, he was born in Mudhusudhan Kumar's family. Kumar is a farmer. Chandrakanta was to be named Suryakanta. His father said that the kid's teacher advised them to name him otherwise, and thus he was named as Chandrakanta. The role of this kid, who grew to be a scientist at ISRO in launch of Chandrayaan 2, is notable.

It is said in tales that name defines your destiny, and Chandrakanta ended up being a senior scientist of Indian Space Research Organisation (ISRO) and was an important face among the people leading the Chandrayaan 2 mission. Talking with News18, father of Chandrakanta, Mudhusudhan Kumar said that "When the mission was called off on July 15, we were sad. But, our hopes were high and we were ready to witness the most powerful rocket of India lift-up to start a journey on a challenging mission. It is a thing to be proud of, that our son is an essential part of the team of Chandrayaan 2 mission.

It is the intelligence of Chandrakanta, which is behind the design of the antenna systems for the Indian satellites and also ground stations. Chandrakanta has also played important roles in previous space missions of ISRO like Chandrayaan-1, ASTRO-SAT and GSAT-12. He was the Deputy Project Director for Chandrayaan 2 and was responsible for the RF system (radio-frequency system). At UR Rao Satellite Centre (URSC) Chandrakanta was the head of the 'Electromagnetics' Section.

Chandrakanta's mother said that she is very happy and proud of her son. "He (Chandrakanta) called me in the morning (on the day of launch) and told me to watch on TV Chandrayaan 2 rocket going up in the sky. It makes me really happy and proud that despite all odds my son managed to overcome all hurdles and became a scientist," she added.

Talking about his struggles during childhood, his father, Madhusudan Kumar, said: "Agriculture was the only means of livelihood for our family but still I strived hard to give the best education to my son. He shifted to the city for higher studies. His hard work have paid him and today he is the deputy director of the Chandrayaan-2 mission."

Even his younger brother is a scientist and is named Sashikant after the Moon. It is understood that becoming a scientist at ISRO certainly required a lot of hard work and despite belonging to a farmer's family Chandrakanta made it through to be a part of one of the most crucial missions of ISRO and has proved that there is no alternative to hard work.

This is an inspirational story of a person from a humble background who became a man the world knows today and inspires many who have big dreams.



**SOURCE:** <https://bit.ly/2JF5rRX>

**For our previous editions , visit the link : <https://bit.ly/2YP1OPL> OR Scan the QR CODE**

