RONIX 2k19

Annual Magazine

Department of Electronics & Communication Engineering,
Rohini College of Engineering & Technology,
Palkulam,
Kanyakumari-629 401.

RONIX 2K19

Editorial Board

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FROM THE DESK OF Chairman

"Learning gives creativity, creativity leads to thinking, thinking provides knowledge, knowledge makes you great" - Dr.A.P.J.Abdul Kalam.

These words by - Dr.A.P.J.Abdul Kalam perfectly describe our aim at Rohini College of Engineering and Technology. Our aim is to teach students to LEARN, not just STUDY. Hence, we strive to travel beyond the boundaries of mere books.

I can proudly say that Rohini College of Engineering and Technology is the most modern and sophisticated multidisciplinary institution, imparting quality education and providing a wide and varied arena for the staff and students to showcase their academic and extracurricular talents.

RCET has made a tremendous progress in all areas crossing several milestones within a very short span of time. I feel happy to know that the students and faculty of ECE department of RCET bringing out the technical magazine RONIX.

The role of a department magazine is therefore vital in promoting what an institution offers. It brings out into the open things hitherto unrevealed. It brings to light the names of the unsung heroes and their mighty deeds.

I am proud to say that once our students step in RCET, they step out with self- confidence and knowledge to face all future endeavors with full conviction. Fly in the plane of Ambition, Land in the Airport of Success, the luck is yours the wish is mine. May your future always shine. Good Luck.

Cordially,

Shri.K.NEELA MARTHANDAN

Chairman Rohini Groups.

PRINCIPAL'S MESSAGE

Dear All,

Service to Human being is Service to God. Creating better human beings' is our motto and we can do that when we are able to mould our students to be good human beings with values which are embedded for life. Now our special emphasis is on Outcome Based Education and Experiential Learning. The main focus of our college is to empower students with sound knowledge, wisdom, experience and training both at the academic level of Engineering and in the highly competitive global industrial market.

It is a matter of immense pleasure and pride that Electronics and Communication Engineering department RCET has shown consistent progress, year after year in academic and co-curricular activities. It's high standard in academics and commitment to quality technical education is reflected by the Alumni and the excellent placement records.

The Electronics and Communication Department digital magazine is a platform for sharing educational information, activities and events related to the ECE Department of our college. Introducing the very first issue, I hope that the digital magazine will provide useful and relevant information. I wish the best for all our students, and the members of the department of Electronics and Communication Engineering who reiterate their aims at providing the best in academic and extra-curricular fields. Once again, I wish all our students and faculty a successful and rewarding career.

Best Wishes,
Dr.R.RAJESH, M.E., Ph.D.,
Principal,
Rohini College of Engineering & Technology,
Palkulam,
Kanyakumari.

HOD's MESSAGE

Dear all,

At the outset, I would like to thank the Management and Principal for their continuous support and Guidance, Faculties and students for doing exemplary support and contributions in the department! It gives me immense pleasure to note that the editorial board brings out another edition of newsletter "Electro Vsion". It is great to find students as winners and participants in co-curricular and extracurricular activities which certainly prove that our students are adequately equipped and possess necessary skill-sets to bring such laurels to the Institution and Department. The Department aims academic progression, skill development, inculcating research value, bringing out hidden talent of students as well as faculty members through activities like Guest lectures, Faculty Development Programmes, Research workshops, Technical Symposium, Mini-Project Expo etc., This newsletter is a medium to present the glimpse of such activities and achievements of the department in each semester to all the stakeholders. I am sure that by reading these pages you will get a bird's eye view about activities of ECE Department.

Best Wishes,
Dr.S.MOHANALAKSHMI, M.E., Ph.D.,
HOD / Electronics and Communication Engineering /RCET

EDITOR'S NOTE

It gives us great pleasure to bring you issue of Ronix 2k19, the ECE department technical magazine of Rohini College of Engineering and Technology, Kanyakumari.

The objective of the magazine is to mainly focus on Achievement of the students from the ECE department in the Co-curricular and Extra-Curricular Activities.

The name and fame of an institute depends on the caliber and achievements of the students and teachers. The role of a teacher is to be a facilitator in nurturing the skills and talents of students. This magazine is a platform to exhibit the literary skills and innovative ideas of teachers and students Ronix 2k19 presents the skills and innovative thinking of students and contributions of teachers.

We are also thankful to our Management and Principal for their support and encouragement. Last but not the least we are thankful to all the authors who have sent their articles. We truly hope that the pages that follow will make an interesting read.

Best Wishes,
Nagarajan R.V.,
Associate Editor.

INSTITUTE VISION

To be an academic institute of continuous excellence towards education, research in rural regime, and provide service to nation in terms of nurturing potentially higher social, ethical and engineering companion graduands.

INSTITUTE MISSION

- To faster and promote technically competent graduands by imparting the state of art engineering education in rural regime.
- To enunciate research assisted scientific learning by dissemination of knowledge towards Science, agriculture, industry and national security.

DEPARTMENT VISION

To promote Ethical and Innovative Electronics and communication Engineers through excellence in teaching, training and research so as to contribute to the advancement of the rural society and mankind.

DEPARTMENT MISSION

- To impart high quality technical education and exposure to recent trends in the industry ,to ensure that the students are moulded into competent Electronics and communication engineers.
- To inculcate research capabilities and exemplary professional conduct to lead and to use technology in agriculture, industry and national security for the progress of our country.

Rohini College of Engineering and Technology- a temple of learning, is an ISO certified institution was founded by the great Industrialist and Philanthropist, Shri. K.Neela Marthandan. The main objective of our college is to advance the knowledge base of the engineering professions and to influence the future directions of engineering education and practice.

RCET - Best Engineering College in Nagercoil, Kanyakumari District.We believe not only in educating the students, but also in grooming characters, with moral and ethical values to build the nation. Since the beginning, the college has been providing world-class facilities & infrastructure in education and learning. The emphasis is on transformational leadership rather than directional leadership. We aim to establish new trends, introduce innovative training methodologies, and thus guide students towards the road to success.

ABOUT DEPARTMENT

The primary objective of the department is to impart quality education and to deepen the knowledge and skills of the students in the basic concepts and theories in various areas of Electronics and Communication Engineering.

SCOPE

Electronics is now part of our everyday life, from the mobile phones to televisions, computers and even the high-end advanced satellites that are helping us to lead a smooth life. Ever since the evolution of technology, Electronics and Communication has become an essential discipline which is required by all the industries. Hence, Electronics and Communication engineering is one of the most sought after branches by students. Electronics and Communication Engineering has also penetrated into other areas like healthcare, instrumentation, automation, remote sensing, signal processing etc.

So students pursuing electronics and communication engineering have a lot of scope in varied industries. Taking the educational scope and career choices into consideration, here are the popular areas of study in the field of Electronics and Communication.

- Internet of Things
- Robotics
- Mechatronics
- Embedded System
- Digital Image Processing

PEO

PEO 1-
Lead a successful career by applying the scientific and engineering fundamentals to formulate and solve the real life problems.

PEO 2
Practice the ethics of their profession, consistent with a sense of social responsibility and aptitude for innovations as they work individually and in multi-disciplinary teams.

PEO 3
Be receptive to recent technologies so as to excel in industry and accomplish professional competence through lifelong learning such as advanced degrees and other professional

PARTICIPATION

Sl. No .	Name of Student	Name of Organizer	Date	Symposium/ Workshop/ Conference	Level	Event
1.	Rajeswari R	Aeronautical Society of India Kanyakumari Branch	12-10-2018 & 13-10-2018	ASPIRE 2018/ Conference	National	Paper Presentation
2.	Nivethitha R	Aeronautical Society of India Kanyakumari Branch	12-10-2018 & 13-10-2018	ASPIRE 2018/ Conference	National	Paper Presentation
3.	Revathi Raj	Aeronautical Society of India Kanyakumari Branch	12-10-2018 & 13-10-2018	ASPIRE 2018/ Conference	National	Paper Presentation
4.	Nima Mohan	Aeronautical Society of India Kanyakumari Branch	12-10-2018 & 13-10-2018	ASPIRE 2018/ Conference	National	Paper Presentation
5.	Amala A	Aeronautical Society of India Kanyakumari Branch	12-10-2018 & 13-10-2018	ASPIRE 2018/ Conference	National	Paper Presentation
6.	Murukesh M	Aeronautical Society of India Kanyakumari Branch	12-10-2018 & 13-10-2018	ASPIRE 2018/ Conference	National	Paper Presentation
7.	Anbalagan Ragul	Aeronautical Society of India Kanyakumari Branch	12-10-2018 & 13-10-2018	ASPIRE 2018/ Conference	National	Paper Presentation
8.	Magi Shahulin C	Mangalam College of Engineering	14-09-2018	MAKER FAIR-18/ Conference	International	Project Presentation
9.	Nisha S	Mangalam College of Engineering	14-09-2018	MAKER FAIR-18/ Conference	International	Project Presentation
10.	Uma S	Mangalam College of Engineering	14-09-2018	MAKER FAIR-20/ Conference	International	Project Presentation
11.	Sri Ishwariya S	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
12.	Sandhya S	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
13.	Sabitha S	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
14.	Raja Preethi R	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation

15.	Salini M	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
16.	Abisha Darshini R	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
17.	Raja Priya Dharshini R	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
18.	Sreeja N G	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
19.	Magi Shahulin C	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
20.	Bala Brintha R	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper Presentation
21.	Abisha Darshini R	VV College of Engineering	27-09-18	VV TECH FEST'18/ Symposium	National	Paper Presentation
22.	Raja Priya Dharshini R	VV College of Engineering	9/27/2018	VV TECH FEST'18/ Symposium	National	Paper Presentation
23.	Sreeja N G	College of Engineering	9/27/2018	VV TECH FEST'18/ Symposium	National	Paper Presentation
24.	Magi Shahulin C	VV College of Engineering	9/27/2018	VV TECH FEST'18/ Symposium	National	Paper Presentation
25.	Bala Brintha R	VV College of Engineering	9/27/2018	VV TECH FEST'18/ Symposium	National	Paper Presentation
26.	Bala Brintha R	Rajas International Institute of Technology for Women	9/28/2018	FIDUCIA-18/ Symposium	National	Paper Presentation
27.	Ravina S	Rajas International Institute of Technology for Women	9/28/2018	FIDUCIA-18/ Symposium	National	Paper Presentation
28.	Magi Shahulin C	Rajas International Institute of Technology For Women	9/28/2018	FIDUCIA-18/ Symposium	National	Paper Presentation
29.	Raja Preethi R	Rajas International Institute ofTechnology For Women	9/28/2018	FIDUCIA-18/ Symposium	National	Paper Presentation

30.	Abisha Darshini R	PET Engineering College	28-09-2018	C-ELECTRA-18/ Symposium	National	Paper Presentation
31.	Arockia Uma	PET Engineering College	28-09-2018	C-ELECTRA-18/ Symposium	National	Paper Presentation
32.	Jinu Krishnan	PET Engineering College	28-09-2018	C-ELECTRA-18/ Symposium	National	Paper Presentation
33.	Ajith Kumar	PET Engineering College	28-09-2018	C-ELECTRA-18/ Symposium	National	Paper Presentation
34.	Brintha Devi N	PET Engineering College	28-09-2018	C-ELECTRA-18/ Symposium	National	Paper Presentation
35.	Raja Priya Dharshini R	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
36.	Sreeja N G	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
37.	Ashisha H jiji Sam	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
38.	Bala Brintha R	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
39.	Anusha A	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
40.	Anusha V	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
41.	Magi Shahulin C	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Project Presentation
42.	Ananthi S	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
43.	Pavithra M	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
44.	Pavithra B	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
45.	Vishnu Priya C	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
46.	Salini M	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation
47.	Ravina S	Rajas Engineering College	10/5/2018	RECTECH-FEST 18/ Symposium	National	Paper Presentation

48.	Raveena P	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection
49.	Akesh T A	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection
50.	Harish Kumar V	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection
51.	Dayana Rose S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection
52.	Sandhya S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection
53.	Akesh T A	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Quiz
54.	Harish Kumar V	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Quiz
55.	Sulaiha Shahema Ansari	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Quiz
56.	Mathija N R	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Quiz
57.	Raveena P	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Circuit Debugging
58.	Mathija N R	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Bloom Box
59.	Viji Santh S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
60.	Vishal S I	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
61.	Dayana Rose S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
62.	Anusha A	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
63.	Nanthini N	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
64.	Subramonian S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
65.	Sritharan S	CAPE Institute of Tech.	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation

66.	Marlia I	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Bloom Box
67.	Sabitha S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
68.	Sulaiha Shahema Ansari	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
69.	Sandhya S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Paper presentation
70.	Brintha R	DMI Engineering College	2/23/2019	COMPUTRONICITY 2K19/ Symposium	National	Paper Presentation
71.	Jaberslin Shajena U	DMI Engineering College	2/23/2019	COMPUTRONICITY 2K19/ Symposium	National	Quiz
72.	Mathija N R	DMI Engineering College	2/23/2019	COMPUTRONICITY 2K19/ Symposium	National	Quiz
73.	sahulin C	DMI Engineering College	2/23/2019	COMPUTRONICITY 2K19/ Symposium	National	Quiz
74.	Brintha R	DMI Engineering College	2/23/2019	COMPUTRONICITY 2K19/ Symposium	National	Quiz
75.	Jaberslin Shajena U	DMI Engineering College	2/23/2019	COMPUTRONICITY 2K19/ Symposium	National	Paper Presentation
76.	sahulin C	DMI Engineering College	2/23/2019	COMPUTRONICITY 2K19/ Symposium	National	Paper Presentation
77.	Mathija N R	DMI Engineering College	2/23/2019	COMPUTRONICITY 2K19/ Symposium	National	Paper Presentation

ACHIEVEMENT

Sl. No.	Name of Student	Name of Organizer	Date	Symposium/ Workshop/Conference	Level	Event	Prize
1.	Sandhya S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection	Awarded Second
2.	Sabitha S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection	Awarded Second
3.	Salini M	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Circuit Debugging	Awarded First
4.	Dayana Rose S	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper presentation	Awarded Third
5.	Anisha Devi R	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper presentation	Awarded Third
6.	Magi Shahulin C	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper presentation	Awarded Third
7.	Bala Brintha R	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper presentation	Awarded Third
8.	Raja Preethi R	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper presentation	Awarded Third
9.	Sandhya S	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper presentation	Awarded Third
10.	Sabitha S	VV College of Engineering	9/26/2018	VV TECHNOZER 2K18/ Symposium	National	Paper presentation	Awarded Third
11.	Abisha Darshini R	PET Engineering College	28-09-2018	C-ELECTRA-18/ Symposium	National	Paper Presentation	Awarded Second
12.	Arockia Uma	PET Engineering College	28-09-2018	C-ELECTRA-19/ Symposium	National	Paper Presentation	Awarded Second
13.	Jinu Krishnan	PET Engineering College	28-09-2018	C-ELECTRA-20/ Symposium	National	Paper Presentation	Awarded Second
14.	Ajith Kumar	PET Engineering College	28-09-2018	C-ELECTRA-21/ Symposium	National	Paper Presentation	Awarded First

15.	Brintha Devi N	PET Engineering College	28-09-2018	C-ELECTRA-22/ Symposium	National	Paper Presentation	Awarded First
16.	Raveena P	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection	Awarded Second
17.	Dayana Rose S	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Connection	Awarded Second
18.	Raveena P	CAPE Institute of Technology	2/21/2019	Cabionic 2K19/ Symposium	National	Circuit Debugging	Awarded First

FACULTY ARTICLES

Can You Hear Me, Now?

5G, which has been on the horizon for many years, is finally undergoing substantial testing and will begin to be commercially deployed in 2019 if not by the end of 2018. The initial phase of Massive MIMO (Multiple Input, Multiple Output) will provide significant improvements over 4G and eventually, millimeter wave 5G solutions will provide multi-gigabit per second wireless connectivity. As these initial 5G instantiations come online, the impact will be substantial.

Just as previous generations of wireless connectivity have created new markets and business models (e.g., mobile e-commerce, video streaming, etc.), the bandwidth explosion, low-latency speed and responsiveness, and highly configurable network solutions brought by 5G will dramatically remake markets and open new ones. Unlike in previous generations, however, the advances in connectivity enabled by 5G will extend beyond the internet to drive revolutionary changes in automotive, healthcare, and industrial automation markets.

Ultimately, one of the only predictions we can make with certainty is that 2019 will evolve in ways we can't predict. Some technologies that seem on the verge of achieving their promise at the start of 2019 will still be on the verge of achieving their promise at the end of 2019. Other technologies will silently reach a tipping point and become part of our everyday experience with hardly a ripple.

Dr. ANAND J DHAS
PROF./ECE

Li-Fi

Li-Fi is the transmission of wireless data by using visible light as a medium of communication. Also known as Light Fidelity, Li-Fi uses subtle fluctuations in LED light to transmit data from the transmitter to the receiver. To encode the data, the LED light is switched on and off at an imperceptible speed creating slight fluctuations that is invisible to the naked eye. These fluctuations generate binary codes that are transmitted to the receiver which decodes the data back into digital form.

There are two **main components of a Li-Fi system**:

1. A transmitter that is often a high brightness LED light a receiver which is often a photodiode fitted into the receiver to convert light back into digital data.

Li-fi technology is much faster as compared to the traditional Wi-Fi technology. It is capable of transmitting data up to 100 Mbps. In some cases, by using parallel transmission, more than 10 Gbps of data can also be transmitted. This means that you can download high definition 1080p videos in mere seconds.

How it is different from Wi-Fi

The main difference between Wi-Fi and Li-Fi is based on the medium used to transmit data. Wi-Fi transmits data wirelessly over modems by using radio waves. In contrast, Li- Fi uses visible light to transmit and receive data over LED light bulbs.

Applications of Lifi

The applications of Li-Fi are limitless. It is a technology that will extend the capabilities of Wi-Fi communication even beyond our imagination. Where there is an LED light, there can be data. Some of the most common applications of Li-Fi are summarized below:

The Military

Unlike Wi-Fi, Li-Fi is confined to a small range. As light does not penetrate walls, data transmitted over Li-Fi can be limited to a small area such as a tent. This makes Li-Fi great for use by the military even in remote locations as the data can't be intercepted by outside hackers. Moreover, no complex wiring infrastructure is needed for li-fi, where there is light, there is li-fi. BT has already begun testing Li-Fi for military bases.

Traffic Lights

Li-Fi can be used to provide drivers with traffic and weather updates as they wait at the traffic lights. This also eliminates the problem of getting critical traffic updates to drivers who are already on the road.

Underwater Communications

Traditional Wi-Fi cannot be used underwater because radio waves get absorbed by the water. Li-Fi, on the other hand, uses light for data transmission. Visible light can penetrate deep into the water and therefore it can be used for underwater communication potentially changing the way underwater vehicles and divers communicate with each other.

DR.SREE DEVI PROF./ECE

Artificial Intelligence Begins to Shed the Artifice

It is difficult to imagine a technology more hyped at this point than Artificial Intelligence/Machine Learning (AI/ML) but the reality is that below the breathless excitement, real progress is being made as virtually every industry is working to determine the opportunity and potential impact it represents. In automotive for example, rapid advancement in environmental sensing accuracy and the delivery of higher quality, more relevant data and information to AI engines is fueling progress in both trained and inference-based systems.

Automotive AI processing predominantly takes place at the edge rather than in the cloud due to the need for low-latency, real-time decision making but the architectural battle between edge and cloud computing in AI will be waged on an application-by-application basis as other emerging markets such as gaming and industrial automation have their own, different needs. Thorny issues remain for all markets, especially in the areas of unsupervised training and validation of how AI systems will really work once they are trained. While we will make advancements in these areas in 2019, non-technical issues like ethics, liability, and governance as well as a limited pool of AI/ML talent remain hurdles to progress.

Mr.BENESH SELVA NESAN.B

AP/ECE

Healthcare Becomes Prescient

Spiraling healthcare costs and growing disease prevalence spurred by the effects of modernity are creating a new level of urgency to solve the larger healthcare challenge. The need for economically viable wellness and healthcare solutions will drive strong growth in the adoption of sensing, computing, and mobile technologies. Deeper diagnostics, miniaturization, and connectivity will be the guideposts on the path to healthcare that is increasingly prescient.

As a consequence of this disruption, we are witnessing the birth of a new healthcare era in which clinical-grade healthcare will be available in non-clinical locations and applications. Biological, gas, and chemical sensors will increasingly provide clinical- grade measurements in form factors and price points that make them more accessible to applications outside of traditional healthcare facilities. When combined with advances in mobility/connectivity and cloud computing, these advances are making it possible to manage patient diseases in ways that prevent acute events that require expensive hospitalization, not to mention life disruption.

In 2019, we will see more clinical-grade consumer devices being used in healthcare regimens as insurance companies, hospitals, and government programs like Medicare start to accept this as a valid way to monitor patients and improve healthcare outcomes. This will drive additional advancements in sensor accuracy and data analysis as at-home devices begin to transition from a recreational novelty to a truly critical element of healthcare.

Mr. NAGARAJAN.R.V
AP/ECE

STUDENTS PAGE

THE BLOOM BOX

- Everything in our world today totally depends on the power to keep them running.
- At present we depend upon the power plants like coal fired hydro and bio gas which generate electricity by contributing harmful gases into our atmosphere.
- Of course we have solar and wind energy, which are intermit and also not contributing major part of environmental-free electricity. so we need a technology which has the capability to produce clean electricity sufficiently without any interruption.
- **Dr. Sridhar** introduced **"Bloom Energy"** as "**It's the plug-and-play future of electricity**". Bloom Energy, is about to make public its invention- a little power plant-in-a-box.
- Unlike renewable energy technologies like solar and wind, which are intermittent, Bloom's technology could provide renewable power **24x7**. It converts air and nearly any fuel source, ranging from natural gas to a wide range of biogases into electricity through **electrochemical process.**

What is bloom box?

- Bloom box is a collection of fuel cells, skinny batteries that use oxygen and fuel to create electricity with no emissions made of sand that is baked into diskette-sized ceramic squares and painted with green and black ink The fuel cells are stacked into brick-sized towers sandwiched with metal alloy plates
- The Bloom Box consists of these fuel cell stacks that are housed in a refrigerator- sized unit.

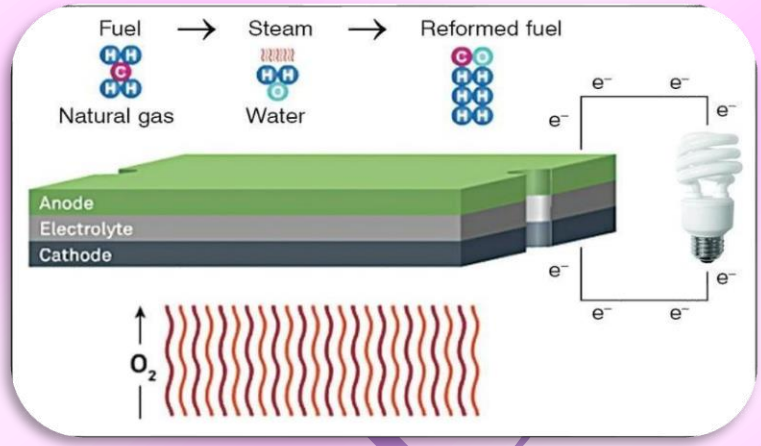
In Bloom's technology **Solid Oxide Fuel Cells (SOFC)** are implemented.

How does it work?

- Oxygen is drawn into one side of the unit, and fuel (fossil-fuel, bio-fuel, or even solar power can be used) is fed into the other side
    - The two combine within the cell and produce a chemical reaction that creates energy with no burning, no combustion, and no power lines

Benefits

- Lower your energy costs and eliminate volatility
- Save the environment and save money
- Improve your energy security and reliability
- Start small and "pay as you grow"
- Get access to power quickly.



Conclusion

- Bloom server requires **sand (ceramic)** for its construction which is very cheapand abundantly available in nature.
- The high efficiency built into Bloom's fuel cell systems with **easy implementation, 24/7 availability** and **24/7/365 usage.**
- Customers can also reduce their **CO_2 emissions by 40%-100%** and virtually eliminate all SOx, NOx, and other harmful smog forming emissions.
- Over a century in the making, fuel cells are finally clean, reliable, and most importantly affordable and compact.
- As the world transitions to a renewable energy future, the most sustainable pathway is to consume our precious resources more efficiently by using this bloom energy.
- It's also smarter and **"fuel savings mean saving money".**

By

AROCKIA UMA,

BRINTHA DEVI,

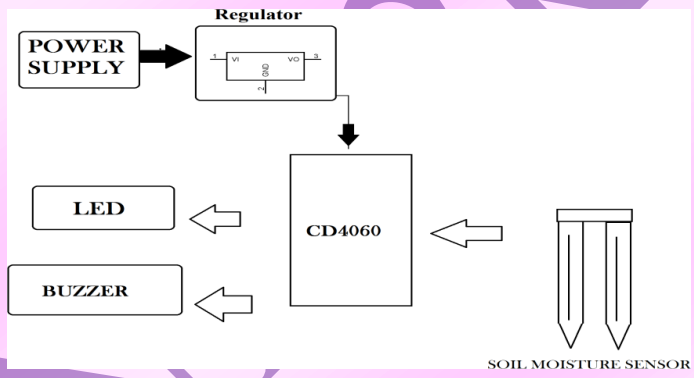
JINU MONIKA-

PLANT MOISTURE MONITORING SYSTEM

Planting a tree in an environment where the seed or the plant would not get water adequately through natural sources like rain or ground water in its initial phases has been always a matter of concern for tree planters. This is where an autonomous moisture monitor for plants system can help.

The system timely monitors the moisture level of the soil. If at the time of monitoring it comes to know that the moisture level of the soil is lower than recommended then it will raise an audio visual alert. This alert is then received by the care taker of the plant. When the care taker waters the plant the alarm goes off and the monitoring cycle continues until the caretaker notices.

In this system we use a timer IC to time the monitoring process. A moisture level sensor is used to detect the moisture level of the soil. An LED is used to give visual alarm and a Buzzer is used to give audio alarm to the care taker of the plant. Thus in this project with the help of a simple combinational circuit and a sensor we can help save a plant by maintaining the moisture level of the soil of the plant,
Thus keeping the plant healthy.



SANDHYA S

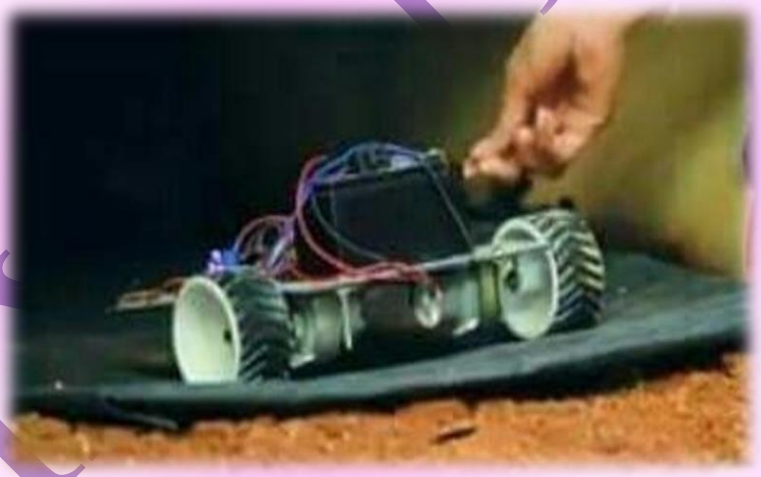
II-ECE-B

WEARABLES

No longer a fad, wearable technology is here to stay. Sensors play an important role in the wearable space, and are beginning to be designed into gloves, exercise wear, outerwear, and other garments by innovators like BeBop Sensors that offer fabric-based sensor technology. Of the wearable devices such as fitness bands and smartwatches currently available, most do one or two key things users want – typically, counting steps or monitoring heart rate -but they're increasingly incorporating more complex functionality. With a device that touches the skin, these can include tracking skin temperature, monitoring hydration by measuring skin salt levels, providing blood oxygen level via pulse-oximetry, etc. Because many readings still need to be confirmed by looking at one's smartphone, the argument to move all functionality to a smartwatch is becoming increasingly compelling, requiring a robust, flexible display that adapts well to a variety of temperatures and environments. China seems to have taken over the lead in this emerging market, with Xiaomi taking the leadership position in this space. Sunlight readability, low power and video capability are all desired in these applications, creating opportunities for existing and emerging display technologies.

THANGA RABISHA
III-ECE-B

Coal mining is the process of extracting coal from the ground. Coal is valued for its energy content and since the 1880s has been widely used to generate electricity. Steel and cement industries use coal as a



fuel for extraction of iron ore and for cement production. Coal mining continues as an important economic activity today our project will be used to identify the excess amount of gas present inside the coal mining area and also identify the temperature level by using the temperature sensor and gas sensor. The main aim of our project is to reduce the death of human beings.

By

AROKIA UMA

JINU MONIKA

KAROLIN ANGEL

BRINTHA DEVI

III-ECE-A

ULTIMATE TV

In the ever-evolving television real, the two key types of technologies competing for dominance are OLED and liquid crystal display (LCD). OLEDs offer flexibility, vivid colors and lifelike images, while LCDs – still the market leader – are less costly and render a decent image. In addition, some TV makers are using quantum dots (QD) in tandem with LCD to better compete with OLEDs' color and image quality. Quantum dots are semiconductor nanocrystal particles used to enhance LCD color gamut, rendering as much as a 30-percent increase in the visible spectrum. The easiest way to implement the QD is to coat them to a sheet of film inserted into the material stack. QD can also replace other elements, e.g., the LCD color filter and perhaps even the backlight itself at some point. The battle between these technologies will continue to inform the "ultimate TV" debate for at least the next three years – the industry remains divided as to which will prevail, particularly since LCD keeps finding new ways to maintain its position as the dominant display technology. One area where OLEDs have gained a foothold is smart phones. As they continue to grow in size and are used increasingly to view both live and streaming video content – becoming their own kind of ultimate TV – phones require the improved flexibility and battery life that OLED delivers. Tablets could also emerge as the ultimate TV: they are mobile, a lot less expensive and yet render a great experience in a single-user setting.

SHRI ISWARYA S

II-ECE-B

WEARABLES

No longer a fad, wearable technology is here to stay. Sensors play an important role in the wearable space, and are beginning to be designed into gloves, exercise wear, outerwear, and other garments by innovators like BeBop Sensors that offer fabric-based sensor technology. Of the wearable devices such as fitness bands and smartwatches currently available, most do one or two key things users want – typically, counting steps or monitoring heart rate -but they're increasingly incorporating more complex functionality. With a device that touches the skin, these can include tracking skin temperature, monitoring hydration by measuring skin salt levels, providing blood oxygen level via pulse-oximetry, etc. Because many readings still need to be confirmed by looking at one's smartphone, the argument to move all functionality to a smartwatch is becoming increasingly compelling, requiring a robust, flexible display that adapts well to a variety of temperatures and environments. China seems to have taken over the lead in this emerging market, with Xiaomi taking the leadership position in this space. Sunlight readability, low power and video capability are all desired in these applications, creating opportunities for existing and emerging display technologies.

THANGA RABISHA
III-ECE-B

Electronic Signage

Indoor signs have traditionally been made of paper, plastic or metal, but LCD has been rapidly replacing them. An exciting trend in this market is flat-panel MicroLED technology. First developed in 2000, MicroLEDs offer bright, beautiful images while omitting the pixelation that occurs with standard LED displays. Samsung provided a glimpse of a MicroLED future at CES 2018 with "The Wall," its striking 146-inch display that enabled the display to virtually disappear against its background. Although not yet in mass production, MicroLED has the potential to compete with LCD and OLED for both indoor and outdoor signage, such as signs inside shopping malls and retail outlets, and other areas not previously targeted by LED technology. For low-power indoor signage, ePaper also offers many advantages, delivering images that are clear and readable, but not so bright as to be distracting.

SMART SURFACES

The Internet of Things (IoT) concept is not new, and now that it is becoming truly ingrained into everyday life, efforts are ramping up to employ connectivity in new ways – both large and small. One example, the Amazon Dash, allows the user to simply press a button when it's time to reorder a staple household product. However, the Dash offers no visual confirmation of the order – and adding a display would do just that. For these kinds of products, a display would need to be small, inexpensive, easy to read, and able to last a long time on the same battery. The kind of ePaper currently being used on shelf labels, made by companies such as Visionect, would be useful for this type of application, as well as for home appliances. On a larger scale, ePaper for outdoor displays is a growing trend. It can be used in myriad ways – for building signage, bus shelters, advertising on public transportation, and more. These smart surfaces are easily visible, regardless of weather, and their solar-enabled low power and wireless connectivity enable them to provide tremendous value to the user.

KARTHICK T
IV ECE

Electronic Schoolbooks

Educators, parents and governments want children to have access to knowledge from anywhere, at any time. While traditional books are great for learning math, they don't give the ability to view or learn from, say, a groundbreaking TED talk. China is taking a leading role in satisfying this thirst for education by enabling widespread use of eSchoolbooks – more than 100 companies are pursuing this vision in the region. An eSchoolbook is essential to keep up with reading and learning, by maintaining access to the latest and best information. What is the ultimate display for an eSchoolbook? Medical professionals have expressed concern about young children using devices with emissive displays, as it may harm their eyesight. Several device manufacturers already offer filters for blue light, and in Canada, some insurers are already offering free prescription glasses that filter blue light. Reflective ePaper is a potential choice for eSchoolbooks. The new ePaper 2.0 has all the advantages of traditional ePaper, including low cost and power consumption, as well as outdoor usability – with the addition of video and color, which are must-haves for eSchoolbook applications.

PARAMESWARI NITHYA
III-ECE-B

Artificial Intelligence/Machine Learning

With the advent of home-control gizmos such as Google Nest, the public is becoming increasingly reliant on their artificial intelligence (AI) capabilities. This has triggered development efforts for a slew of competitive products – companies in the hunt for a share of this lucrative market include Apple, Lenovo, Alibaba, Amazon, Google, LG and Samsung. This will be an ongoing battle, particularly as the interaction and connectedness with various home security, entertainment and control systems continues to tighten and become more intuitive. Displays are now entering the equation – as evidenced by Amazon's newest Echo incarnation, the Echo Show. Just as phones evolved into full communication hubs, the Show now enables Echo to be a digital photo frame, a small TV, a video-calling hub, and more. In China, Alibaba offers the Tmall Genie that addresses this application. People want to connect and interact visually, and this is something we're going to see more of in the display development arena.

AARTHI M P IV-ECE-A

VISUAL TREATS

WHEN PEOPLE THROW STONES AT YOU, YOU TURN THEM INTO MILE STONES
-SACHIN TENDULKAR-

PRADEEP III-ECE -B

START WHERE YOU ARE.. USE WHAT YOU HAVE.. DO WHAT YOU CAN..

M.SALINI III-ECE-B

“SHE WORE FLOWERS IN HER HAIR

AND CARRIED MAGIC SECRETS IN HER EYES”

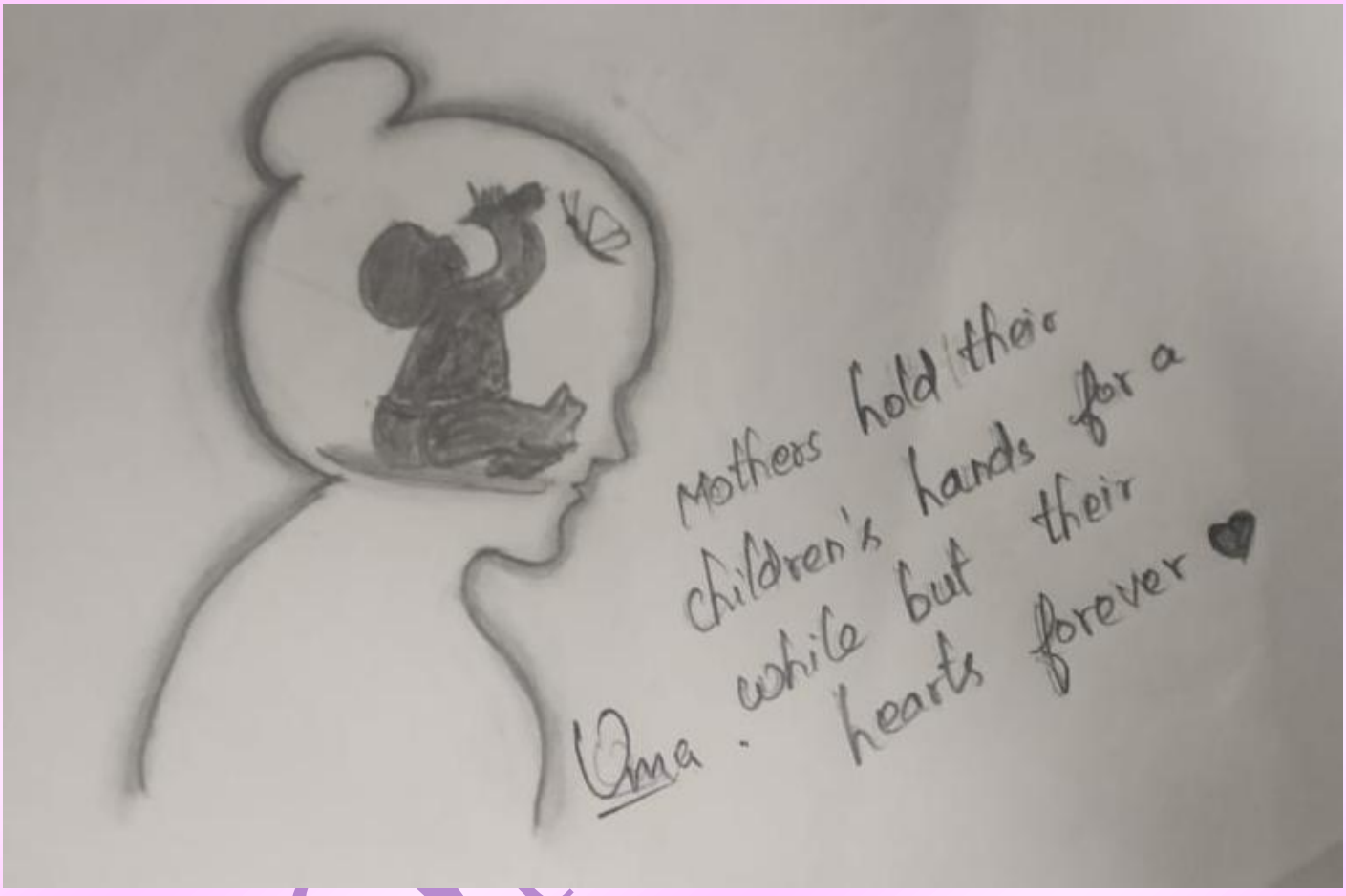
M.PAVITHRA III-ECE-B

DON'T MIX BETWEEN MY PERSONALITY AND MY ATTITUDE BECAUSE MY PERSONALITY IS ME AND MY ATTITUDE DEPENDS ON YOU……

AROKIA UMA III-ECE-A

“DRAWING IS NOT WHAT ON SEES BUT WHAT ONE CAN MAKE OTHERS SEE”

S.BRATHIBA



AROCKIA UMA

III-ECE-A

IF DEATH STRIKES BEFORE I PROVE MY BLOOD, I SWEAR I'LLKILL DEATH" -CAPT M K PANDEY

PRADEEP III-ECE-B

THOUGHTS

GOAL SETTING

Specific **M**easurable **A**ttainable **R**ealistic **T**ime based

Be **SMART**

C.MAGISAHULN
III-ECE

RIDDLE

1. What goes up and down stairs without moving?
2. Give it food and it will live; give it water and it will die.
3. What can you catch but not throw?
4. I run, yet I have no legs. What am I?
5. Take one out and scratch my head, I am now black but once was red.
6. Remove the outside, cook the inside, eat the outside, throw away the inside.
7. What goes around the world and stays in a corner?
8. What gets wetter the more it dries?
9. The more there is, the less you see.
10. They come at night without being called and are lost in the day without being stolen.

ANSWER

1. Carpet
2. Fire
3. A cold
4. A nose
5. A match
6. Corn
7. A stamp
8. Towel

Motivational Stories For Students To Work Hard

Thinking Out of the Box

Once upon a time, a merchant named Sam owed a huge sum of money to Tom, a money lender. The time came when the merchant ran out of the last chance given to him to give the money back. Sam had a beautiful daughter who was very affectionate with her father. Tom asked the merchant to give all the money back failing which he will marry his beautiful daughter Tom was not at all good looking and ill minded and so the merchant was in dilemma. Tom proposed a new condition. There was a mix of black and white pebbles on the ground where they were standing. He will take two pebbles on both hands, one will be white and the other will be black.

If the daughter correctly chooses the white pebble, then Tom will write off all the debt and leave the marriage proposal too.

But if she chooses the black pebble, he will write off the debt but will marry the daughter.

Tom bent down to pick the pebbles from the ground and the daughter noticed that he took black pebbles on both hands. The girl had three choices- to notify the same to her father which may provoke Tom, take the black pebble and sacrifice her life or simply refuse to take the pebble which might land her father into trouble. But what she did totally surprise Tom.

She took the pebble from his hand and 'accidentally' the pebble fell off from her hand to ground. She then asked Tom to see which color pebble was left in his hand to identify the color she picked. Tom had no other choice but to show the black color pebble in his hand and set both of them free.

Moral: Sometimes, life offers you situations which not only demands hard work and perseverance but some creative thinking which saves the situation.

Mrs.J. BASLINE JENUBA AP/ECE

Struggles develop

One day a man was passing by a garden when he saw a butterfly cocoon which was about to get open.

He saw a small opening on it and watched the several hours of struggles the butterfly came through to get the body out of it. After many hours, it seemed that the butterfly stopped trying as there was no progress.

He thought to help the butterfly by cutting the cocoon with a scissor. So the butterfly came out easily but the wings were shriveled and the body was tiny and withered.

Unfortunately, the butterfly was not able to take flight and spend the rest of life crawling with a wounded body.

Moral: This is nature's way of telling the importance of struggles in life. Sometimes, different kinds of struggles are needed in life to make you stronger in the future. Never feel disappointed in life and stop trying when life offers you struggles but keep on fighting until you see success.

Ms. R.JEGATHEESWARI
AP/ECE

Seeing opportunity in obstacles

Once there was a king who was curious but wealthy. He decided to test his fellow people to know who has a got a good attitude in life and who would spare some time for country's progress.

He placed a huge boulder right at the middle of the road and hid in a nearby place to see if anyone would make an attempt to move it off.

He saw some wealthy merchants and courtiers passing by the road. None of them made any attempt to move it off but simply
walked away while some others blamed the king for not maintaining roads.

Later, a peasant came the way with a load of vegetables and saw the boulder. He kept his load down and tried to move the boulder away. After strenuous effort, he succeeded in moving it away. He saw a purse lying in the place of the boulder.

It contained many gold coins and a note
from the king which read 'this is the reward for the person who moves the boulder away'.

Moral: It is quite common for people to run away from problems and obstacles. But the story clearly shows the importance of seeing an opportunity in every obstacle which might improve our condition. Invest some time to remove obstacles on your way and experience many unseen presences.

Ms.NIVYA K SURESH
AP/ECE

Shark Bait

A marine biologist put a shark into a big tank at the time of a research experiment. Followed by that, he released some tiny bait fishes into it

As expected, the shark didn't wait to attack those fishes and ate them. Later, a clear fiberglass was inserted into the tank
which partitioned the tank into two and the shark remained in one side.

A similar set of bait fish was sent to the other side of the tank like before. And the shark attempted to attack those fishes but failed by hitting on the fiberglass.

The shark attempted for several days until it gave up. Later, the biologist removed the glass from the tank but the shark didn't try to attack the small fishes.

The shark always continues to see a false barrier in the tank and stopped his attempts.

Moral: It is quite common for many people to give up after many setbacks and failures. The story is an example for keep trying always and to never give up despite multiple failures.

Mrs.S.GEETHA
AP/ECE

The Elephant Rope

A man was walking nearby to a group of elephants that was halted by a small rope tied to their front leg. He was amazed by the fact that the huge elephants are not even making an attempt to break the rope and
set themselves free.

He saw an elephant trainer standing beside them and he expressed his puzzled state of mind. The trainer said "when they are very young and much smaller we use the same size rope to tie them and, at that age, it's enough to hold them.

As they grow up, they are conditioned to believe they cannot break away. They believe the rope can still hold them, so they never try to break free."

Moral: It is the false belief of the elephants that denied their freedom for life time. Likewise, many people are not trying to work towards success in their life just because they failed once before. So keep on trying and don't get tied up with some false beliefs of failure.

Ms.S.J ANGELINE PRAVEENA

AP/ECE

GALLARY

Conference Presentation

Project Expo

Industrial Visit

Guest Lecture

Orientation Programe

Guest Lecture on HFSS