

# PROPAGATIONS

ECE NEWSLETTER

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VELAMMAL INSTITUTE OF TECHNOLOGY, PONNERI.

**JUNE 2018 - DEC 2018**

### VISION OF DEPARTMENT

To achieve academic excellence in the field of Electronics and Communication Engineering and to produce meritorious engineers with human values by imparting high quality technical education

### MISSION OF DEPARTMENT

- To create efficient Electronics and Communication Engineers to meet the current and future demands of industry and society with ethical values
- To instil the quality of leadership and entrepreneurship in students
- To elevate the spirit of innovation and creativity among students towards research and development.

### Program Educational Objectives (PEOs)

**PEO I: Futuristic Learning:** Graduates will attain excellence in the field of Electronics and Communication Engineering through lifelong learning process by imbibing the new technologies.

**PEO II: Career Development:** Graduates will become successful engineers or researchers or entrepreneurs with social responsibilities.

**PEO III: Professionalism:** Graduates will excel as estimable engineers with ethics, effective communication and leadership skills.

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CHIEF EDITOR  
DR.B.SRIDEVI HOD-ECE

EDITOR  
Mr.B.V.SANTHOSH KRISHNA  
AP-ECE

STUDENT CO-ORDINATOR  
MR.M.SRI BALAJI | MS.N.YUGA

A long as you don't choose, everything remains impossible.

## Message from HOD



The Department emphasizes interdisciplinary team work, communication skills, tools and skills for professional practice, and lifelong learning. The aim of the department is to impart the students a sound knowledge of the theory of Electronics and Communication Engineering subjects with exposure to practical knowledge through laboratories and field study. Our department has a distinguished record in both teaching and research. Faculty members have excellent academic credentials and are highly regarded. Several faculty members published journals at national and international conference, and also organized international symposia and conferences.

Learning is a continuous process and does not end with the acquisition of a degree, especially because steady and rapid advances in technologies shorten the life of tools and techniques prevalent today. Therefore we do not aim to make our students walking manuals of any technology. Instead, they are given a strong foundation in electronics and communication and problem-solving techniques, and are made adaptable to changes.

Best Wishes to all our students for exams.

**-DR.B.SRIDEVI**  
HOD-ECE

## IGNICULUS'18

A NATIONAL LEVEL TECHNICAL SYMPOSIUM

21<sup>ST</sup> JULY 2018



**DR.A.M.NARENDRA KUMAR, Senior Manager,  
Sify Technologies Limited delivered inaugural address**

ECE Department has expertise not just in theoretical education but also encourages and educates students for the practical utilization of their acquired knowledge, Hence, our technical symposium IGNICULUS 2K18 which is held on July 21,2018 (Saturday) helped to acknowledge the students with talents which are yet to be noticed.

This symposium event brought students from various colleges together and created a platform to share their expertise and views in the field of Communication.

## VALUE ADDED PROGRAMS

### TRAINING ON PLC

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Resource Person : Mr. D. Sundrasekaran  
Organisation : Adjunct Professor, Velammal  
Venue : ECE Seminar Hall  
Date : 05.07.2018 (9am-4pm), 06.07.2018 (9am-4pm)  
Target Audience : III Year ECE A & B Sec  
Batch : 2016-2020



## LABVIEW HANDS-ON TRAINING SESSION

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LabVIEW Hands - On training session has been conducted for II year ECE, EEE students for 5 days from 16.11.18 to 20.11.18.

## GUEST LECTURE ON ETHICAL HACKING

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Resource person : Ms. Naga Aishwarya

Company Name : Livewire

Venue : Seminar Hall – I (1<sup>st</sup> floor)

Date : 04-07-2018 (1.30 - 3.00 pm)

Target Audience : III Year ECE A & B Sec

Batch : 2016 - 2020



Ms. Naga Aishwarya from Livewire delivered lecture on Ethical Hacking on 04.07.2018 for III year ECE



## ASSOCIATION ACTIVITIES

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### SEMINAR ON ENTREPRENEUR SKILLS



Seminar on Entrepreneur skills conducted on 11.7.2018  
for III-year ECE

## TEACHERS' DAY CELEBRATION

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06<sup>th</sup> September 2018



Yelcom revolutionary club and power club of the department of ECE and EEE jointly organized teachers' day. Dr. Sudha Seshayan, Director & Head of the anatomy department, Orator, Writer and Vice principal, Madras Medical College, Chennai presented presidential address.

## JOURNAL PUBLICATIONS

Name of the Staff	Journal Name	Paper Title	ISSN No.	Page No.	Date of Publication
Dr. B. Sridevi	International Journal of Pure and Applied Mathematics	Overview of Frequency Synchronization in OFDM System	1314-3395	14531-14535	June 2018
Dr. B. Sridevi	International Journal of Pure and Applied Mathematics	Alerting the Emergency Service Using Greedy Perimeter Stateless Routing Through Multimedia Transmission	1314-3395	14541-14547	June 2018
Dr. B. Sridevi	International Journal of Pure and Applied Mathematics	Efficient Resource Allocation In 5g Networks Using Cognitive Radio Technology	1314-3395	14433-14438	June 2018
Dr. K. Chinnusamy	International Journal of Pure and Applied Mathematics	Improved Security in OFDM from Chaotic Attractor	1314-3395	14479-14484	June 2018
Mr. Sethuram Rao	International Journal of Pure and Applied Mathematics	The High Security Smart Helmet Using Internet of Things	1314-3395	14439-14450	June 2018
Mr. Narender Malishetty	International Journal of Pure and Applied Mathematics	Design and implementation of modified square root carry select adder in QCA	1314-3395	14427-14432	June 2018
Mr. J. Jijingodwin	International Journal of Pure and Applied Mathematics	Maximizing the Lifetime of Wireless Sensor Network using e-Pegasis	1314-3395	14457-14464	June 2018
T. Kamalam	International Journal of Pure and Applied Mathematics	Multi-Objective Sensor Placement Model for WSN in Machine Health Monitoring	1314-3395	14451-14456	June 2018
M. Manju	International Journal of Pure and Applied Mathematics	Peak Signal to Noise Ratio & Mean Square Error Calculation for Various Images Using the Lossless Image Compression in CCSDS Algorithm	1314-3395	14471-14477	June 2018
D. JeyamaniLatha	International Journal of Pure and Applied Mathematics	IOT Based Low Power Robotic Arm Monitoring in Mines	1314-3395	14421-14425	June 2018
Dr.M.Mahalakshmi	Advances in Intelligence systems and computing	Real-Time Human Detection and Tracking Using PEI Representation in a Dynamic 3D Environment	2194-5357	179-195	September 2018
Dr. R. Jothichitra	International Interdisciplinary Research Journal	E slot Reconfigurable Microstrip patch antenna using PIN diode for wireless applications	2249-9598	80-88	December 2018
Dr. R. Jothichitra	International Interdisciplinary Research Journal	E slot Reconfigurable Microstrip patch antenna using PIN diode for wireless applications	2249-9598	80-88	December 2018

## CONFERENCE PUBLICATIONS

Name of the Staff	Conference Name	Paper Title	Date of Publication
Dr. B. Sridevi & Mr. Raghupathi	World Summit Accreditation-WOSA	Enhancement of Outcome-Based Education In Affiliated Institutions	08-09-2018 & 09-09-2018
Dr. R. Jothichitra	ICRMR 2018 International Conference on Recent Multidisciplinary Research	E Slot Reconfigurable Microstrip Patch Antenna Using PIN Diode for Wireless Applications	Dec 2018 Special Issue
Dr. P. Pattunnarajam	International Conference on SMART STRUCTURES AND SYSTEMS (ICSSS 2018), Saveetha Engineering College, Chennai	EPFC: An Exact Partitioning Fault Collapsing for Combinational Circuits	15 <sup>th</sup> & 16 <sup>th</sup> October 2018
Dr. P. Pattunnarajam	International Conference on SMART STRUCTURES AND SYSTEMS (ICSSS 2018), Saveetha Engineering College, Chennai	Survey on comprehensive healthcare interoperability with cloud architecture	15 <sup>th</sup> & 16 <sup>th</sup> October 2018
Dr. P. Pattunnarajam	International Conference on SMART STRUCTURES AND SYSTEMS (ICSSS 2018), Saveetha Engineering College, Chennai	Smart cane illustrator for visually challenged	15 <sup>th</sup> & 16 <sup>th</sup> October 2018
S.Manju	ICRMR 2018 International Conference on Recent Multidisciplinary Research	Hyper Spectral Image Vegetation Classification using Back Propagation Neural Network with Optimization Algorithm	Dec 2018 Special Issue

## FACULTY PARTICIPATIONS

Sl. No.	Name of the Staff	FDP / Workshop /Seminar	Title of the Program	Date	Organized by
1	Mr. G. Sethuram Rao	Seminar	Seminar on Deep learning in Bio informatics and Health care informatics (Seminar)	06-07-2018 & 07-07-2018	Velammal Engineering College
2	Dr. B. Sridevi	Seminar	World Summit Accreditation-WOSA (Seminar Participation)	08-09-2018 & 09-09-2018	NBA, New Delhi
3	Mr. D. Sundarasekaran	Seminar	National Level Seminar on wireless sensor in marine environment monitoring (Seminar)	16-08-2018 to 18-08-2018	The Institution of Engineers, State Centre



4	Dr. R. Jothi Chitra Mrs. JeyamaniLatha Mrs. S. Manju	FDP	NPTEL FDP on Remote Sensing and Digital Image Processing of Satellite data (FDP)	06-08-2018 to 06-10-2018 (8 weeks)	NPTEL
5	Mrs. P. Pattunnarajam	STTP	STTP on VLSI and Embedded systems for IOT Applications	30.10.2018 to 03.11.18	SRM Institute of Science & Technology
6	Mr. S. Ilaiyaraja	FDP	NPTEL course on Digital Signal Processing	06-08-2018 to 06-10-2018 (8 weeks)	NPTEL
7	Mr. M. Dayanidhy	FDP	FDTP on EC6801-Wireless Communication (FDP)	03-12-2018 to 15-10-2018 (2 weeks)	St. Joseph College of Engineering Approved by Anna University

#### SECTION - C STUDENT CORNER

### AWARDS AND ACCOLATES

#### IDEA INDIA CONTEST 2018



**A.M. Swetha** of ECE department shortlisted among one of the top 10 contestant in "IDEA INDIA CONTEST 2018" from Hon'ble ThiruBanwarilal Purohit Governor of Tamil Nadu on October 15th, 2018organised byDr. APJ Abdul Kalam Students Federation of India powered by India Reigns the complete Magazine.

## GOLD MEDALIST IN HOCKEY CHAMPIONSHIP



Sanjay Kumar V. M from U21 Hockey India Team had won Gold Medal in Hockey Championship held at 2nd South Asian Youth Rural Games, Bhutan in 2018

## ACHIEVEMENTS



Sri Balaji. M, Abhishek. P, Natarajan. R won Second place for Paper Presentation at Sriram Engineering College on 19.09.2018



Sangeeth Kumar.T, Abhishek.P won Second place for Paper Presentation at Misrimal Navajee Munoth Jain Engineering College on 01.10.2018.



Ariffa Thasneem. A, Padmaja. S and Srinidhi R.P won First place for Paper Presentation at Misrimal Navajee Munoth Jain Engineering College on 29.09.2018.



Sangeeth Kumar. T, Abhishek. P, Sri Balaji. M, Natarajan. R won Second place for Paper Presentation at Sri Venkateswara College of Engineering on 13.10.2018



## PROJECT DISPLAY

Abhishek. P, Sangeeth Kumar. T, Sri Balaji. M won Third place for Project Display at Misrimal Navajee Munoth Jain Engineering College on 01.10.2018



## CIRCUIT DEBUGGING

Jeevitha. N & Pooja Bharghavi. G won Second place for Circuit Debugging at Sri Venkateswara College Of Engineering on 13.10.2018



## TECHNICAL QUIZ

Abhishek. P, Sangeeth Kumar. T, Sri Balaji. M won First place for Technical Quiz at Misrimal Navajee Munoth Jain Engineering College on 01.10.2018



## INTERVIEW SIMULATION

Abhishek.P won First place in Sri Venkateswara College of Engineering for Interview Simulation on 13.10.2018

## CO-CURRICULAR PARTICIPATION

### STUDENTS CO-CURRICULAR PARTICIPATION / ACHIEVEMENTS

Sl. No.	Name of Students	Event Name / Organization	Event Type	Date	Winner / Runner / Participated
1	Thilothamma. S	R.M.D Engineering College	Paper Presentation	06.08.2018	Participated
2	Ampasala Surya Kiran	R.M.D Engineering College	Paper Presentation	06.08.2018	Participated
3	Ampasala Surya Kiran	R.M.D Engineering College	Tracers	06.08.2018	Participated
4	Keerthi.S	R.M.D Engineering College	Electronics Extrapolated	06.08.2018	Participated
5	Sangeeth Kumar.T Sri Balaji.M, Abhishek.P Natarajan.R	R.M.D Engineering College	Electronics Extrapolated	06.08.2018	Participated
6	Sangeeth Kumar.T Abhishek.P	R.M.D Engineering College	Paper Presentation	06.08.2018	Participated
7	Subhashri A. S Sandhya.K	S.A. Engineering College, Chennai	Project Display	11.08.2018	II
8	Subhashri A. S Sandhya.K Harshithaa.M	S.A. Engineering College, Chennai	Treasure Hunt, Surprise Events	11.08.2018	Participated
9	Ampasala Surya Kiran	Velammal Engineering College	Tech Prezento	11.08.2018	Participated
10	Ariffa Thasneem.A	Sri Sairam Engineering College	Paper Presentation	21.08.2018	Participated
11	Keerthana S, Varsha R S Karthika G	Rajalakshmi Engineering College	Design Thinking Challenge 2018	01.09.2018	Participated
12	Akshaya.P, Yuga.N Nilavarasi.M.M	Sathyabama Institute of Science And Technology	Funtastic Science	07.09.2018	Participated
13	Bhargavi.K. S Jeeviga.A. P, Jeeva.S Bhuvaneshwari.G	Sri Sairam Institute of Technology	Tik-top & Electric Crux	11.09.2018	Participated
14	Preethi.B, Padhma Priya.D Nishi Sheeba.S Habeesha.R, Subraja.M Nithyashree.B	SRM Easwari Engineering College	Quiz, Circuit Debugging	11.09.2018	Participated
15	Keerthana S, Varsha R S	S.A. Engineering College, Chennai	Idea India 2018 Speech Competition	19.09.2018	Participated



16	Abhishek.P, Sri Balaji.M	Sriram Engineering College	Technical Quiz	19.09.2018	Participated
17	Sri Balaji.M, Abhishek.P Natarajan.R	Sriram Engineering College	Paper Presentation	19.09.2018	II
18	Monish Kanna V	Consulate General of the United States, Chennai	Essay Contest	24.09.2018	Participated
19	Padmaja. S, Srinidhi. R. P Ariffa Thasneem. A	Misrimal Navajee Munoth Jain Engineering College	Paper Presentation	29.09.2018	I
20	Sri Balaji.M, Abhishek.P Sangeeth Kumar.T	Misrimal Navajee Munoth Jain Engineering College	Project Display	01.10.2018	III
21	Abhishek.P Sangeeth Kumar.T	Misrimal Navajee Munoth Jain Engineering College	Paper Presentation	01.10.2018	II
22	Sri Balaji.M, Abhishek.P Sangeeth Kumar.T	Misrimal Navajee Munoth Jain Engineering College	Technical Quiz	01.10.2018	I
23	Sri Balaji.M Sangeeth Kumar.T Abhishek.P	Misrimal Navajee Munoth Jain Engineering College	The Event	01.10.2018	Participated
24	Monisha.M, Jerin Goldbell.J, Nivetha.R	The Aeronautical Society of India, Kanyakumari Branch	Paper Presentation In National Conference	12.10.2018 & 13.10.2018	II
25	Abhishek.P	Sri Venkateswara College of Engineering	Interview Simulation	13.10.2018	I
26	Jeevitha N Pooja Bharghavi. G	Sri Venkateswara College of Engineering	Circuitrix	13.10.2018	II
27	Sangeeth Kumar. T Abhishek.P, Natarajan. R Sri Balaji.M	Sri Venkateswara College of Engineering	Paper Presentation	13.10.2018	II
28	Jeevitha N Pooja Bharghavi. G Keerthana.S, Varsha.R. S Karthika.G	Saveetha Engineering College	Paper Presentation In International Conference	16.10.2018	Participated
29	Bandaru Vamsi Krishna Reddy, Mohan Raj. P Vignesh. M	Misrimal Navajee Munoth Jain Engineering College	Paper Presentation	29.10.2018	Participated
30	Padmaja. S Srinidhi. R. P Ariffa Thasneem. A	Misrimal Navajee Munoth Jain Engineering College	Fully Filmy	29.10.2018	Participated

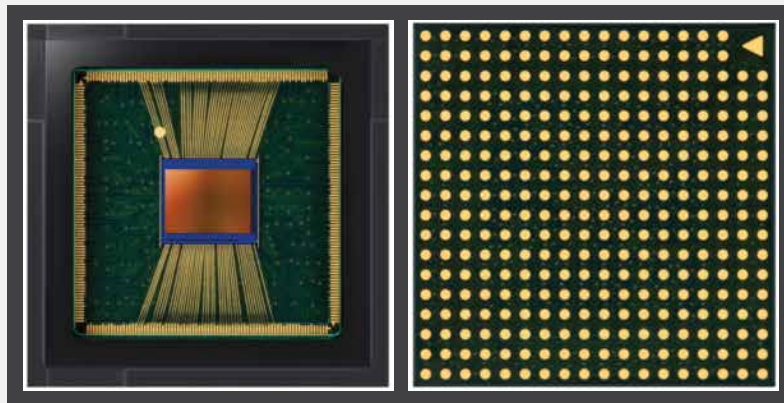


## ARTICLES

### RECENT TECHNOLOGIES

#### **Samsung Introduces New Ultra-Slim 20Mp ISOCELL Image Sensor for Smartphones (World's Smallest Image Sensor)**

The 0.8 $\mu$ m-pixel ISOCELL Slim 3T2 brings high - resolution images with the smallest form factor in the industry at 1 / 3.4 inches



Samsung Electronics, a world leader in advanced semiconductor technology, today introduced its smallest high-resolution image sensor, the ISOCELL Slim 3T2. While being the industry's most compact image sensor at 1/3.4 inches (approximately 5.1-millimeters diagonally), the 0.8 $\mu$ m-pixel ISOCELL Slim 3T2 delivers 20-megapixel (Mp) resolution for both front and back cameras in today's sleekest mid-range smartphones.

"The ISOCELL Slim 3T2 is our smallest and most versatile 20Mp image sensor that helps mobile device manufacturers bring differentiated consumer value not only in camera performance but also in features including hardware design," said Jinhyun Kwon, vice president of System LSI sensor marketing at Samsung Electronics. "As the demand for advanced imaging capabilities in mobile devices continue to grow, we will keep pushing the limits in image sensor technologies for richer user experiences."

With 20-million active 0.8 $\mu$ m-sized pixels, the ISOCELL Slim 3T2 not just provides excellent clarity and detail. It also offers high color fidelity by adopting Samsung's ISOCELL Plus technology that enables sensors to capture and absorb more light information for accurate color reproduction even with sub-micrometer-sized pixels.

In order to support smartphones with the latest display features such as the 'hole-in display' or 'notch design,' front-facing image sensors need to minimize their size while being able to capture high-quality images. The 1/3.4-inch 3T2 snugly fits into a tiny module making more space for the display. In addition, Samsung's Tetracell technology, which merges four pixels to work as one, lets the 3T2 take brighter and sharper pictures in low-light settings as the color filter array's light sensitivity increases to that of a 1.6 $\mu$ m-pixel image sensor at 5Mp resolution.

When applied in rear-facing multi-camera settings for telephoto solutions, the 3T2 adopts an RGB color filter array instead of Tetracell technology. The small size of the image sensor also reduces the height of the tele-camera module by around seven percent when compared to Samsung's 1/3-inch 20Mp image sensor, allowing more elegant smartphone designs. Compared to a 13Mp sensor with the same module height, the 20Mp 3T2 retains 60-percent higher effective resolution at 10x digital zoom that presents clearer and more accurate results.



The Samsung ISOCELL Slim 3T2 is expected to be in mass production in the first quarter of this year.

## AI for Everybody

Artificial intelligence has so far been mainly the plaything of big tech companies like Amazon, Baidu, Google, and Microsoft, as well as some startups. For many other companies and parts of the economy, AI systems are too expensive and too difficult to implement fully.

What's the solution? Machine-learning tools based in the cloud are bringing AI to a far broader audience. So far, Amazon dominates cloud AI with its AWS subsidiary. Google is challenging that with TensorFlow, an open-source AI library that can be used to build other machine-learning software. Recently Google announced Cloud AutoML, a suite of pre-trained systems that could make AI simpler to use.

Microsoft, which has its own AI-powered cloud platform, Azure, is teaming up with Amazon to offer Gluon, an open-source deep-learning library. Gluon is supposed to make building neural nets—a key technology in AI that crudely mimics how the human brain learns—as easy as building a smartphone app.



It is uncertain which of these companies will become the leader in offering AI cloud services. But it is a huge business opportunity for the winners.

These products will be essential if the AI revolution is going to spread more broadly through different parts of the economy. Currently AI is used mostly in the tech industry, where it has created efficiencies and produced new products and services. But many other businesses and industries have struggled to take advantage of the advances in artificial intelligence. Sectors such as medicine, manufacturing, and energy could also be transformed if they were able to implement the technology more fully, with a huge boost to economic productivity. Most companies, though, still don't have enough people who know how to use cloud AI. So Amazon and Google are also setting up consultancy services. Once the cloud puts the technology within the reach of almost everyone, the real AI revolution can begin.

## Materials' Quantum Leap

The prospect of powerful new quantum computers comes with a puzzle. They'll be capable of feats of computation inconceivable with today's machines, but we haven't yet figured out what we might do with those powers.

One likely and enticing possibility: precisely designing molecules. Chemists are already dreaming of new proteins for far more effective drugs, novel electrolytes for better batteries, compounds that could turn sunlight directly into a liquid fuel, and much more efficient solar cells.

We don't have these things because molecules are ridiculously hard to model on a classical computer. Try simulating the behavior of the electrons in even a relatively simple molecule and you run into complexities far beyond the capabilities of today's computers.

But it's a natural problem for quantum computers, which instead of digital bits representing 1s and 0s use "qubits" that are themselves quantum systems. Recently, IBM researchers used a quantum computer with seven qubits to model a small molecule made of three atoms.

It should become possible to accurately simulate far larger and more interesting molecules as scientists build machines with more qubits and, just as important, better quantum algorithms.



- Contributed by  
**Nilavarsai M M**

Innovation is our tradition Come Experience,  
Cherish and Transform



# VELAMMAL

## INSTITUTE OF TECHNOLOGY

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