Encircle

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VIDYA ACADEMY OF SCIENCE & TECHNOLOGY

MAIN BLOCK

vidya
Progress Through Education
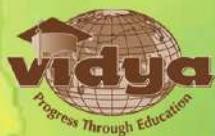
News and Events

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

ECE ASSOCIATION VAST

VIDYA ACADEMY OF SCIENCE & TECHNOLOGY

From Principal's *Desk*

Vidya education system always integrates the culture of quality education with moral and ethical values. The institute has always been progressing in various areas of development due to department contributions. The department of ECE always had been at the forefront in undertaking various activities for the department as well as for the institutions. This is because of the good value systems followed in the department. It is a matter of great pride and satisfaction to see that department bring out another edition of the Newsletter "*Encircle*". Of course, the Newsletter reflects the achievements of the department.

I extend my appreciation to HoD-ECE for his foresight and guidance to carry the team in a well-organized way. Also my heartfelt Congratulations to department staff members and Students for their fruitful effort.

With Best Wishes

Dr. Saji.C.B
Principal- VAST

From Head's Desk

The department of Electronics and Communication Engineering always tries to chronicle consistent progress in its academic, social, and placement performance areas. This led to offering a range of innovative programs as per the industrial changes. Even during the previous natural calamities, and current pandemic situation both students and staff contributed towards technological developments. Thereby department got exposed to wide-opening talent manpower contribution.

Today, it gives me immense pleasure that the department releases its another annual newsletter '*Encircle*'. This is the ownership of committed students and staff of the department. I believe this newsletter will inspire the readers to display the pulse of the ECE to meets the needs of major stakeholders.

I wish all the students, staff, and coordinators for publishing the newsletter on time. Further, on behalf of the department, I express my thankfulness to the principal and management for their constant source of support for enrichment.
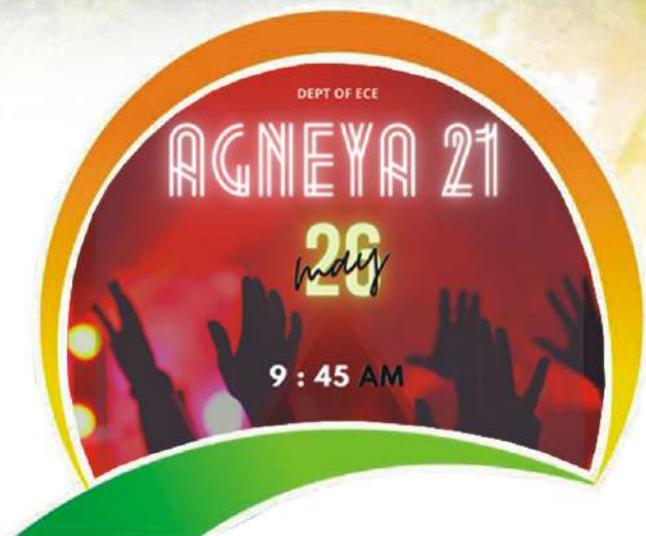
Best wishes

Dr. S. Swapna Kumar
HoD- ECE, VAST

AGNEYA' 21

ECE department organised a virtual student programme AGNEYA' 21 on 26th May 2021. As many as six online contests were organized as part of the fest. Also, as many as ten offstage events were also organised. In addition, 40+ cultural items were presented on the day of event in Zoom platform.

Four S8 B.Tech (ECE) students present a paper in International Conference

A team of four S8 B Tech (ECE) students – Mamatha Warrier, Shanu Joshva Wilson, Sree Lakshmi Nair and Vishnudev K. V. presented a paper titled "Stress Analyzer" in the International Conference on Advances in Computing, Communication, Embedded and Secure Systems (ACCESS'20) organized by the Department of Electronics and Communication Engineering, Adi Shankara Institute of Engineering and Technology Kalady, Ernakulam, India during $28^{th} – 30^{th}$ May 2020. The paper was prepared under the guidance of Ms. Resmi K. Rajan (AP, ECE Dept).

M Tech (Embedded Systems) student presents research paper in International Conference

Ms.Shilpa C.Venugopal, student of S4 M.Tech (Embedded Systems) batch, presented a paper titled "IOT Based Voting Machine with Fingerprint Verification" in the International Conference on Advances in Computing, Communication, Embedded and Secure Systems (ACCESS'20) organized by the Department of Electronics and Communication Engineering, AdiShankara Institute of Engineering and Technology Kalady, Ernakulam, India during $28^{th} - 30^{th}$ May 2020. The paper was prepared under the guidance of Ms.Resmi K. Rajan (AP, ECE Dept).

Volume 7 of "Encircle" released

Volume 7 of "Encircle", an annual newsletter being published by the ECE Dept. of the College, was released on 4th June 2020. The newsletter highlights all the events and achievements of staff and students in the ECE dept.

S8 B Tech (ECE) student completes five online courses

Mr.Rahul V. S. of S8 B Tech (ECE B) batch successfully completed online courses offered by EDAPT during the lock-down period. EDAPT provides many free to access courses on different topics. Rahul attended the following courses:

1. Introduction to 5G technology
2. Robotics
3. Cyber Security
4. Bio metrics
5. VR-AR

S2 M Tech (ES) students complete online course on building Arduino devices

Three students of S2 M Tech (Embedded Systems) class successfully completed a six-week online course on "Building Arduino Robots and Devices" authorized by Moscow Institute of Physics and Technology and offered through Coursera. These students are currently doing project work relating to building a model of an Arduino based robot. The following are students who completed the course:

* Arunima K. Ramesh (Guide's name: Jemy Jose Kakkassery, AP, ECE Dept.)
* Deepak T.Prathap   (Guide's name: Rakesh V. S., AP, ECE Dept.)
* Rishma T. (Guide's name: Ramesh C. R., AP, ECE Dept.)

S4 M Tech (ES) students publish research papers in UGC-CARE listed journal

Five students of the S4 M Tech (Embedded Systems) batch published their research papers related to their Master's Research Project works in the UGC approved journal "Studies in Indian Place Names (SIPN)" with ISSN 2394-3114 is a peer-reviewed open access UGC-CARE listed journal published bimonthly).

The details of the papers

1. "A Novel High-Speed IoT Based Crypto Lock Using AES-128 and SHA-512", authored by AnjuA James (S4 MTech ES) jointly with Sarika K T (AP, ECE).

2. "Lithium-Ion Battery Management Systems" authored by Anju K Ajayan (S4 M tech (ES)) jointly with Jemy Jose Kakkassery (AP, ECE).

3. "Autonomous Passive Electronic Components Sorter" authored by RaveenaRavindran (S4 M Tech (ES)) jointly with Ramesh C R (AP, ECE).

4. "Intelligent Prescription Delivery Mobile Robot" authored by Shreya P U (S4 M Tech (ES)) jointly with Ramesh C R (APP, ECE Dept).

5. "IoT Based Cryptolock with Face Recognition Using AES-256 Bit Algorithm" authored by Surya Sasidharan (S4 M Tech (ES)) jointly with Ashitha P R (AP, ECE Dept).

M.Tech (ES) students complete online courses

- Two students of S2 M.Tech (Embedded Systems), Aishwarya I. B. and Priyamvada B. S., completed a six-week online certification course in "Building Arduino Robots and Devices" offered through Coursera. Three students of the batch had already completed the same course earlier.

- The students of S4 M.Tech (Embedded Systems) batch successfully completed various NPTEL online certification courses of the January'2020 in areas related to their main project. These students have registered for the final examination. But NPTEL could not conduct the final online examination due to the COVID-19 induced national lockdown. So a modified pass certificate based on the average assignment score was issued to the students.

Business of music production: That was also his passion!

Arjun K of S2 B.Tech (ECE) batch successfully completed a certification course in "Business of Music Production" from Coursera under Vidya + Coursera Certification scheme. Arjun has the distinction of being the student of the class who has done the highest number of online courses offered through Coursera during this lockdown period. He has also done online courses offered through other platforms like SoloLearn, IBM and SkillBuild.

S3 B. Tech ECE student sets up a start upmusic company

Arjun K, a student of S3 B Tech (ECE A) batch, who has a great passion for music, has established a music production company named "Naagam Productions" as a startup company. The company is focused on audio engineering and editing along with music composition. He was inspired to set up the company after attending online courses on "Business of Music Production" from Coursera under Vidya+Coursera Certification scheme.

ECE Dept. organises AICTE sponsored national conference

The ECE Dept of Vidya organized an AICTE sponsored two-day National Conference on "Innovations in Communication Networks, Information Security, Embedded Systems and Signal Processing (ICIES 2020)" during 27th - 28th August 2020. The Conference was held in the virtual mode due to the restrictions imposed by the Covid 19 pandemic.

ECE student secures prize in technical paper writing competition

Praveena Francis (S5 B.Tech ECE B) secured second prize in Technical Paper Writing Competition "Techie Writer" on the theme "Artificial Intelligence: An Innovative Trend" conducted by Mar Athanasius College of Engineering, Kothamangalam.

B Tech (ECE) 2020 pass out student publishes paper in IEEE Explore

A paper titled "Deep Net: An Efficient Neural Network for Fake News Detection Using News-User Engagements" authored by SreyasNamboodiri (B Tech ECE, 2016 admissions) was presented in the 5th IEEE International Conference on Computing, Communication and Security (ICCCS-2020) held at IIT Patna, India during 4th - 6th October 2020.The paper was added to the IEEE Explore on 9th December 2020. Sreya Namboodiri had completed a one month long summer internship under leadingindia.ai at Bennett University, Greater Noida, UP in 2019 and the paper is an outcome of the internship.

Vidya's team gets appreciation from IIT Bombay for its performance in e-Yantra

The team comprising of Mr. Ramesh C. R., Mr. Rakesh V. S., Ms.Jemy Jose Kakkassery (all AP's in ECE Dept.) and Mr.Arun Xavier (AP, EEE Dept.)have been awarded a coveted Merit Certificate for their commendable performance in the Task Based Training Challenge (TBT Challenge) organised by IIT Bombay as part of the e-Yantra initiative. e-Yantra is an initiative of IIT Bombay sponsored by MHRD under the National Mission on Education through ICT program. Merit Certificates are awarded to the top performers based on the evaluation criteria mentioned in the rulebook

S3 ECE students complete internship and also online courses

Akhil Titus (S3 B Tech ECE A, 2019 admissions) successfully completed a five-day online internship in Machine Learning and Data Science offered by Inker Robotics Pvt Ltd. He also completed the non-credit specialization course on "Python for Everybody" offered by University of Michigan through Coursera Platform. This specialization course introduce fundamental programming concepts including data structures, networked application program interfaces and databases using the Python programming language. In the Capstone Project, the technologies learned through the specialization are used to design and create their own applications for data retrieval, processing and visualization.

ECE faculty members completes NPTEL-SWAYAM course

- Ms.Jemy Jose Kakkassery (AP, ECE Dept) successfully completed an 8-week NPTEL-SWAYAM Online Certification course with "Elite Gold Certificate" (with a score of 92%) on "Robotics" offered by Prof.Dilip Kumar Pratihar of IIT Kharagpur.
- Ms.Resmi K. Rajan (AP, ECE Dept.) completed NPTEL SWAYAM online course on "Digital Circuits'" offered by IIT Kharagpur with Elite + Silver certification .
- Ms.Sarika K. T. (AP, ECE Dept.) got NPTEL certification with ELITE grade for the subject Analog Circuits with a score of 71/100.

ECE faculty members attend FDP on deep learning for signal processing

The faculty members of the ECE Dept. Dr.Jeeva K. and Ms.Remya Rajendran attended a KTU sponsored FDP on "Deep learning for signal processing Basics to implementation" organised by Sahrdaya College of Engineering & Technology, Kodakara during 26th - 30th April ,2021. The objective of the FDP was to enhance the knowledge on deep learning, neural networks and Python programming also to get to know tools used for implementing AI-ML algorithms like Tensor flow, Keras etc. It was also aimed to get exposure on how to apply deep learning to solve signal processing problems.
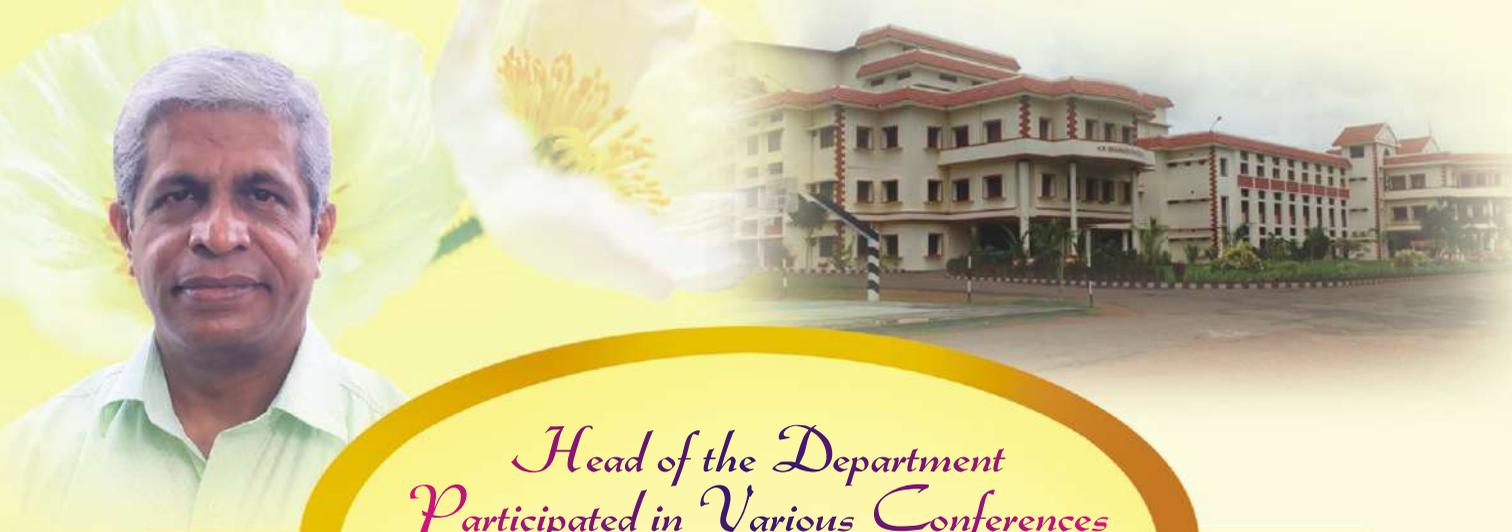
Head of the Department
Participated in Various Conferences

- Dr. S. Swapna Kumar presented a paper titled "Efficient Two Layer Image Protection with Wavelet Transform Compression", in the Second International e-Conference on Innovative Data Communication Technologies and Applications (ICIDCA 2020) organized by RVS College of Engineering and Technology, Coimbatore, Tamil Nadu during 3rd – 4th September 2020.

- Dr. S. Swapna Kumar, Professor and Head, ECE Dept. attended a five-day virtual FDP on "Neural Networks and Deep Learning Using Python" held at School of Computing and Information Technology, REVA University, Bengaluru during 1st – 5th June 2020

- Dr. S. Swapna Kumar, Professor and Head, ECE Dept attended a three-day virtual FDP on "Python for Data Analysis" held at School of Computing and Information Technology, REVA University, Bangalure during 17th – 19th June 2020.

- Dr. S. Swapna Kumar presented a paper titled "Efficient Intrusion Detection of Malicious Nodes Using Bayesian Hybrid Detection in MANET" in the First International Conference on Computational Research and Data Analytics (ICCRDA) jointly organized by Suleyman Demirel University and Isparta Applied Sciences University, Turkey and College of Engineering, Roorkee, India on 24th October 2020.

- Dr. S. Swapna Kumar presented a paper titled "Engineering for Self-Reliance and Sustainable Goals" in the 35th Indian Engineering Congress (35 IEC) organised by the Institution of Engineers (India) in the on Online Platform during 8th – 20th December 2020.

- Dr. S. Swapna Kumar, attended a KTU sponsored FDP on "Deep learning for signal processing Basics to implementation" organised by Sahrdaya College of Engineering & Technology, Kodakara during 26th 30th April ,2021. The objective of the FDP was to enhance the knowledge on deep learning, neural networks and Python programming also to get to know tools used for implementing AI-ML algorithms like Tensor flow, Keras etc. It was also aimed to get exposure on how to apply deep learning to solve signal processing problems.

- Dr. Swapna Kumar S. completed an NPTEL Online Certification programme on "Managing Intellectual Property in Universities" coordinated by IIT Madras, Chennai, during July-Dec 2020 Social Distancing in COVID-19" in the International Journal of Electrical and Computer Engineering (IJECE), Vol. 9, No. 4, August 2020, pp. 101~110, ISSN: 2088-8708, Scopus, DOI: 10.11591.

ECE alumnus in the Kerala Police!

Samson C V, an alumnus of the B Tech (ECE, 2017 pass out batch of Vidya, completed training at the Kerala Police Academy prior to his induction as an officer in the Kerala Police. Samson was an active participant in the sports and games in the College and he was also a member of the College Football Team.

Alumnus interaction from industry

Mrs.Resmi K.Rajan (AP, ECE Dept.) and Mrs.Sruthi M (AP, ECE Dept.), Group Tutors of the S5 B.Tech (ECE A) batch, organized an interactive session with Mr.Albin, Senior Embedded Software Engineer and an alumnus of the B.Tech ECE (2013-2017) batch of Vidya, for students of the S5 B.Tech (ECE A and B batches) on 2nd October 2020

ECE student secures Merit Position in IEEE article writing competition

Praveena Francis (S5 B Tech ECE B batch) has been awarded a Certificate of Appreciation for securing the Merit Position in the Article Writing Competition organized by IEEE, Hyderabad Section, CS Chapter.

"ECE Lab Zone VAST": ECE Lab staff launches YouTube channel

The Laboratory staff of the ECE Dept of the College have launched a YouTube channel christened "ECE Lab Zone VAST" to help students easily access videos relating to the laboratory classes in the curriculum of B Tech (ECE) programme. Currently all experiments of the Electronics Workshop course, which is a common course in the first year of all B Tech programmes under KTU have been uploaded to the channel.

ECE Dept launches new technical magazine "Wissen"

The ECE Dept of Vidya launched a technical magazine titled "Wissen" (means Knowledge in German) with contributions from faculty members and students. The first issue of the magazine was formally released by the Principal Dr.Saji C. B. on 31st March 2021. The magazine articulates the information contributed by students and staff members on technical matters to the readers.

ECE Dept. faculty successfully completed Ph.D

Mrs.Jeeva K. A. (Associate Professor, ECE Dept) successfully completed her Ph.D programme on the topic "Secure reversible data hiding in the encrypted domain for privacy protection in cloud environment" in University of Calicut under the guidance of Dr.Sheeba V. S., Principal, Govt. Engg. College, Thrissur. The open defence of her thesis was held on 29th March 2021 at Govt. Engg. College, Thrissur.

ECE M Tech student develops app for token booking system in MCCH

Aiswarya I. B. of S4 M.Tech (Embedded Systems) batch developed an Android app for "Smart Token Booking System" for Medical College Chest Hospital (MCCH) Thrissur. The application was developed as per the requirements of Chest Hospital. The aim was to reduce the difficulties faced by cancer patients while booking token for consultation.The idea for the app was proposed by Dr. S. Swapna Kumar based on a suggestion from Dr.Sona Ram T. R. of MCCH. The project was guided by Ms.DivyaUnni and Assisted by Mr. Shali K. R. and was coordinated by Mr. Rakesh V. S.

ECE HoD's second student also recommended for award of Ph.D degree

On 4th June 2021, Dr. S. Swapna Kumar 's (Prof. and Head, ECE Dept) second Ph.D student (Vaneeta M.) from the Visvesvaraya Technological University, successfully defended her dissertation and the jury recommended her for the award of the Doctoral Degree.

A research paper on flood monitoring from ECE Dept.

A research paper titled "A Survey on Integration of WSN and IoT with AI for Early Flood Monitoring System" authored by AnjalyVijayan (S8 B Tech ECE A), Aveena K V (S8 B Tech ECE A) and Dr. S.Swapna Kumar (Prof. and Head, ECE Dept.) has published in the journal TERI Information Digest on Energy and Environment (TIDEE) Vol 19, Issue 4, pp: 415-428 (December 2020).

ECE faculty member participates in Guinness World Records Attempt

Mr. Ramesh C. R. (A.P., ECE Dept.) received participation certificate for the Guinness Record Attempt. Madras-incubated start up GUVI was collaborating with the All India Council for Technical Education (AICTE) to up skill 10 lakh Indians in coding through a one-day free workshop called 'AI-For-India 1.0'. The event was expected to set the world record for the largest coding workshop conducted online. Targeted towards students, IT professionals, and anyone in the age group of 8 to 80 years interested in coding, the event was conducted on April 24th, 2021. Mr. Ramesh C R participated in the event though he could not complete it. However the organisers appreciated his enthusiasm by awarding him a certificate for participation in the Guinness World Records Attempt.

One-day offline workshop on Electronic System Design in Vidya

Digital Core Technologies Pvt Ltd, Kochi conducted a one-day an offline workshop on Electronic System Design in Vidya campus on 9th April 2021 for final year B Tech students of ECE and EEE branches. Mr Thomas S, MD and CEO of Digital Core Technologies Pvt Ltd handled the workshop. Two other employees of Digital Core Technologies Mr.Stebin K. Benny (VAST Alumni 2019 passout) and Mr. Vishnu were present to support Mr. Thomas. As many as 27 students attended the workshop.

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

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