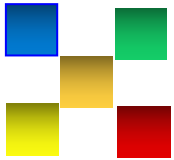


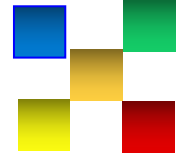
EASWARI ENGINEERING COLLEGE

[AUTONOMOUS]

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



TRANSEEDGE



Dr. M. Devaraju, HoD/ECE

Dear Readers,

For years, “Trans-edge” has been an enthusiastic publication of the activities by the Technocrats of the ECE department. It aims to enlighten the readers on various areas of technology that the faculty and students have been associated with. It also aims to throw light on the latest technological innovations that inspire the young generation to explore the field. One such technology is the “**Farm automation**”. New advancements in technologies ranging from robotics and drones to computer vision software have completely transformed modern agriculture. The primary goal of farm automation technology is to cover easier, mundane tasks. Some major technologies that are most commonly being utilized by farms include: harvest automation, autonomous tractors, seeding and weeding, and drones. Farm automation technology addresses major issues like a rising global population, farm labour shortages, and changing consumer preferences. The benefits of automating traditional farming processes are monumental by tackling issues from consumer preferences, labour shortages, and the environmental footprint of farming.

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Dec 2020-Jan 2021

Volume I, Issue 1

VISION AND MISSION

EASWARI ENGINEERING COLLEGE

Vision:

To accomplish and maintain international eminence and become a model institution for higher learning through dedicated development of minds, advancement of knowledge and professional application of skills to meet the global demands.

Mission:

M1:

Easwari Engineering College strives to set high standards of comprehensive education by developing the intellectual strength of students and guiding them towards technical advancement.

M2:

Synergise the efforts of various departments, inspire creativity and foster excellence and innovation in teaching and learning so as to realize our vision as a Premier Engineering Institution.

M3:

Nurture the development of mind, skill, attitude and core competence of students.

M4:

Attain leadership in planning and resource management so as to improve the quality and accessibility of technical education.

M5:

Produce graduates of International distinction, committed to Integrity, Professionalism and lifelong learning by widening their knowledge horizons in range and depth.

M6:

Enable students shine in their academic pursuits, making them sensitive to the needs of the progressive industrial world.

M7:

Organize a pluralistic and supportive environment that will stimulate scholars, students and staff of the highest calibre and contribute immensely to the process of Nation building through partnership with Community and Industry.

VISION AND MISSION

EASWARI ENGINEERING COLLEGE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Vision:

To prepare engineers, proficient to meet the needs of current technological advancements in the field of Electronics and Communication Engineering by establishing a learning environment consistent with industry standards in academics and research.

Mission:

M1:

To create a passion amongst students for contributing to research by providing industry oriented learning.

M2:

To impart in depth knowledge in principles and applications related to design and development of various systems for societal needs.

M3:

To build the skill sets, attitude and core competence of students and faculty by providing them with the opportunity to organize various technical events which will bring out their inherent talents.

M4:

To produce graduates with technical expertise, professional attitude and ethical values.

M5:

To instil creative thinking through innovative and team based methods which develops the entrepreneur skills, employability and research capability among professionals.

M6:

To inculcate in the graduates, the thirst for life-long learning and guide them to obtain thorough knowledge in their chosen interdisciplinary field.

PROGRAM EDUCATIONAL OBJECTIVES

PEO1: Graduates will possess competency in mathematics, science and engineering fundamentals for solving Electronics and Communication engineering problems.

PEO2: Graduates will have core engineering knowledge necessary for employment in industries as well as higher studies and research.

PEO3: Graduates will attain organizing capability, entrepreneur skills and will be a team player in workplace with ethics.

PEO4: Graduates will perform effectively in multicultural and multidisciplinary environment and makes them ready for the corporate careers ahead.

PEO5: Graduates will have the ability to engage themselves in lifelong learning to achieve professional excellence that will make impact in the societal and human context.

PROGRAM SPECIFIC OUTCOMES

PSO1: Design and construct Electronic circuits and to Simulate the circuits with software tools which lead to the development of Electronic gadgets.

PSO2: Design and analyze various signal processing blocks for Image and Signal processing systems.

PSO3: Analyze various Networking and Communication areas and its impact in real time applications.

PSO4: Implement their professional skills and techniques in the integrated circuit design which are applicable to industrial and societal needs.

PROGRAM OUTCOMES

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/ Development of solutions:

Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate considerations for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems:

Use research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society:

Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability:

Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work:

Function effectively as an individual, and as a member or leader in diverse teams, and in multi disciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance:

Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work as a member and leader in a team to manage projects and in multidisciplinary environments.

PO12:

Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

FDP ORGANISED BY THE DEPARTMENT

FDP

on

'Breakthrough Future Technologies'

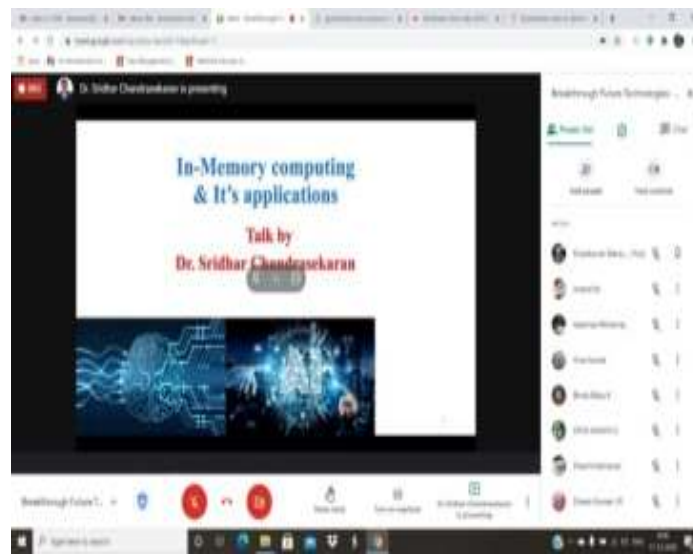
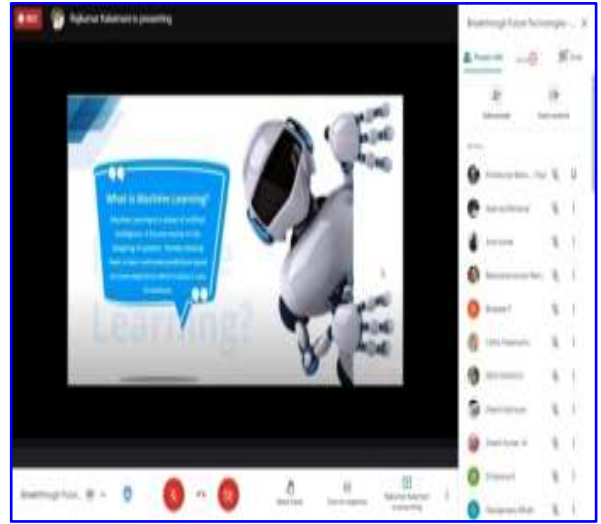
DATE : 16th to 18th December 2020

TIME : 10.00 to 11:00 AM and 02:00 to 03:00 PM

S.NO	GUEST SPEAKER	DESIGNATION_AFFILIATION
1	Dr. S. Robinson	Professor, Mount Zion College of Engineering
2	Mr. Rajkumar Kalaimani	Senior System Engineer, Infosys
3	Dr. Sridhar Chandrasekar	Researcher, NCTU, Taiwan
4	Dr. N. Sharmila	Professor, VIT University, Vellore Campus
5	Mr. Citharthan	Assistant Professor, Christ the King Engineering College
6	Dr. B. Ezhilavan	Managing Director, VEI Technology

POSTER MADE :





The Inaugural function on 16.12.2020 was initiated with tamizh thai vazthu followed by welcome address by HOD of ECE and special address by Principal. On each day there was two sessions conducted. The recent advancement in various domains such as Photonics, Machine Learning, In-memory computing and its application, Digital Signal Processing, Modern Power Converter and MATLAB were presented by experts in each domain. On Day 1, the excellent discussion about the concept of photonic crystal and principles, photonic crystal based optical filters and devices given by **Dr. S. Robinson** during forenoon Session. The clear explanation of basic difference between AI, ML and DL along with discussion of supervised and unsupervised ML was given by **Mr. Rajkumar Kalaimani** in the afternoon session. On Day 2, the memory computing using RRAM and its various applications of neural networks was presented by **Dr. Sridhar Chandrasekar, Researcher** in the forenoon session. The latest trends in digital signal processing and its current research trends were presented by **Dr. N. Sharmila** in the afternoon session. On Day 3, the modern power converter using IOT applications were explained by **Mr. Citharthan** during forenoon and the simulation using MATLAB was presented by **Dr. B. Ezhilavan** during afternoon session. Finally the sessions were completed with valedictory functions on 18.12.2020 along with the vote of thanks by **Mr. Kirankumar**.

FDP
on
'Internet of Things & Applications in 5G'

DATE: 05.01.2021 to 09.01.2021

Inauguration on 05.01.2021:

Department of ECE organised five days Virtual Faculty development program on “Internet of Things and Applications in 5G”. Dr.M.Devaraju welcomed the all the participants for Five days FDP. Dr.R.S.Kumar, Principal, EEC addressed the participants with Special Address. Introduction about the FDP shared by Mr.R.Praveen Kumar, Asst. Professor/ECE.

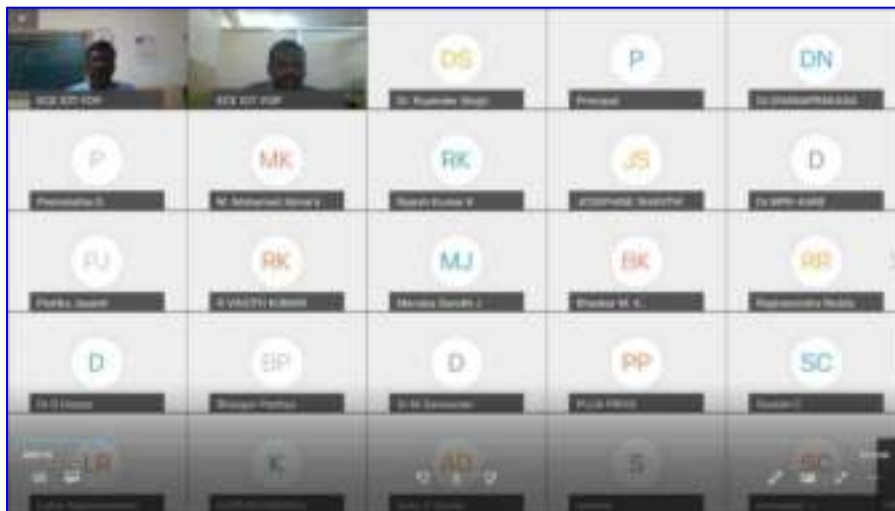


Figure 1: Inauguration



Figure 2: Special Address by Dr.R.S.Kumar, Principal, EEC.

Session 1: Introduction to Internet of Things delivered By Dr. *Dr.M.Pallikonda Rajasekaran Professor, Kalasalingam Academy of Research and Education.*

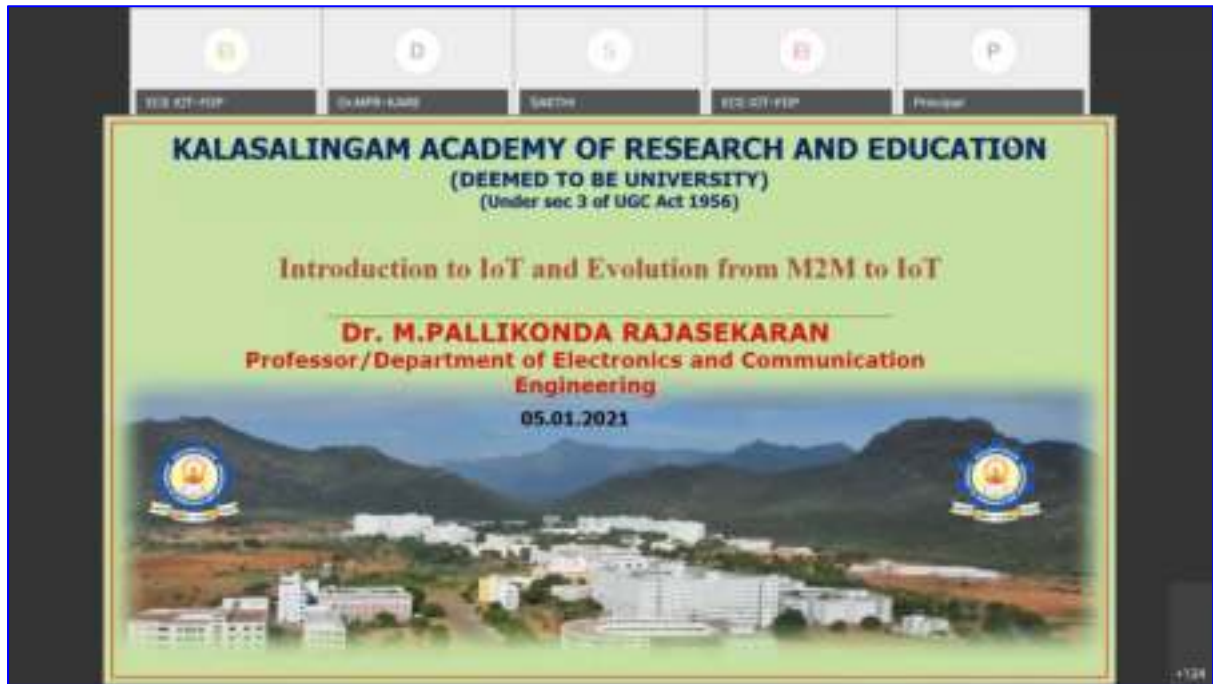


Figure 3: Session 1 By Dr.M.Pallikonda Rajasekaran

Session 6: 5G systems Evolution: A technical perspective– delivered by *Dr. Prabhu NIT – Suratkal*

Session 7: An Electromagnetic Perspective to Analysis and Design of MIMO antenna system for 5G and Beyond- delivered by *Dr. Subitha Vel Tech, Chennai*

Session 8: Internet of Things and applications in 5G Communication system delivered by *Hands on Training Vi Solutions, Bengaluru*

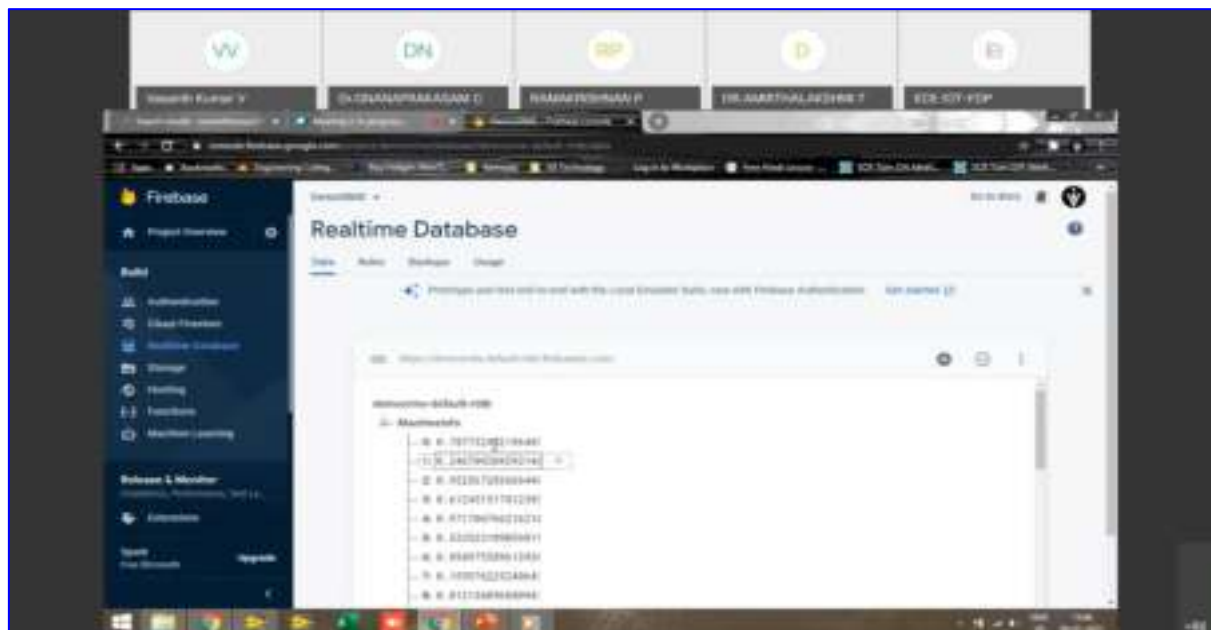


Figure 4: Session 8 by Mr.Vasanth Vi Solutions

Session 9: Privacy and Security Challenges in IoT *Dr.Kumar Abhishek NIT – Patna*

Session 10: IoT in Day to Day life – Real Time Case Studies *Dr. Karunakaran Sekar Saveetha Engineering College, Chennai.*

FDP

On

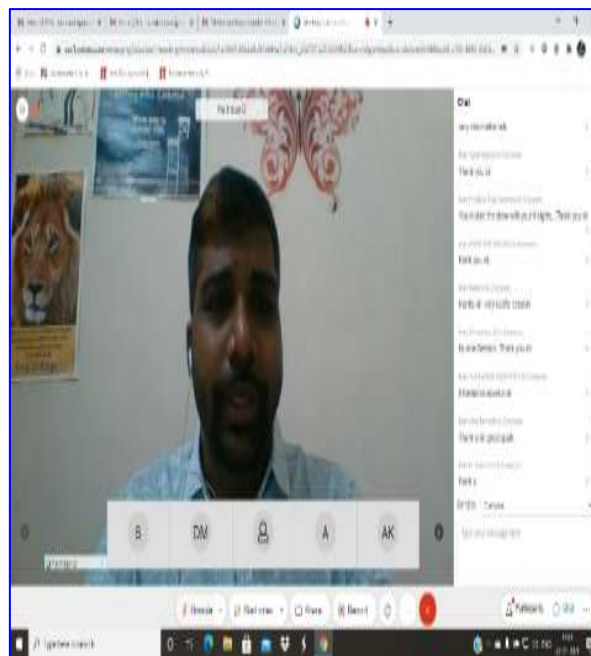
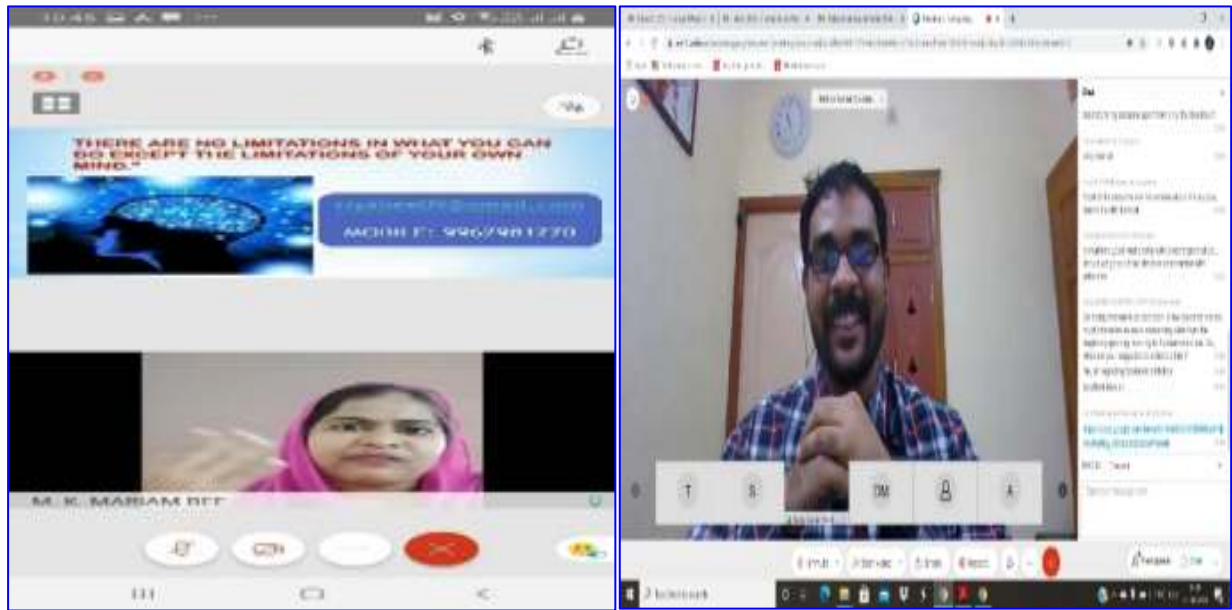
‘Effective strategies to improve Mentor – Mentee bonding’

DATE : 20-01-2021 to 22-01-2021

TIME : 10 to 11 AM

S.NO	GUEST SPEAKER	DESIGNATION_AFFILIATION
1	Ms. M. K. Mariam Bee	Director, Breeza Technology
2	Mr. Muthukumar Sundaram	Technology Analyst, Infosys
3	Mr. D. Parthiban	Psychologist & student counsellor, VIT

The poster features logos for EASWARI ENGINEERING COLLEGE (An Autonomous Institution Affiliated to Anna University, Chennai) and SRM Institute of Science & Technology (Ramapuram). It is organized by the Department of ELECTRONICS AND COMMUNICATION ENGINEERING. The program is titled 'Effective Strategies to Improve Mentor - Mentee Bonding' and runs from 20-01-2021 to 22-01-2021. The convener is Dr. M. Devaraju, Professor & Head / ECE. Coordinators are Mr. M. Kirankumar, Dr. S.R.Sriram, and Dr. S. Saranya, Assistant Professor / ECE. A registration link is provided: <https://tinyurl.com/eececfdp1>. A note at the bottom states: 'Faculty members and General students are eligible to attend. Government Professors from Industries, Government departments and R&D organisations may also apply.'



The theme of the FDP was Nurturing, and not just cares. Mentoring, and not just teaching. It enthusiastically polishes the skills to become even better mentors when it comes to hand holding the students. FDP described a whole new concept of mentoring that encouraged faculty members to think differently, understand how mentoring is practiced in the corporate world, how to engage the mentee, and establish a fruitful mentor-mentee relationship. The following topics are focused in the FDP:

- Identifying the Hidden Brain Language
- Effective bonding strategies
- Mindfulness

INTERNSHIP ATTENDED BY STUDENT

S. N O.	CLASS	NAME OF THE STUDENT	NAME OF THE INDUSTRY / ORGANIZATION	PERIOD OF INTERNSHIP	DURATION
1	IV ECE B	Lasya Ippagunta	CloudSEK	02.11.2020 To 02.05.2021	6 Months

PROFESSIONAL SOCIETY ACTIVITY

S.NO	NAME OF THE PROFESSIONAL SOCIETY	DATE	ACTIVITY	NAME OF THE RESOURCE PERSON AND DESIGNATION
1	IETE	21.12.2020	IETE Webinar series on "Application of Artificial Intelligence in Ocean Exploration"	Mr. Nitesh Verma, Project Scientist I , National Institute of Ocean Technology, Chennai, Tamil Nadu.
2	IETE	30.12.2020	IETE Webinar series on "Wearable Technology in Healthcare"	Dr.D.Vijendra Babu Vice Principal and Professor , Aarupadai Veedu Institute of Technology, Chennai Vinayaka Mission Research Foundation
3	IETE	080.1.2021	IETE Webinar series on "Enterprise & Consumer Use Cases for Spatial Computing"	Shri.Thirukumaran Saravanan , Co-Founder COO,XRLabs,Chennai

RESEARCH PAPER PUBLICATION

S. NO	NAME OF THE FACULTY / AUTHOR	TITLE OF THE PAPER	NAME OF THE JOURNAL WITH IMPACT FACTOR	ISSN NO OF THE JOURNAL
1	D Jessintha, Aishwaryalakshmi, U Divya , H Gayathri	"Design And Implementation Of Iterative DCT Using Concurrent Loading For Image Encoding",	012037 IOP Publishing IOP Conf. Series: Materials Science and Engineering 994 (2020)	doi:10.1088/1757-899X/994/1/012037
2	R. Praveen Kumar, S. Smys, and Jennifer S. Raj	Ingenious Lighting System (ILS) for Smart Cities Using IoT	International Conference on Mobile Computing and Sustainable Informatics EAI/Springer Innovations in Communication and Computing	ISSN 2522-8595 ISSN 2522-8609 (electronic) ISBN 978-3-030-49794-1 ISBN 978-3-030-49795-8 (e-Book)

3	Resmi R Nair	An Efficient Food Quality Analysis Model (EFQAM) using the Internet of Things (IoT) Technologies	Microprocessors and Microsystems	https://doi.org/10.1016/j.micpro.2021.103972
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Faculty as Participants Faculty Development / Training Activities / STTPs

S.NO.	NAME OF THE FACULTY	DATE	TOPIC	VENUE
1.	Mrs.S.Uma Maheswari	30.11.2020 to 04.12.2020	Wearable Devices	AICTE Training and Learning(ATAL) Academy at Karunya University of Technology and Sciences
2.	Mrs.S.Uma Maheswari	07.12.2020 to 12.12.2020	mm Wave Antenna Design and Testing	AICTE sponsored 6 Days STTP, Rajalakshmi Institue of Technology, Chennai
3.	Mr. M. Kirankumar	16.12.2020 to 18.12.2020	Breakthrough Future Technologies - ECE	Department of ECE, Easwari Engineering College
4.	R.Praveen Kumar	08.12.2020 to 13.12.2020	Microwave and Antenna Applications in 5G	IEEE - Bangalore
5.	R.Praveen Kumar	14.12.2020 to 18.12.2020	Internet of Things (IoT)	AICTE Training and Learning(ATAL) Academy at C-DAC
6.	Dr. S. Saranya	16.12.2020 to 18.12.2020	Breakthrough Future Technologies - ECE	Department of ECE, Easwari Engineering College
7.	Dr. S. R. Sriram	16.12.2020 to 18.12.2020	Breakthrough Future Technologies - ECE	Department of ECE, Easwari Engineering College
8.	Mrs. P. Bini Palas	30.11.2020 to 04.12.2020	WearableDevices	AICTE Training and Learning(ATAL) Academy at Karunya University of Technology and Sciences
9.	Mrs. P. Bini Palas	07.12.2020 to 12.12.2020	mmWave Antenna Design and Testing	AICTE sponsored 6 Days STTP, Rajalakshmi Institue of Technology, Chennai
10.	Mrs. P. Bini Palas	14.12.2020 to 20.12.2020	Metamaterial Antenna Design using CST	Tesla Minds

11.	Mrs. P. Bini Palas	08.12.2020	Frequency Selective Surfaces - Applications & Design Rules	Tesla Minds
12.	Mrs. P. Bini Palas	10.12.2020	Influence of Radome Design on Antenna Performance	Tesla Minds
13.	Mrs.R.Hema	08.12.2020 to 13.12.2020	Microwave and Antenna Applications in 5G	IEEE - Bangalore Section
14.	S. Caroline Jebakumari	07.12.2020 to 11.12.2020	Sensor Technology	ATAL & Thiagarajar Polytechnic College
15.	S. Caroline Jebakumari	14.12.2020 to 18.12.2020	Wearable Devices	ATAL & NIT, Jamshedpur
16.	S. Caroline Jebakumari	08.12.2020	Frequency Selective Surfaces - Applications & Design Rules	Tesla Minds
17.	Dr.D.Jessintha	16.12.2020 to 18.12.2020	Breakthrough Future Technologies - ECE	Department of ECE, Easwari Engineering College
18.	Dr.K.Rahimunnisa	16.12.2020 to 18.12.2020	Breakthrough Future Technologies - ECE	Department of ECE, Easwari Engineering College
19.	Mrs.A.Usha	16.12.2020 to 18.12.2020	Breakthrough Future Technologies - ECE	Department of ECE, Easwari Engineering College
20.	Mrs. A.Usha	9.12.2020 to 15.12.2020	Innovative Classifier models for Image and Text using Tensor flow	Sathyabama Institute of Science and Technology, Chennai
21.	Mrs.K.Abirami	16.12.2020 to 18.12.2020	Breakthrough Future Technologies - ECE	Department of ECE, Easwari Engineering College
22.	Mrs.K.Abirami	30.11.2020 to 5.12.2020	Deep Learning Based Analysis of Images and videos using Python	Kalaingar Karunanidhi Institute of Technology ,Coimbatore
23.	Mrs.K.Abirami	14.12.2020 to 18.12.2020	Block Chain	ATAL
24.	Ms.T.Gophika	07.12.2020 to 12.12.2020	mmWave Antenna Design and Testing	AICTE sponsored 6 Days STTP, Rajalakshmi Institute of Technology, Chennai

S.NO.	NAME OF THE FACULTY	DATE	TOPIC	VENUE
25.	Mrs.S.Uma Maheswari	01.01.2021	Entrepreneurship & Personal Development to make 2021Your Best Year	Tesla Minds
26.	Mrs.S.Uma Maheswari	02.01.2021	Understanding RADAR Cross Section(RCS) and its importance in radar Systems	Tesla Minds
27.	Mr. M. Kirankumar	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
28.	Mr. M. Kirankumar	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
29.	S. Caroline Jebakumari	23.01.2021	Rural Communication in 5G and Beyond	IEEE ComSoc Bangalore
30.	Dr.S.Sudha	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
31.	Dr.S.Sudha	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
32.	Dr. S. Saranya	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
33.	Dr. S. Saranya	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
34.	Dr. R. Senthamizh Selvi	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
35.	Dr. R. Senthamizh Selvi	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
36.	R.Praveen Kumar	19.01.2021	Opportunities and Challenges in 6G Wireless Technologies	SJIT-Chennai
37.	R.Praveen Kumar	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
38.	Ms.K.Abirami	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College

39.	Ms.K.Abirami	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
40.	Mrs. P. Bini Palas	01.01.2021	Entrepreneurship & Personal Development to make 2021Your Best Year	Tesla Minds
41.	Mrs. P. Bini Palas	02.01.2021	Understanding RADAR Cross Section(RCS) and its importance in radar Systems	Tesla Minds
42.	Mrs. P. Bini Palas	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
43.	Mrs.A.T.Madhavi	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
44.	Dr.D.Jessintha	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
45.	Dr.D.Jessintha	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
46.	Ms.T.Gophika	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
47.	Ms.T.Gophika	08.01.2021	Enterprise & Consumer use case for spatial computing	IETE Chennai Centre
48.	Ms. Bindu Babu	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
49.	Ms. Bindu Babu	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
50.	Ms. K.Suriya	20.01.2021 - 22.01.2021	Effective Strategies to Improve Mentor - Mentee Bonding	Easwari Engineering College
51.	Dr. K. Rahimunnisa	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College
52.	R.Hema	04.01.2021 - 08.01.2021	Recent Trends in IOT	Easwari Engineering College

PHOTOGRAPHY



**BY,
Mr.PRABATH SAI
II YEAR ECE 'B' SECTION**



BY,
Mr.KARTHIK MADHAN
II YEAR ECE 'B' SECTION



**Mr.KARTHIK MADHAN
II YEAR ECE 'B' SECTION**



Reach Us

**THE DEPARTMENT OF ELECTRONICS AND
COMMUNICATION ENGINEERING
EASWARI ENGINEERING COLLEGE**

**Bharathi Salai, Ramapuram,
Chennai - 600 089.**

Tamil Nadu , India .

Tel : 91 - 44 - 2249 0853, 2249 5420, 4392 3041.

E-mail : eecw@vsnl.com

WE ARE ON THE WEB : WWW.SRMEASWARI.AC.IN