

# ICRTEM

## International Conference on Research Trends in Engineering & Management (ICRTEM-21)

20th - 21st August 2021

Organized By

R R Institute of Technology, Bangalore, India  
in Association with

Institute For Engineering Research and  
Publication (IFERP)



Past  
Conference  
Report

[www.icrtem.com](http://www.icrtem.com)

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## 1. Event Summary

<b>Conference Name</b>	: International Conference on Research Trends In Engineering and Management (ICRTEM-21)
<b>Date</b>	: 20th - 21st August 2021
<b>Conference Theme</b>	: Bringing Engineering, Technology And Science Research Areas Synchronously On An Indivisible Platform
<b>Auspice Organization's</b>	: RR Institute of Technology, Bangalore
<b>Mode/Place</b>	: Virtual Conference
<b>No of Delegates</b>	: 65 Delegates for the conference

### 1.1 OVERVIEW

International Conference on Research Trends in Engineering & Management (ICRTEM-21) held on 20th and 21st August 2021. Which is Organized by RR Institute of Technology, Bangalore in Association with the Institute for Engineering Research and Publication(IFERP).

New challenge and opportunity that emerge out of new applications and innovations every day. New computing platforms are required to support emerging technology research. This conference aims to facilitate the state-of –the-art, research and innovation in various fields of Engineering and Management. It provides a platform for scholars , researchers from industry and academia to demonstrate their findings and studies. The conference brings together the members of research communities to enrich their knowledge in various emerging areas of research. The 2 days event is multidisciplinary.

Call For Paper

Electronics and Communication Engineering

Electrical and Electronics Engineering

Computer Science Engineering

Civil Engineering

Mechanical Engineering

Management Studies

## 1.2 Conference Theme

The theme of this conference revolves around bringing engineering, technology and science research areas synchronically on an indivisible platform. This conference will draw collectively research fellowships from diverse fields in unitedness, to share their research findings and latest ideas. The main intention of this conference is to integrate interdisciplinary inquiry to deliver the best application

## 2. ABOUT THE CONFERENCE

The context of the conference is to foster as well as exaggerate the research culture among academia and industry facilitated by sprinkled out ideas by exchange of the intellect during conduct of the conference. Furthermore, the intent of the activity is to let the folks acquaint with transcendental growth, recent trends, innovations and security issues involved in the domain of communication technologies, sustainable smart electrical systems, high performance computing, big data, social media, hardware & software design, advanced software engineering, Internet of Things (IoT), e-governance etc. and their impact on societal applications through various brainstorming sessions. The conference will facilitate the young researchers, industries and research agencies especially, those, who are carrying out their research work in the aforesaid domain of Computer Science, Information Technology, Electrical, Electronics and Communication Engineering with valuable discussions in order to make the outcomes more realistic

## 3.CONFERENCE SCOPE

ICRTEM 2021 topics include, but are not limited to, the following research and development areas/fields .

- Automation/Control systems/Robotics
- Data Mining and Data Engineering
- Architecture Engineering
- Electronics and Communication Engineering
- Electrical and Electronics Engineering
- Computer Science Engineering
- Civil Engineering
- Mechanical Engineering
- Management Studies

As a result, many Keynote, Tutorial and Technical Sessions have been prepared in accordance with conference scope to discuss the Challenges, Opportunities and Problems of Application in various fields.

#### 4. INAUGURAL PROGRAMME

The day 1 of the conference started with welcoming all the participants, dignitaries and special guest for the conference followed by the proceedings book release and introduction of session chair for the technical sessions.

##### 4.1 Welcoming and Opening Ceremony

Welcoming Keynote Speakers of the 1st International Conference on Engineering, Social-Sciences An Humanities (IC-ESSU)

##### Keynote Speakers



**Professor Marwan Al-Akaidi**  
Vice President for Research  
The American University in the  
Emirates, Dubai  
Chair SPC, IEEE UK &  
Republic of Ireland.



**Dr. M V Reddy**  
Institute of Research Hydro-  
Québec  
Centre of Excellence in  
Transportation  
Electrification and Energy  
Storage (CETEES)  
Hydro-Québec, J3X 1S1,  
Canada.



**Professor Dr. Hatem Hatem  
Abdulkadhim Alyasari**  
Professor of Economics  
Cihan University  
Kurdistan region  
Alsulaymaniya

Followed by the welcoming our RRIT Principal and Dignitaries on Board.

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## DIGNATRIES



**Dr Mahendra K V**  
Principal, RRIT



**Mr. Rudra Bhanu Satpathy**  
Chief Executive Officer (CEO), Institute  
for Engineering Research and  
Publication, IFERP.



**Dr. Sunitha HD,**  
Prof & HOD,  
Dept of ECE, RRIT.

Followed by welcoming our technical session chairs of the International Conference on Research Trends in Engineering & Management. ICRTEM 2021 Consist of 4 sessions. Which segregated departmental viz for two days.

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## Session chairs



**Dr. Manjunath R**  
Professor & Head,  
Department of Computer Science  
Engineering,  
R R Institute of Technology,  
Bengaluru, Karnataka



**Dr. Mangala Gowri S G.**  
Associate Professor,  
Department of Electrical and Electronics  
Engineering,  
R R Institute of Technology,  
Bengaluru, Karnataka.



**Dr. S.M. Subash,**  
Associate Professor & Head,  
Department of Civil Engineering,  
Guru Nanak Institute of Technology,  
Hyderabad, Telangana



**Dr. Ramachandra C. G**  
Professor,  
Department of Mechanical Engineering,  
School of Engineering,  
Presidency University, Bengaluru,  
Karnataka.



**Dr. R. Uma,**  
Professor,  
Department of Computer Science  
Engineering,  
Sri Sairam Engineering College,  
Chennai, TamilNadu



**Dr. T. Porselvi**  
Professor  
Department of Electrical and Electronics  
Engineering,  
Sri Sairam Engineering College,  
Chennai, Tamil Nadu.



**Dr V Sasirekha,**  
Professor,  
Department of Management Studies,  
Sri Sairam Engineering College,  
Chennai, Tamil Nadu



## 4.2 Opening Session \_Conference Proceedings.

On behalf of the organizing committee, proceeding books released at the Inauguration session



IFERP International Conference  
IFERP Explore  
<https://www.icrtem.net/> | [info@icrtem.net](mailto:info@icrtem.net)

### UPCOMING CONFERENCES



**Technoarete**® Group  
Integrating Researchers to Incubate Innovation

### SUPPORTED BY





## 4.3 Keynote And Tutorial Speeches



### **Professor Marwan Al-Akaidi**

Vice President for Research

The American University in the Emirates, Dubai

Chair SPC, IEEE UK & Republic of Ireland

### **Biography:**

An Experienced Vice President for Academic Affairs with a demonstrated history of working in the education management industry. Skilled in Analytical Skills, Lecturing, Leadership, Data Analysis, and Strategic Planning. Strong education professional with a Doctor of Philosophy (PhD) focused in Optical and Communication Engineering from Loughborough University.

### **Education**

Doctor of Philosophy (PhD) Field Of Study Optical and Communication Engineering, Loughborough University, 1985 – 1988

### **Designation:**

- ✓ As Vice president Research & Dean of the College of Computing & Information Technology

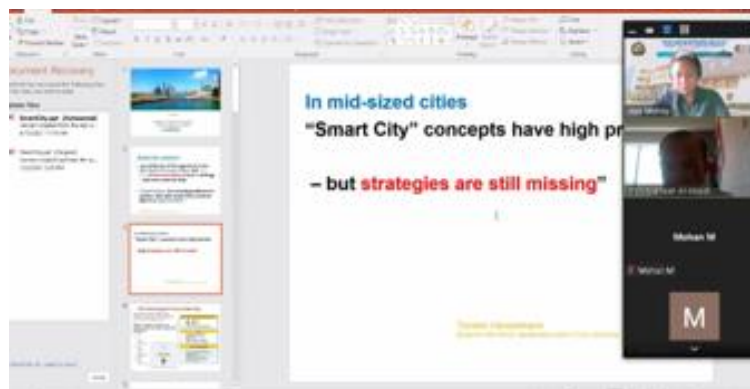
The American University in the Emirates (AUE)  
Dubai, United Arab Emirates

As VPR is to encourage research that has practical application for both economy & society in UAE & the region.

- ✓ Working as Vice President for Academic Affairs, Arab Open University, Kuwait

### **Experience:**

- ✓ Started his Career as Lecturer in Software Engineering/ Communication Engineering at Plymouth University
- ✓ Senior Lecturer at De MontFort University and served as Director of External affairs with almost 21 years in De MontFort University



**Keynote Speech about:** In Mid-Sized Cities “ Smart City” Concepts have high profiles – but strategies are still missing

Biography:

**Dr. M V Reddy**

Institute of Research Hydro-Québec  
Centre of Excellence in Transportation  
Electrification and Energy Storage (CETEES)  
Hydro-Québec, J3X 1S1, Canada



Dr. M.V. Reddy obtained his Ph. D (2003) with the highest honors in the area of Materials Science and engineering from the University of Bordeaux, (ENSCP/ICMCB-CNRS), France. From June 2019 working as a Senior Researcher (level 3) (equivalent to professor) at the Institute of Research Hydro-Québec, Canada. From July 2003 to May 2019, he worked at the National University of Singapore (NUS), Singapore as a Senior Research Fellow. Over the past 20 years, he has conducted leading research on Materials for Energy Storage and Conversion including materials processing and the evaluation of functional properties of materials for electric vehicles, and the development of in situ techniques.

Dr. Reddy has published around 210 papers (1st author; 47,2nd author 55; \* Corresponding author: 92 papers) and one landmark review paper in “Chemical Reviews”, his h-index of 66 with over 16000 citations. These have recently placed him within the top 2% highly cited researchers in Energy (Ranked #1002 out of 186,500 researchers in 2020, Source: Stanford University (USA)).

Dr. Reddy is serving as an editorial advisory board member in Materials Research Bulletin and Journal of Energy Storage (Elsevier) as well as several open access Journals (Materials, Energies and Molecules, MDPI) and the regional editor: Nanoscience & Nanotechnology-ASIA.

Dr Reddy has conducted several workshops related to functional materials and energy storage & conversion and delivered 10 Plenary, 22 Keynote, 78 Invited and 18 Contributory talks at various conferences and conducted a number of workshops on battery materials’ fundamentals, synthesis and characterization techniques. He also delivered Materials Science and Engineering outreach talks to college and high school students all over the world.



The image shows a Zoom meeting interface. The main window displays a presentation slide titled "Materials and Human History/Prosperity". The slide content includes a vertical timeline of material ages: Stone Age (100,000 BC), Copper & Bronze Age (10,000 BC), Iron Age (1000 BC), Rubber age (1500s), Silicon Age (1960s), Composites ages (1980s), Functional Materials Ages (2000), Molecular ages (2020), and Future: Intelligent /low carbon materials age: Energy, Environment & Healthcare. A horizontal timeline at the bottom of the slide shows the years 1947, 1951, and 1975. To the right of the slide is a "Participants (75)" list with names and icons.

**Keynote Speech about: Materials and Human History/ Prosperity**

## 5. CONFERENCE ORGANIZING COMMITTEE

### Chief Patron



**Shri Y RajaReddy, Chairman, PKMET**

### Patron



**Sri Kiran H R, Secretary, PKMET**



**Sri Arun H R, Director, PKMET**

### Conference/Steering Committee Chair



**Dr Mahendra K V, Principal, RRIT**

### Convener



**Dr. Sunitha H D, HOD - ECE& EEE, RRIT**

**Steering Committee Members**



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**Dr. Channabasavaraju, HOD - Mech, RRIT**



**Dr. Manjunath, HOD - CSE & ISE, RRIT**



**Dr Ramachandramurthy, HOD - BS, RRIT**

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**Mrs Anshu Deepa, ECE, RRIT**



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**Mrs. Sunanda C V, EEE, RRIT**



**Mr. Chitranjan Das, ECE, RRIT**



**Mrs. Shyamala P, ECE, RRIT**



**Mrs Divya T M, ECE, RRIT**



**Mrs. Sungyani Patil, ECE, RRIT**



**Mr Ashok K N, ECE, RRIT**



**Mr. Ramachandra, EEE, RRIT**



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## National Advisory Committee



**Dr. D.K.Sreekantha**

Professor, Computer Science & Engineering  
NMAM Institute of Technology,  
Bangalore, India



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Director, Mechanical Engineering  
Rajiv Gandhi Institute of Technology  
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Acharya Institute of Technology  
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Karnataka, India



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BMS College of Engineering, India



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Research Scientist, Nanotechnology  
Centre for Material Science, Advanced research in Nanoscience &  
Nanotechnology  
Karnataka, India



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Sapthagiri College of Engineering

Bangalore, India



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KLE Institute of Technology

TamilNadu, India



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ATME College of Engineering  
Bangalore, India



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Kalpataru Institute of Technology  
Bangalore, India



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Professor & Head, Physics  
Saveetha Engineering College  
TamilNadu, India



**Dr. S. Veena**  
Professor, Computer Science And Engineering  
S.A. Engineering College  
TamilNadu, India



**Dr. SHAKEELA BANU C**  
Professor, Management Studies  
CMS-B-School Jain Deemed to be University  
Bangalore, India



**S. Pathur Nisha**  
Professor, Professor & Head  
Arjun College of Technology  
Karnataka, India





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Rajarajeswari College of Engineering

Bangalore, India



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Professor, Electricals And Electronics Engineering

Varaprasad Reddy Institute of Technology

Karnataka, India



**Dr.R.Shantha Selvakumari**

Professor & Head, Electronics & Communication Engineering

Mepco Schlenk Engineering College

**6.SCIENTIFIC PROGRAM**

Day	Session	Topic
Day 1	Technical Session I	ECE/CSE/ISE
	Technical Session II	EEE
Day 2	Technical Session III	Mechanical & Civil Engineering
	Technical Session IV	Management & Allied Departments

**Technical Session I**

**Technical Session I:  
Department of ECE / CSE**

S No	Paper Title	Author	Co Author
1	Indoor Navigation Using Beacons	Spandana	Veena. S



2	An Analysis Of Deep Learning Models For Dry Land Farming Applications	Mrs.S.Mithra	Dr.Tyj.Nagamalleswari
3	Model Order Reduction And Optimization Of Interval System Using H-Infinity Norm And Genetic Algorithm	Shubham	A N Jha
4	Bearing Fault Detection Using Case Western Reserve University Dataset With Svm Approach	Tushar Anand	Bhavnesk Kumar
5	Eye Disease Detection Using Machine Learning	Sanohi Jatav	Dr Shikha Nema ; Dr Zia Saquib
6	Automatic Fire Detecting And Fire Fighting Robot	B N Mohan Kumar	Abhishek Gowda D, Mohan M, Sai Prashanth S, Tejaswini P
7	Cost-Efficient Arduino Based Automated Washroom Sanitizing System	Aishwarya S	Dr. Sunitha H D
8	Intelligent Accident Detection And Ambulance Rescue System	Rakesh S	Pradeep Bm
9	Comoflage Based Emergency Vehicles Priority With Intelligent Traffic Control Using Movable Road Dividers	Mrs. Anshu Deepak	Greeshma V, Shruthi A.S, Yashaswini G, Ramya B.
10	Design And Implementations Of Humming Bird Cryptographic Algorithm Using Fpga	B N Mohan Kumar	N Nandeesh Reddy, Divya K H, Kishore S , Alangir Badsha
11	Design And Implementation Of Vehicle To Vehicle Communication Using Lifi Technology	Sugnyani Patil	
12	A Survey Paper On Kidney Cancer And Computer Aided Methods For Their Image Segmentation	Anupkumar Bhatulal Jayaswal	Mahesh Bhimsham Dembrani
13	Electronic Voting Machine Using Face Recognition And Fingerprint	Vani	Sowmy, Asha, Mohith
14	Smart Indoor Vertical Farming Using Iot	Parimala Gandhi G	Sushma V, Monika H, Chithra C, Ullas K S
15	Cyber Crime	Anshu Deepak	Greeshma V
16	Longitudinal Stability Analysis of an Aircraft using RBFANN	G Parimala Gandhi	Dr Nagaraj
16	Wireless Sensors Network For Environmental Radiation Monitoring Using Iot	Pallavi Mr	Dr. Sunitha H D,Priyanka N S,Samadrita Roy,Varsha Biradar
17	Review On X2 Handover And S1 Handover In Lte Networks	Divya T M	
18	Predicting The Quantity Of Future Heart Attack Patients Using Random Forest Algorithm	Sarath Chandra Banala	A.Chandra Mouli
19	Design Of Single Axis Solar Tracker	Anshu Deepak	Viresh Hiremath, Amithkumar Yadav, Saikat Barman,Rambati N
20	Cost Efficient Solar Based Multipurpose Crop Cutting Machine	Mrs.Shyamala P	Amith M Y , Bharath V , Vishwas Gowda H R

21	Intelligent Covid-19 Pandemic Bus Service With Safety Measures	Parimala Gandhi G1	Joy Bhowmik2, , Adarsha M P3, , Ajay K S4
22	An Efficient And Modified Vlsi Implementation Of Cdf 5/3 Architecture On Fpga For Image Processing Applications	Saleema	Dr. N V Uma Reddy
23	Brain Tumor Detection From Mri Images Using Matlab Code	Shiva Kumar D N	Kiran C B , Madhu Kumar N,Celeste T
24	Arduino Based Patient Health Monitoring System	Shadakshari	Charutha M V
25	Medical Image De-Noiseing Using Machine Learning Technique	Charutha M V	Shadakshari
26	Disk-Based Real-Time Applications For Power Consumption	B N Mohan Kumar	Chandru
27	Image Segmentation Of White Blood Cells Using K Means And Gram-Schmidt Organisational Algorithm	Chitharanjan Das V	Dr. Puttamade Gowda J
28	Trash Can Monitoring System In The Smart Cities	Shyamala P	Charutha .M.V
29	Smart Notice Board Using Iot (Internet Of Thing)	Ashok K N	Anil Kumar K
30	Leak Localization On Gas Pipeline Using Acoustic Sensors And The Music Algorithm	Ghassan Alnwaimi	Hatem Boujemaa, Feras Alfosail, Nebras Sobahi
31	Kannada Handwritten Character Recognition (KHCR): A Literature Review	Siddanna S R	Dr. Kiran Y C

## Technical Session II

### Department of EEE

S No	Paper Title	Author	Co Author
1	Fundamental Frequency Estimation And Analysis Of Speech Signal	Mahesh M. Kamble	Tejal S.Bandgar
2	Interleaved Boost Converter Based Bldc Motor Drive Solar Pv Array Fed Water Pumping System	Shailesh Kumar	Shashi Bhushan Singh
3	Wireless Charging Of Electric Vehicle In Smart Cities	Bidhya Chhetri	Sunanda C V
4	A Wireless Sensor Networks For Forest Fire Detection And Monitoring Using IOT	Deepty Thapa	Ramachandra C, Sandeep Pandey
5	Smart Solar Power Management System For Domestic Purpose	Pratik Chaudhary	Sikindra Kr Thakur, Vikash Kumar Sah, Arun Prasad Yadav, Dr. Mangala Gowri S G
6	Conversion Of Waste Heat Into Electricity Using Teg	Shifanaaz A	Gowtham G
7	Speed Control Of Dc Motor By Using Soft Starter	Mohammad Safiullah Musalman	Gowtham G
8	3-Phase Failure Detection And Voltage Measurement Using Arduino	Akash Kumar Singh	Amit Kumar Singh, Embdorka Syiem
9	Design Of Hybrid Electric Vehicle With Solar	Sunanda C V	G Gowtham, Ramachandra C

	Energy And Wireless Charging		
10	Light-Fidelity (Li-Fi): Transmission Of Data Through Light Of Future Technology	Bharath Kumar K	Vaibhav S Biradar Gagan Kumar Dr. Mangala Gowri S.G
11	Iot Based Flood Management And Alerting System	Ramachandra C	Sandeep Pandey, Deepti Thapa
12	Eeg Data Processing For Emotion Detection Using Dtcwt And Ffnn Architecture Design	Mangala Gowri S G	Sunitha H D , Sneha Joesphine
13	Hybrid Optimization Control Algorithm For Grid Connected Pv System	Gayathri Devi K.S.	P.Sujatha Therese
14	Radar System Using Arduino And Ultrasonic Sensor	Varun K	Bharath Kl
15	A New Cascaded Two Level Inverter Based Multilevel Statcom For High Power Applications	Vyshnav.B	Akshatha R Hegde, Pradeesha J
16	Performance Analysis Of Distributed System By The Placement Of Dg Considering Load Growth	Pradeesha J	Vyshnav B, Akshatha R Hegde
17	Improved Output From Buck-Boost Converter For Commercial Loads	Akshatha R Hegde	Vyshnav B, Pradeesha J
18	Electricity Theft Detection	Lenin Selva M	Monish R & Sankarnarayanan P & Dharsan S

### **Technical Session III**

#### **Department of Mechanical Engineering**

S.No	Paper Title	Author	Co Author
1	Friction Stir Additive Manufacturing In Align With Industry 4.0 - A Review	S.Deivanai	Dr.Manoj Soni
2	The Influence Of Boron Nitride Reinforcement On Physical And Mechanical Properties Of Polyethylene Terephthalate (Pet)	Mahesh K	Dr. Anand. S. Sonnad, Dr. S. B. Kerur
3	Experimental Investigation And Vibrational Analysis Of Laminated Composite Beams With Multiple Edge Cracks	Vishal Omprakash Jadhav	Prof. Dr. Harshal Ashok Chavan
4	Case Study On The Effect Of Chilling To Reduce Shrinkage Defect On Cast-Iron Castings	Veeresh Gurav	Veeranna
5	A Short Review On Measuring Impact Of Microencapsulated Phase Change Material In Mitigating Urban Heat Island	G.R. Gopinath	S. Muthuvel
6	Behavior Of Wear And Corrosion Resistance Of Thin Film Coated Titanium Alloy Substrate	Anoop Joshi	Sanjay T Setty

### **Department of Civil Engineering**

S No	Paper Title	Author	Co Author
1	Optimisation of energy demand based on thermal comfort criteria for an office building in the tropical warm humid climate	Poornima Kurup	
2	Application of Lean Six Sigma in construction industry	Asmita Chandrakant Ghule	Prof. Satish Waysal

3	Application of Non – linear isotherm models for Adsorption of Chromium uptake by Agricultural waste based adsorbents	Soibam Sangeeta	Thiyam Tamphasana Devi, Potsangbam Albino Kumar
4	Identification of adsorption mechanism for Iron uptake by activated carbon derived from Alocasia indica	Reenarani Wairokpam	Potsangbam Albino Kumar and Anuj Kumar Purmar
5	Assessment of land suitability for solid waste disposal and leachate treatment by waste derived Parkia Speciosa (Petai) pods activated carbon	Vivek Laishram	Oinam Bakimchandra,Potsangbam Albino Kumar
6	Investigation of fluoride uptake by chlorine doped polyaniline in continuous column mode operation	Sarungbam Pipileima	Potsangbam Albino Kumar

**Technical Session – IV**  
**Department : Management & its Allied Branches**

S No	Paper Title	Author	Co Author
1	Women Empowerment In India: Issues & Challenges	Namratha Murthy	Dr.Sunitha H D
2	Need For Autonomus System to Revolutionise The Indian Banking Industry – A Study Of Blockchain Technology	Richa Kashyap	Mr. Vivek Saurav
3	Congruence Between Cause Marketing Campaigns and Purchase Intention Towards Consumers – An Analysis	M.Ancy Raja Nathiya	Dr.K.Asha,
4	Forensic Accounting: A Paradigm Shift of Auditing	Seema Devi	Prof. Ram Ratan Saini
5	Roxas City the Seafood Capital Of The Philippines: Myth Or Fact?	Arcega, I.,	Mirasol, P.J., Malayang, S.J., Besiño, A., Moleño, L.
6	Optimization Of Physical Parameters for Production Of Antimicrobial Compound By Aspergillus Flavus Mtcc 13062 Using Response Surface Methodology	Shruti Dudeja	Anil Kumar
7	Consumer Behaviour In Rural Markets	Anjali Chopra	

### 6.3 Highlights Day1 session

Day 1 of ICRTEM Conference consist of one session from department of ECE/CSE/ISE in which each session consist of 32 presentations

#### Highlight of Session I

Session I of IC-ESSU Conference consist of 32 presentation in which the presentation which attracted all is listed below

#### Enjoyed Research Papers:

**Technical Session I : (ECE/CSE/ISE)**

**Author Name :**

G Parimala Gandhi [1] , Dr Nagaraj [2]  
Associate Professor, RR Institute of Technology, Bangalore

**Paper Title :**

Longitudinal Stability Analysis of an Aircraft using RBFANN

**Abstract:**

Develop an on-line control scheme that utilizes a dynamically structured Radial Basis Function Network (RBFN) for aircraft control. By using Lyapunov synthesis approach, the tuning rule for updating all the parameters of the dynamic RBFN which guarantees the stability of the overall system to be derived and Analyze The robustness of the proposed tuning rule. Perform Simulation studies using the aircraft longitudinal model which demonstrates the efficiency of the method and also show that with a dynamically structured RBFN, a more compact network structure can be implemented for stability analysis of an aircraft

## **Technical Session II : (EEE)**

### **Author Name :**

Mangala Gowri S G 1 Sunitha H D 2 Sneha Joesphine 3  
Associate Professor Professor Student  
Dept. of EEE <sup>2</sup>Dept. of ECE <sup>3</sup>Dept. of EEE  
R. R. Institute of Technology, Bengaluru, Karnataka

### **Paper Title :**

EEG data processing for Emotion detection using DTCWT and FFNN Architecture Design

### **Abstract**

Emotion detection and classification algorithms developed are based on wavelet features and neural network approaches which are limited to software implementation only. Very little literature is reported on hardware implementation of EEG detection and classification approaches. One of the major challenges in hardware implementation is the computation complexity of DWT processor and FFNN architecture. In this paper, architectures for data path operation of both DWT and FFNN structures are designed and are implemented on FPGA platform. A low power and high speed architectures for DTCWT and neural network are designed based on customized systolic array logic and reusable data path circuitry respectively. The nine-stage DTCWT architecture designed is designed to work at maximum frequency of 322 MHz consuming less than 0.71 W of power. The FFNN structure is designed to operate at maximum frequency of 321 MHz consuming less than 2.2 W of power. Both of the architectures are suitable for real time EEG data processing.

Keywords: FFNN architecture, DTCWT, FPGA platform, Emotion detection

## **Technical Session III : ( Mechanical & Civil Engineering)**

### **Author Name:**

Anand. S. Sonnad, Shrivankumar. B. Kerur, Mahesh A. Kori\*  
Mechanical Engineering Department, Basaveshwar Engineering College, Bagalkot,  
Karnataka, India

### **Paper Title:**

The influence of Boron Nitride reinforcement on physical and mechanical properties of Polyethylene Terephthalate (PET)

### **Abstract:**

Polymers are economical, easy to fabricate, low weight, decent strength, good thermal and electrical insulating properties, and many more advantages made polymers reach the highest magnitude and replace all traditional materials with various types of reinforcing elements as desired. In many capacities, they have significantly suppressed traditional materials. There

are numerous advantages that make polymers very promising contenders for domestic, commercial, and engineering applications. In the present research, Polyethylene terephthalate (PET) polymer as a matrix and hexagonal boron nitride (h-BN) as reinforcement were used and are fabricated using ball milling and injection molding process. The properties of h-BN addition to (0 – 40 wt. %) were studied, recorded, and analyzed the physical and mechanical properties. Optical microscopy images showed good distribution of BN particles in the PET matrix. The Vickers microhardness, impact strength, were found to increase by 28% and 70%. Tensile strength and flexural bending test results of composites were found to increase approximately 54% and 52%, and percent elongation has reduced by almost 46% by an increase in the BN particles compared to pure PET matrix.

Keywords: Boron nitride, Injection molding, Mechanical properties, Polymer composite, Optical Microscopy.

## **Technical Session IV: (Management & Allied Subjects)**

### **Author name :**

Namratha Murthy, Dr.Sunitha H D,  
2 nd Sem Law student, Kristu Jayanti College of Law, Bengaluru,  
Professor, Dept of ECE, R R Institute of Technology, Bangalore

**Paper Title :** Women Empowerment in India: Issues & Challenges

### **Abstract**

Empowering a woman has been one of the main concerns in 21 st century. Women are becoming victims of various social evils. Women empowerment can be used as a vital instrument in supporting a woman to access resources and to make strategic life choices. The main objective of this paper is to assess the need for women empowerment in India, analyze the factors that influence empowerment of women in India, discuss various government schemes for women empowerment- implementation and hindrances. The data used here are from secondary sources.

Index Terms— Empowerment, crimes against women, government schemes, IPC, SLL\_

## **Most Enjoyed Presentations:**

### **Technical Session I: (ECE/CSE/ISE)**

#### **Author Name :**

Ashok K N , ANIL KUMAR, RR Institute of Technology, Karnataka

#### **Paper Title:**

SMART NOTICE BOARD USING IoT (Internet of Thing)

#### **Abstract**



Notice boards are playing very important role in our day to day life. By replacing conventional type notice board with IoT based smart notice board we can make information dissemination much easier in a paperless community. Here the admin can control notice board through internet. So information can be send from anywhere across the world and can be displayed within seconds in form of scrolling manner. Smart phone or PC is used for sending information and an IOT development board i.e., Node MCU is connected to internet at the receiving side. In addition to this an application which is installed on the admin's mobile phone can serve the same purpose.

## **Technical Session II : (EEE)**

### **Author Name :**

Sunanda C V, Ramachandra C, G Gowtham, Bidhya chhetri  
Assistant Professor, RRIT Assistant Professor, RRIT Assistant Professor, RRIT Student,  
RRIT

### **Paper Title :**

Design Of Hybrid Electric Vehicle With Solar Energy And Wireless Charging

### **Abstract**

With the advancement in 21st Century, there has been increase in usage of Oil and Gas leading to problems like Global Warming, climate change, shortage of crude oil, etc. Due to these reasons Automobile Companies have started doing research for making Hybrid Technology usable into the daily life. The technologies used in the making of Hybrid Cars such as “Hybrid Solar Vehicle”, “Hybrid Electric Vehicle” and “Plug In hybrid electric vehicles”. On this bases the explanation of such technologies, their function, drawback of this technology, efficiency of Hybrid Cars, and Case studies on the present commercial hybrid cars and the fuels and raw materials used in the Hybrid Cars. The advantages and disadvantages of Hybrid Electric Cars and technologies which will take over the world in future and would become the alternative of Petrol and Diesel Cars. Electric vehicles (EVs) as the next generation of vehicles are becoming more reliable. Battery charging system is an important challenge to make the EVs popular. Wireless charging are user friendly and safe systems. It proposed to overcome consumer's concerns regarding charging battery and driving range. The wireless power transfer (WPT) circuit topology for EV charging applications are presented. The coil and ferrite shapes have been discussed. The health and safety issues as the highest priority for electrical, coupling fields and fire hazards are also discussed addressing related standards for WPT.

Index Terms— MPPT-Maximum Power Point Tracking, HEV-Hybrid Electric Vehicles, SPI-Serial Peripheral Interface, TWI-Two Wire Interface.

## **Technical Session III : ( Mechanical & Civil Engineering)**

### **Author Names :**

Soibam Sangeeta, Thiyam Tamphasana Devi, Potsangbam Albino Kumar  
National Institute of Technology, Manipur

### **Paper Title :**

Assessment of Surface properties of Benincasa hispida and Cucurbita peels for Chromium uptake

### **Abstract**

This study investigates the chromium adsorption feasibility by agricultural waste based activated ash gourd (AGP) and activated pumpkin peels (APP) by employing Kinetic models (Intra – particle diffusion, Elovich, First order and Second order models) and non – linear isotherms (Langmuir and Freundlich) models. The surface morphology and pore size distribution of AGP and APP were measured using Scanning Electron Microscope (SEM), Energy Dispersive X-ray Measurements (EDAX), and Brunauer Emmett Teller (BET). The adsorption data reveals fitting on Elovich equation with correlation coefficient ( $R^2$ ) of 0.97 and 0.94 respectively for AGP and APP as compared to 0.89 and 0.91 for diffusion model. These findings suggest the predominantly physical adsorption behaviour of total chromium by both the adsorbents. Freundlich's isotherm model showed a better fit than Langmuir's equation for AGP and APP with lesser Chi square ( $\chi^2$ ) error of 0.31 and 1.11 respectively against that of Langmuir with 8.11 and 11.14 indicating the heterogeneous surface of these agricultural based adsorbents.

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## 7.SURVEY ANALYSIS

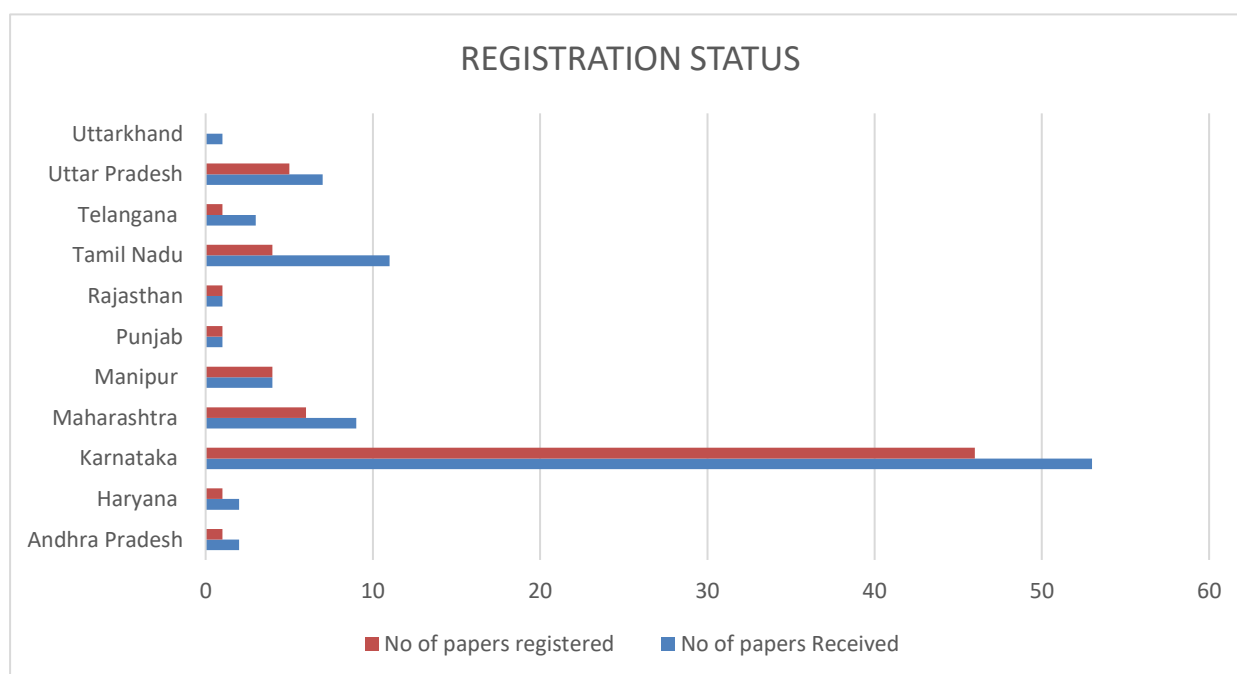
### Papers received based on the States

**Abstract Received from Abroad:**

- 1.Saudi Arabia
2. Iraq
- 3.Philippines

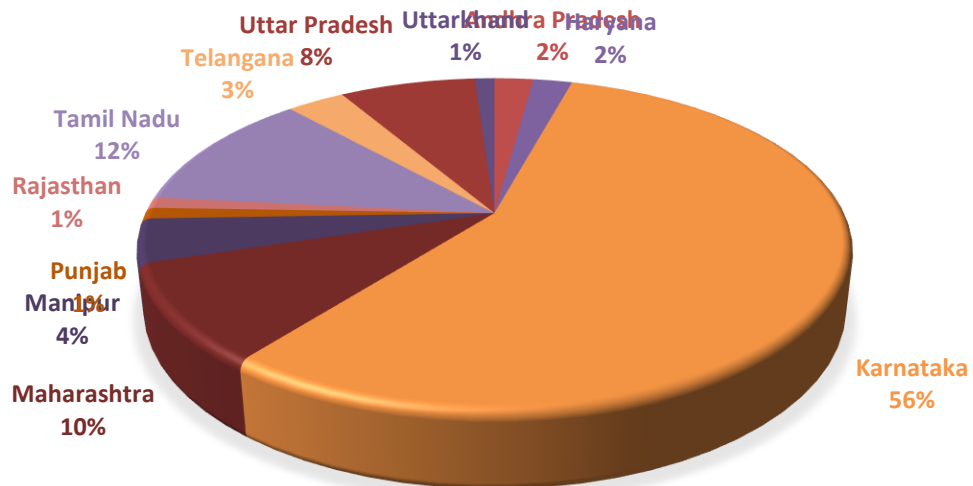
**Abstract Registered :**

- 1.Philippines
- 2.Saudi Arabia

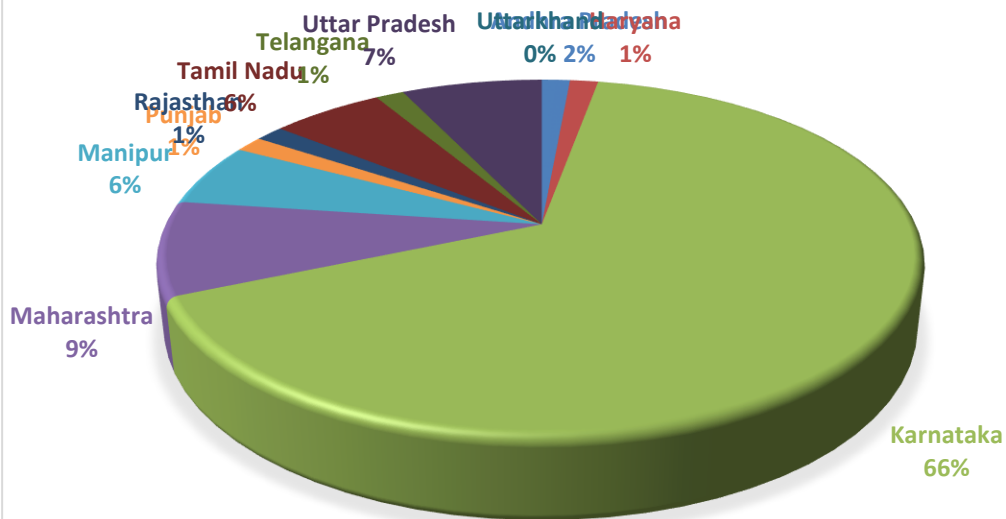


S.No	States	No of papers Received	No of papers registered
1	Andhra Pradesh	2	1
2	Haryana	2	1
3	Karnataka	53	46
4	Maharashtra	9	6
5	Manipur	4	4
6	Punjab	1	1
7	Rajasthan	1	1
8	Tamil Nadu	11	4
9	Telangana	3	1
10	Uttar Pradesh	7	5
11	Uttarakhand	1	0

### ABSTRACT RECEIVED - NATIONAL



### ABSTRACT REGISTERED - NATIONAL



## 8.VALEDICTORY

**In the Valedictory best paper and best paper Presentation of International Conference on Research Trends in Engineering and Management, ICRTEM 2021 was announced**

### Best paper award

Best Paper Award		
S.No	Paper Title	Authors
1	Longitudinal Stability Analysis of an Aircraft using RBFANN	G Parimala Gandhi, Dr Nagaraj
2	EEG data processing for Emotion detection using DTCWT and FFNN Architecture Design	Mangala Gowri S G, Sunitha H D, Sneha Joesphine
3	The influence of Boron Nitride reinforcement on physical and mechanical properties of Polyethylene Tetrphalate (PET)	Anand. S. Sonnad, Shravankumar. B. Kerur, Mahesh A. Kori
4	Women Empowerment in India: Issues & Challenges	Namratha Murthy, Dr.Sunitha H D

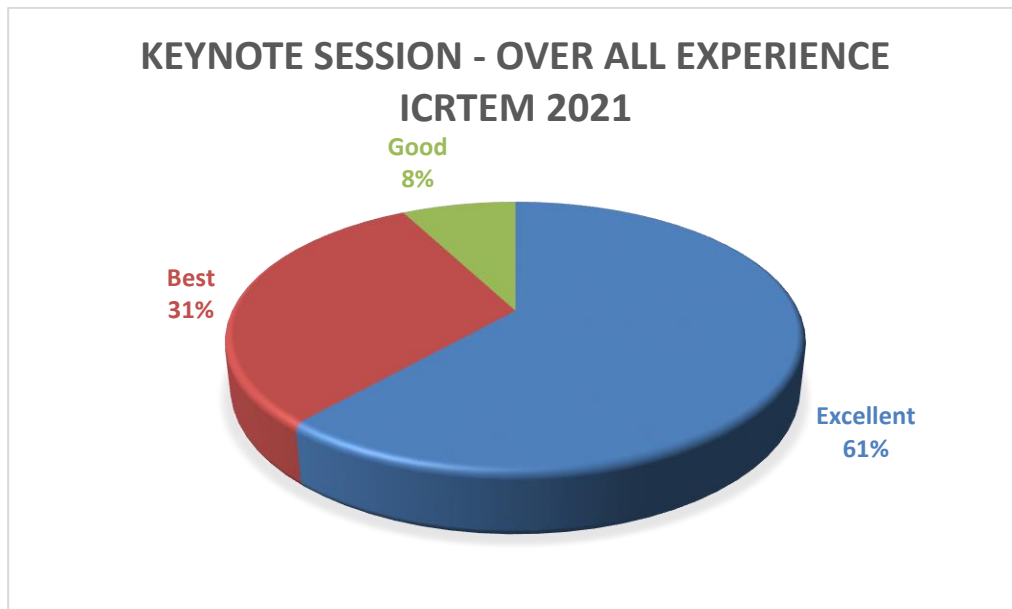
### Best paper Presentation award

Best Paper Presentation Award		
1	SMART NOTICE BOARD USING IoT (Internet of Thing)	Ashok K N , ANIL KUMAR
2	Design Of Hybrid Electric Vehicle With Solar Energy And Wireless Charging	Sunanda C V,Ramachandra C, G Gowtham, Bidhya chhetri
3	Assessment of Surface properties of Benincasa hispida and Cucurbita peels for Chromium uptake	Soibam Sangeeta, Thiyam Tamphasana Devi,Potsangbam Albino Kumar

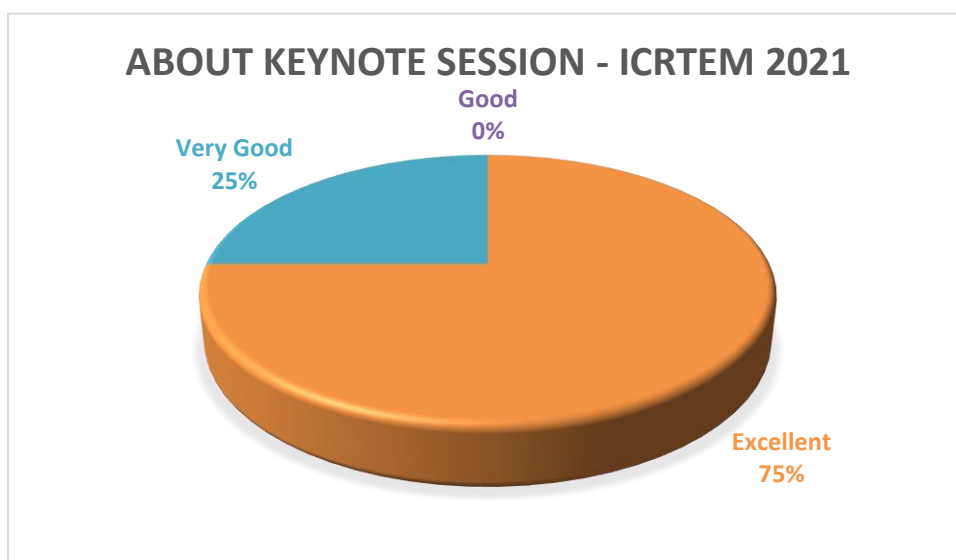


## 9.FEEDBACK

### 1. Keynote Session :

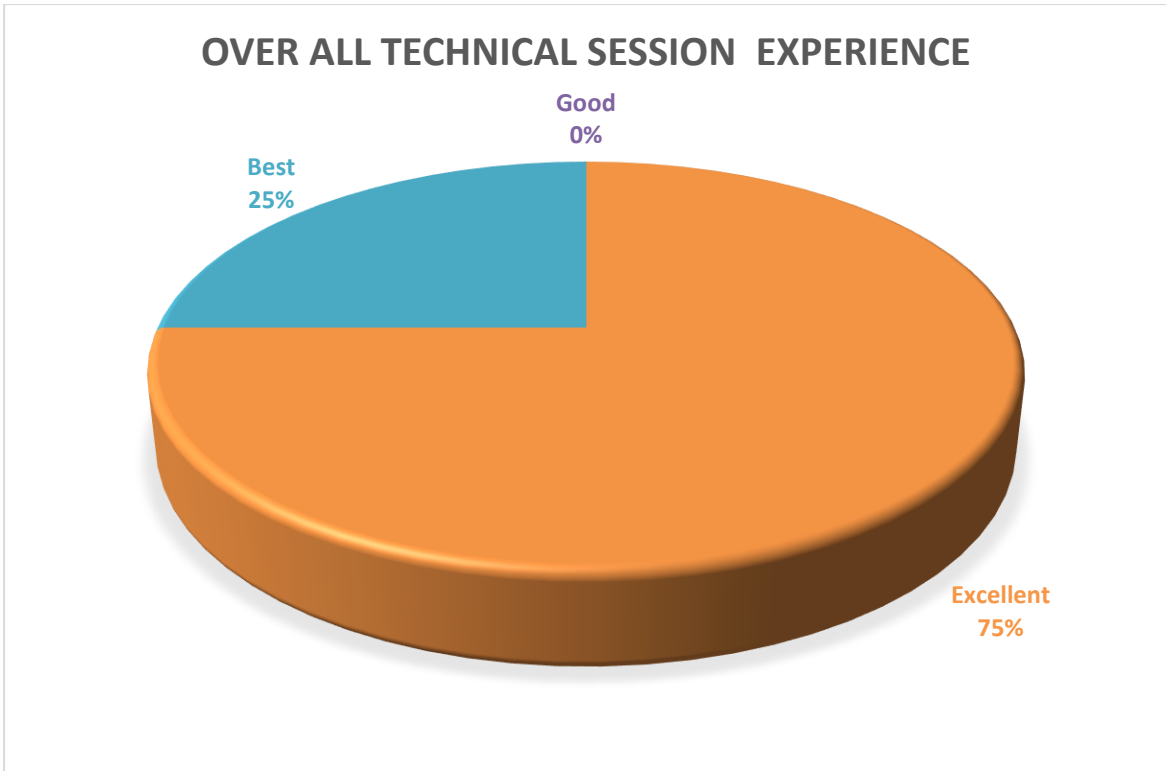


2. ICRTEM Participants – Day 1 :





**ICRTEM Participants Day 2 :**



Comments

The conference is overall a top notch hit

very good

It was a wonderful experience

My overall conference evaluation is good.

Satisfactory

The questionnaire session was very nice

Very good

it was organized very good

Satisfying

More than satisfactory

Comments

This is my first conference and I have gain good knowledge regarding conferences... IFERP is really good and provide so much opportunities... I highly appreciate it...

Good

My first conference will be memorable  
Conference organizers is very good and very cooperative.

Satisfactory

It is well organized from the registration processes to end of the conference

Very good

very good

Satisfying

Very good

Message

The 1st day compering person is very good in scheduling presentation... Her way of approach is good...

The suggestion from higher staff of conference

Keynote speakers

Presentation

The presentation of research

Evaluation process

All

Speakers sessions and Inputs from judges during the presentation

Presentations

Latest Research work discussions

## 10.VOTE OF THANKS:

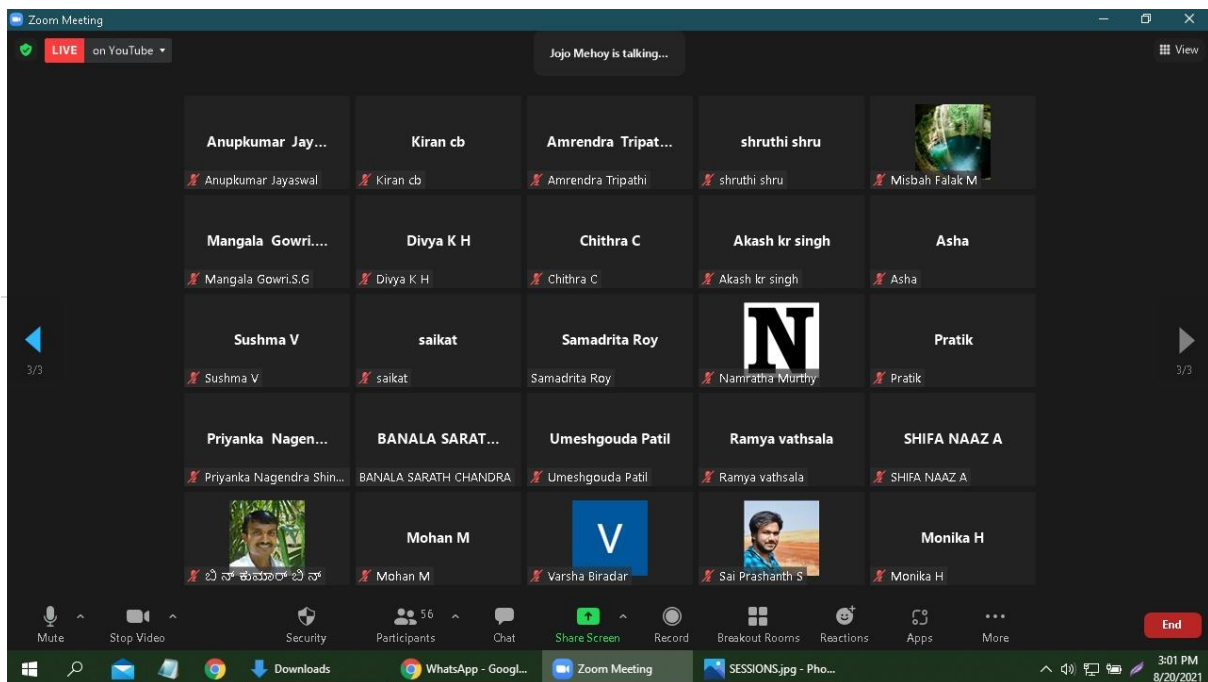
International Conference on research trends in Engineering and Management successfully hosted its ICRTEM at RR Institute of Technology on 20<sup>th</sup> and 21<sup>st</sup> August 2021. The conference was organized with a focus on Engineering, Technology and Management and it was a great success where eminent keynote speakers from various universities addressed the gathering.

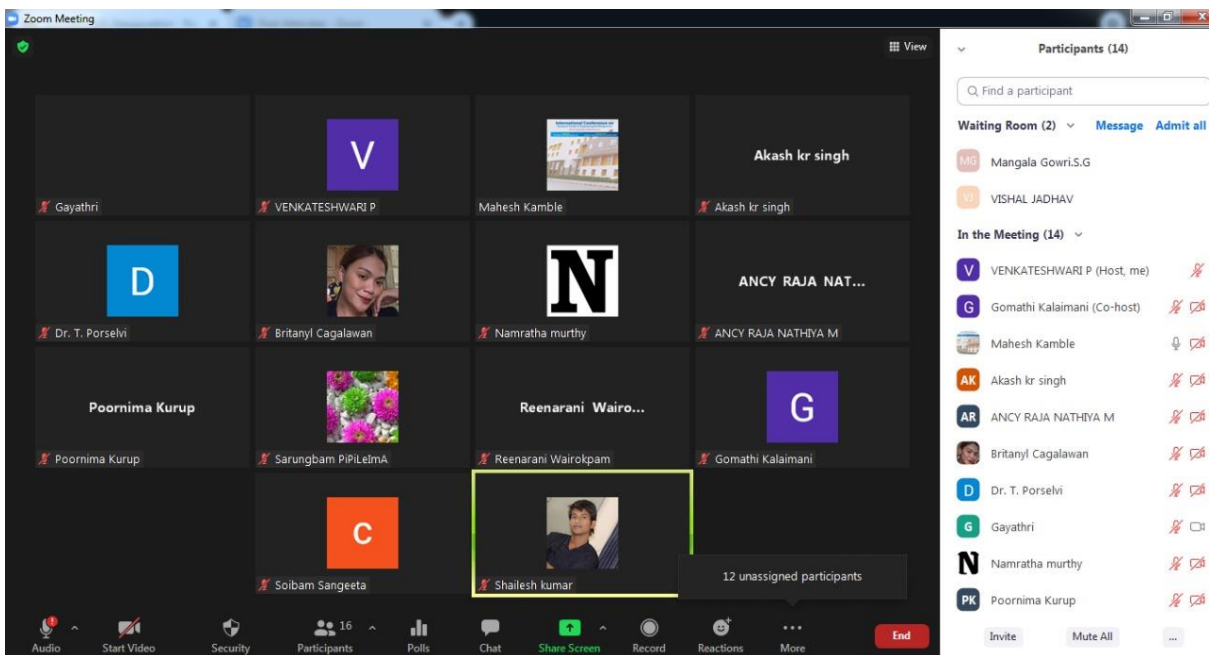
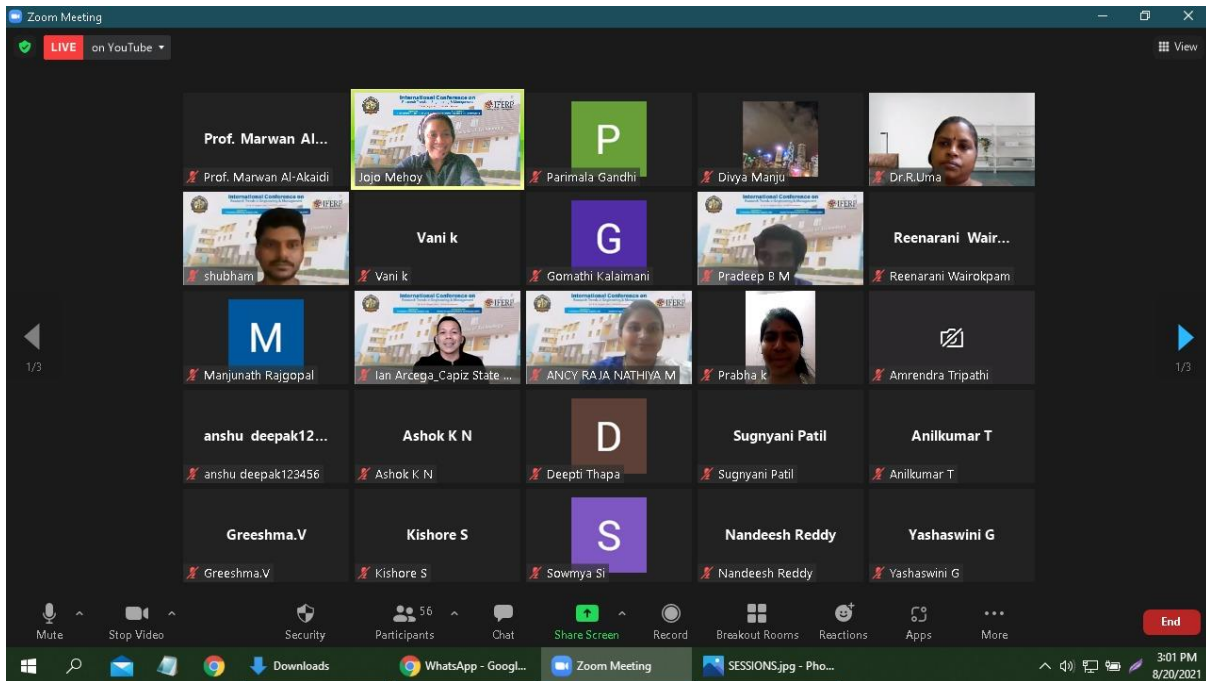
The generous response and active participation of the Organizing Committee Members and Editorial Board members of Engineering and Management backgrounds we take the opportunity to thank all the speakers, delegates and participants for providing their valuable support and time for ICRTEM 2021.

Organizing Committee would like to thank the Moderator of the conference, and who contributed a lot for the smooth functioning of this event.

congratulates the Best Paper, Best paper Presentation awardees for their outstanding performance in the field of Engineering, Social- Sciences An Humanities and appreciates all the participants who put their efforts in poster presentations & Young Researchers form and sincerely wishes them success in future endeavours. We would like to thank the Dr. Marina S. Apilado, Vice President for External Affairs and Quality Assurance, Eastern Samar State University, Philippines for their value judgment. We would like to thank the

## 11.CONFERENCE GLIMPSES





Zoom Meeting

View

Participants (12)

Q. Find a participant

- V VENKATESHWARI P (Host, me)
- G Gomathi Kalaimani (Co-host)
- AK Akash kr singh
- AR ANCY RAJA NATHIYA M
- Britanyl Cagalawan
- D Dr. T. Porselvi
- G Gayathri
- N Namratha murthy
- PK Poornima Kurup
- RW Reenarani Wairokpm
- Sarungbam PIPILeM A
- C Soibam Sangeeta

10 unassigned participants

Audio Start Video Security Participants 12 Polls Chat Share Screen Record Reactions More End

Invite Mute All

Zoom Meeting

Participants (28)

Q. Find a participant

Waiting Room (1) Message

D DHARSAN S

In the Meeting (28)

Britanyl Cagalawan (Host, me)

Maresh Kamble

Invite Mute All

Chat

ok mam

from Sriakshmi R to Me: (Direct Message)

what time is my presentation, myself Sriakshmi R

Who can see your messages?

To: Sriakshmi... (Direct Message)

Type message here...

IFERP

“Pitch Estimation and Analysis of Speech Signal”

Maresh M. Kamble  
Prof. T. S. Bandgar

International Conference on Research Trends in Engineering & Management (ICRTEM-21) - Virtual Conference  
20th - 21st August 2021

Type here to search

31°C Mostly cloudy 1:02 PM 21/08/2021

Zoom Meeting You are viewing Bidhya chhetri's screen View Options

Participants (34)

Find a participant

Britanyl Cagalawan (Host, me) Bidhya chhetri Gomathi Kalaimani (Co-host) Dr. T. Porselvi Akash kr singh

Chat

ok mam

From SriLakshmi R to Me: (Direct Message)

what time is my presentation, myself SriLakshmi R

Who can see your messages?

To: SriLakshmi... (Direct Message)

Type message here...

WIRELESS CHARGING OF ELECTRIC VEHICLES IN SMART CITIES

1. BIDHYA CHHETRI  
2. HEMANJALI R  
3. RISHIG GN  
4. RUCHITHA S

UNDER GUIDANCE OF PROFESSOR SUNANDA C V DEPT. OF EEE, RRIT

International Conference on Research Trends in Engineering & Management (ICRTEM-21) - Virtual Conference 20th - 21st August 2021

Unmute Start Video Security Participants Chat Share Screen Record Reactions Apps More End

Type here to search 30°C Mostly cloudy 1:18 PM 21/08/2021

Zoom Meeting

Participants (38)

Find a participant

Britanyl Cagalawan (Host, me) Pratik Gomathi Kalaimani (Co-host) Akash kr singh Akash kr.singh

Chat

ok mam

From SriLakshmi R to Me: (Direct Message)

what time is my presentation, myself SriLakshmi R

Who can see your messages?

To: SriLakshmi... (Direct Message)

Type message here...

Smart Solar Power Management system for Domestic Purpose

Pratik Chaudhary (IR117EE007)  
Sikindra kumar thakur (IR117EE013)  
Vikash kumar sahu (IR117EE016)  
Arun prasad Yadav (IR117EE001)

Under the Guidance of Dr. Mangala Gowri S G Associate Professor

International Conference on Research Trends in Engineering & Management (ICRTEM-21) - Virtual Conference 20th - 21st August 2021

IFERP

Pratik Chaudhary

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Tell me what you want to do

New Slide Slides Tables Images

Table Pictures Screenshot Photo Album Shapes Icons 3D SmartArt Chart My Add-ins Zoom Link Action Comment Text Box & Footer Header WordArt Equation Symbol Video Audio Screen Recording

Click to add notes

Notes Comments

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Zoom Meeting

Participants (38)

Find a participant

Britanyl Cagalawan (Host, me) Pratik Gomathi Kalaimani (Co-host) Akash kr singh Akash kr.singh

Invite Mute All

Chat

ok mam

From Sriakashmi R to Me: (Direct Message) what time is my presentation, myself Sriakashmi R

Who can see your messages?

To: Sriakashm... (Direct Message) Type message here...

155 PM 21/08/2021

**Smart Solar Power Management system for Domestic Purpose**

Pratik Chaudhary(1RI17EE007)  
Sikindra kumar thakur(1RI17EE013)  
Vikash kumar sah(1RI17EE016)  
Arun prasad Yadav(1RI17EE001)

**Under the Guidance of Dr. Mangala Gowri S G Associate Professor**

International Conference on Research Trends in Engineering & Management (ICRTEM-21) - Virtual Conference  
20th - 21st August 2021

Zoom Meeting

You are viewing Nandeesh Reddy's screen

View Options

Participants (50)

Nandeesh Reddy shruthi shru Divya K H Shadakshari

Jojo Mehoy Dr.R.Uma Nandeesh Reddy shruthi shru Divya K H Shadakshari

LIVE on YouTube

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Accredited by NAAC with B+

**Department of Electronics and Communication Engineering**

**"Design and Implementations of the Hummingbird Cryptographic Algorithm on FPGA"**

**Presented By:**  
N Nandeesh Reddy IRI16EC018  
Divya K H IRI16EC010  
Alangir Badsha IRI18EC401  
Kishore S IRI15EC017

**Under The Guidance of Prof. Mohan kumar B N**  
Asst. Professor  
Dept. of ECE,RRIT

International Conference on Research Trends in Engineering & Management (ICRTEM-21) - Virtual Conference  
20th - 21st August 2021

Mute Stop Video Security Participants Chat Share Screen Record Breakout Rooms Reactions Apps More

3:13 PM 8/20/2021

Zoom Meeting | You are viewing Amrendra Tripathi's screen | View Options

Participants: Jojo Mehoy, Anupkumar Jayaswal, Prabha k, Vani k, Manjunath Rajgopal, Aishwarya S

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**IFERP**  
connecting engineers... developing research

**Department of Electronics and Communication Engineering**

**Title: “ Cost-Efficient Arduino-based Automated Washroom Sanitizing System ”**

**Presented By:**  
Aishwarya S  
Amrendra Tripathi  
Anuradha Lakara  
Prabha k

1RI17EC002  
1RI17EC006  
1RI17EC007  
1RI17EC017

**Under The Guidance of**  
**Prof. Name -Dr Sunitha H D**  
**Designation-HOD**

20-08-2021

Zoom Meeting | 3:38 PM 8/20/2021

Zoom Meeting | You are viewing Divya Manju's screen | View Options

Participants: Jojo Mehoy, Dr.R.Uma, Divya Manju, Dr. Sumanth V, Varsha Biradar, anshu deepak123456

New Microsoft PowerPoint Presentation - PowerPoint (Product Activation Failed)

1 2 3 4 5 6 7 8 9 10 11 12 13

**X2 & S1 Handover in LTE Networks**

1) Divya T M, Assistant Professor  
2) Sugnyani P, Assistant Professor  
Dept of ECE, RRIT

International Conference on Research Trends in Engineering & Management (ICRTEM-21) - Virtual Conference  
20th - 21st August 2021

Slide 1 of 14 | English (India)

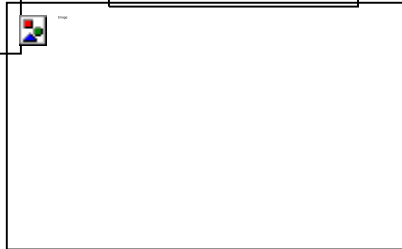
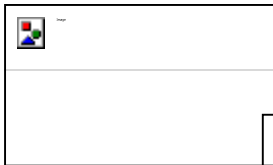
Zoom Meeting | 5:15 PM 8/20/2021



## 12.CONCLUSION SUMMARY

ICRTEM 2021 was a success event organized by RR Institute of Technology and IFERP amid the COVID19 with a collective effort from host organization, Organization committee members and all participants. This event provided a learning experience to all and shape ourselves to near future. We would like to conclude with Thanks one and all.

### Our Associates



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Click the link to download the Proceedings Books

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## Conference Brochure

Click the link to download the brochure: <https://www.icrtem.net/downloads/brochure.pdf>

## Conference Background

