



**ICIET – 2018**

***International Conference on Innovative  
Ideas in Engineering and Technology***

**Bellary, Karnataka  
12<sup>th</sup> – 13<sup>th</sup> April 2018**

**Published by:  
Institute For Engineering Research and Publication  
(IFERP)**

**Organized By:  
Rao Bahadur Y Mahabaleswarappa Engineering College  
Ballari, Karnataka**

## *From Director's Desk ....*



**Rudra Bhanu Satpathy.,**  
Director,  
Institute For Engineering Research and Publication.

On behalf of *Institute For Engineering Research and Publications (IFERP)* and in association with *International Conference on Innovative Ideas in Engineering and Technology*, Bellary, Karnataka. I am delighted to welcome all the delegates and participants around the globe to *Rao Bahadur Y Mahabaleswarappa Engineering College Bellary, Karnataka* for the “*International Conference on Innovative Ideas in Engineering and Technology (ICIET-2018)*” Which will take place from *12<sup>th</sup> -13<sup>th</sup> April '18*

Transforming the importance of Engineering, the theme of this conference is “*International Conference on Innovative Ideas in Engineering and Technology (ICIET -2018)*”

It will be a great pleasure to join with Engineers, Research Scholars, academicians and students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator (**IFERP & RYMCE**) and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at *Bellary, Karnataka*.

Sincerely,



**Rudra Bhanu Satpathy**

## Preface

The *International Conference on Innovative Ideas in Engineering and Technology (ICIET -2018)* is being organized by *Rao Bahadur Y Mahabaleswarappa Engineering College Bellary, Karnataka* in association with *Institute For Engineering Research And Publication (IFERP)*.

*Rao Bahadur Y Mahabaleswarappa Engineering College Bellary, Karnataka* is a premier Institute established in the year 2004 under the patronage of PU educational society.

It is gratifying to know that *ICIET -2018* was a notable event which brings academicians, researchers, engineers, industry experts and students together.

Covering broad range of topics in various domains the conference will be a perfect platform to share experience and foster collaborations across industry and academia to evaluate current and emerging trends across the globe.

The International Conference attracted over 83 submissions. Through rigorous peer reviews 55 high quality papers were recommended by the Committee. The Conference applied focus on the tools and techniques for the developments on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We thank all the members of our local organizing Committee, National and International Advisory Committees.

**ICIET - 2018**

## *Chairman Message*



### **Sri.J.S.Basavaraj**

Chairman RYM Engineering College, Ballari, Karnataka,  
India.

#### **MESSAGE**

On behalf of VV sangha , Ballari, Karnataka ,India, I am very much delighted to welcome you all for the international conference on “Innovative Ideas In Engineering and Technology” at Electrical and Electronics Department. This conference will enlighten the corporate delegates, academicians, research scholars and student community. As it is very much required for the growth, sustainability and support for economic development of our country

**(Sri.J.S.BASAVARAJ)**

## *Principal's Message*



### **Dr. Kuppagal Veeresh**

Principal, RYMEC, Ballari, Karnataka, India.

#### **MESSAGE**

I hope this International Conference on “Innovative Ideas in Engineering and Technology” would certainly help everyone to have the latest updates to have a better understanding to contribute more and progress towards the Research and Development activities in engineering today. I wish all the best to the participants, HOD, the faculty members and students of Electrical and Electronics Engineering Department.

**(DR. KUPPAGAL VEERESH)**

## *HOD's Message*



### **Dr. Netravati .U.M**

HOD, Electrical and Electronics Engineering Department  
RYMEC, Ballari, Karnataka, India.

#### **MESSAGE**

It is great pleasure for me to welcome you all to the international conference on “Innovative Ideas in Engineering and Technology” at RYM Engineering College Ballari, Karnataka, India. This conference will provide an excellent international forum to share innovative ideas in recent challenges of engineering and technology among researchers, faculty and students. On behalf of EEE department, college and management of VV sangha, I wish you all the best out of this conference.

**(Dr. NETRAVATI .U.M)**

**ICIET – 18**

*International Conference on  
Innovative Ideas in Engineering  
and Technology (ICIET-18)*



**Keynote Speakers**



**Dr. Ande Murali Varaprasad**

Professor & Director CIGS

### **BIOGRAPHY**

Dr Ande Murali Varaprasad earned his Ph.D. in 1979 from IIT Bombay on Piezoelectric SONAR Technology followed by 3 years of Post Doctoral research experience at Microelectronics & Electrical Engineering Department of Trinity College Dublin, Ireland.

Dr Varaprasad is a reputed DRDO Scientist with 3 decades of experience in the field of Missile Technology at Research Centre Imarat / RCI ie located at Hyderabad. RCI is the brain child of Dr APJ Abdul Kalam and specialises on Avionics, Navigation systems, Control systems, Radar Systems for Agni, Prithvi, Dhanush and Air Defence/AD Missiles.

Dr. Varaprasad has been awarded Japan Matsumae International Foundation medal in 1987 and Materials Research Society of India MRSI medal in 1990. Other notable contributions of Dr Varaprasad include Piezoelectric SONAR systems for Indian Navy while working at NMRL, Bombay, during 1984-88 ie before moving over to RCI Hyderabad.

Dr varaprasad served DRDO for 28 years and retired from DRDO services in 2012. Presently, Dr Varaprasad is Professor of ECE Department at St Ann's College of Engineering & Technology, JNT University, Kakinada involved in teaching and research on Satellite Systems.

**(Dr. Ande Murali Varaprasad)**





**Dr. Vijay Tharad.,**

Director Operations at Corporate Professional Academy

Technical Training & Career Development

Mechanical or Industrial Engineering

**BIOGRAPHY**

Dr. Vijay Tharad is currently Director Operations at Corporate Professional Academy for Technical Training and Career Development and caters to the Technical Training needs of employees of corporate world and provides consultancy services to Universities and Engineering Colleges for Career development of engineering students for smooth switch over from Academic world to corporate culture and work ethics. He has recently retired from Multinational Company Caterpillar India Private Limited after serving them for over 25 years where he was Chief Technical Training consultant for Cat products mainly Diesel Engine, Generator sets and Heavy Earth Moving Machines. Vijay Tharad has an extensive background in diesel engine, modern electronic controlled diesel engine and latest after treatment technology since 1989. He was involved with training thousands of Cat employees and other corporate employees on emission control systems to help diesel and alternative combustion engines meet future regulated limits. He has authored training material on Diesel Emissions and Their Control, a comprehensive handout, and continues to present seminars in diesel engine technology, selective catalytic reduction for diesel engines, and exhaust gas recirculation.

**(Dr. VIJAY THARAD)**

# ICIET -18

## *International Conference on Innovative Ideas in Engineering and Technology*

*Bellary, Karnataka, 12th-13th April 2018*

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- ◆ *Mr. Aladalli Sharanabasappa*, Assistant Professor, EEE Dept

# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
1.	Improvement in Efficiency of Wireless Transmission Using Metamaterials ♣ <i>Dr. Shiva Kumar B</i> ♣ <i>Sushma S M</i> ♣ <i>Bhanu darshan S S</i> ♣ <i>Praveen Kumar C R</i>	1
2.	Earthquake Detection Alert Alarm for People Security ♣ <i>A Hanumantha Rao</i> ♣ <i>Abhishek</i> ♣ <i>A Sai Chand</i> ♣ <i>Sai Ram Y</i> ♣ <i>Baskar Reddy P</i>	2
3.	Paper Battery ♣ <i>B. Kumuda</i> ♣ <i>Ashwini Maheshgouda</i> ♣ <i>B.Divya</i> ♣ <i>Channa Basava</i> ♣ <i>Kiran K P</i>	3
4.	Study on Fresh Properties of Self Compacting Concrete Usnig Ggbs and Plastic Fibers ♣ <i>Chandrashekar V C</i> ♣ <i>Priyanka A</i> ♣ <i>Abhishek M Talageri.</i> ♣ <i>Sanjeev T P</i>	4
5.	Natural Language Programming In Process Control ♣ <i>Dr.S M Shashidhar</i> ♣ <i>Basava Prerana</i> ♣ <i>M Sushma</i> ♣ <i>Raghavendra prasanna</i> ♣ <i>Andigalappa</i>	5
6.	Energy Conservation and Industrial Safety ♣ <i>Mr. Aladalli Sharanabasappa</i> ♣ <i>Bheemashankar.</i> ♣ <i>Bharath.C</i> ♣ <i>Yasmeen</i> ♣ <i>Saipriyanka</i>	6
7.	Garden Leaf Compost Bin – A Waste Management Technique for Renewability ♣ <i>Chetan B C</i> ♣ <i>Goutham G L</i> ♣ <i>Ajay A R</i> ♣ <i>Vivek N.,</i> ♣ <i>Sumangala Patil</i>	7

# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
8.	Sound Dampening Device Using Attenuator ♣ <i>A. Sharanabasappa</i> ♣ <i>Bharathi.K</i> ♣ <i>Saima Sabrin</i> ♣ <i>Keerthi Sree.K.M</i>	8
9.	Wireless Power Transfer for Vehicles ♣ <i>Dr.U.M.Netravati</i> ♣ <i>Gururaj K K</i> ♣ <i>Gachi Lavanya</i> ♣ <i>Farheen Sulthana M</i> ♣ <i>Bounesh</i> ♣ <i>Panduranga G</i>	9
10.	Nutrient Film Technique Hydroponic Monitoring System Based On Wireless Sensor Network ♣ <i>Siddappaji M. R</i> ♣ <i>Darshan M.B</i> ♣ <i>Pooja P.V</i> ♣ <i>Rahul L</i> ♣ <i>Bindhu G</i>	10
11.	Display of Underground Cable Fault Distance over Internet (Iot) Of Things Using GSM ♣ <i>Shambulingangouda</i> ♣ <i>Ashwini.B</i> ♣ <i>Devendramma.C</i> ♣ <i>Shashikala.K</i> ♣ <i>H.M.Sindhuja</i>	11
12.	Thermo Electric Dish Power ♣ <i>Hanumanthareddy</i> ♣ <i>Dheeraj .J</i> ♣ <i>Dilip.A</i> ♣ <i>Shiva kumar. KH</i> ♣ <i>Syed Simran</i>	12
13.	Monitoring of Highway Wind Power Parameter and Controlling Highway Light Through IOT ♣ <i>Siddappaji M. R</i> ♣ <i>Deeksha S</i> ♣ <i>Vybhav N. J</i> ♣ <i>Prashanth S</i> ♣ <i>Sathish kumar N.L</i>	13

# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
14.	A Smart System Connecting E-Health Sensor and Cloud (Iot) ♣ <i>Mrs. Kumuda .B</i> ♣ <i>Bala Krishna .K</i> ♣ <i>Vani .A</i> ♣ <i>Supraja .N</i> ♣ <i>Elisha .P. Cletus</i>	14
15.	Generation of Power Using Railway Track System ♣ <i>Eshrath Fathima</i> ♣ <i>Bibi Sana</i> ♣ <i>Gousiya Banu</i> ♣ <i>Fairoz Begam</i> ♣ <i>Zoya Parvez</i>	15
16.	Structural Optimization of Hydraulic Clamp ♣ <i>Balaraj.V</i> ♣ <i>Mallikarjuna.Y</i> ♣ <i>Dr. Nagaraj Kori</i>	16
17.	Speed Control of Brushless Dc Motor Using Infrared Ray (IR) Sensor Controllers ♣ <i>Girisha K M</i> ♣ <i>Harish S</i> ♣ <i>H Sushma</i> ♣ <i>Geeta K K</i> ♣ <i>H Pavan</i>	17
18.	A Review on Hemp Fiber Reinforced Polymer Hybrid Composites and Its Applications ♣ <i>K G Prakash</i> ♣ <i>Dr.H.K Rangavittal</i> ♣ <i>Dr. A Thimmana Gouda</i>	18
19.	Evaluation and Comparison of LBP and HAAR Algorithms for Face Recognition ♣ <i>Neha P</i> ♣ <i>Mohammed Faizan Bari</i> ♣ <i>Vindhya P Malagi</i>	19
20.	Waterless Washing Machine ♣ <i>Dr. Shiva Kumar</i> ♣ <i>K Murthy</i> ♣ <i>Mohan D.</i> ♣ <i>Yogesh naik N</i> ♣ <i>Megha B</i>	20
21.	Speed Control of Induction Motor Using Cyclo Converter ♣ <i>Kotresh .S</i> ♣ <i>K.S. Nikitha</i> ♣ <i>Nagaveni. A</i> ♣ <i>Kalyan Naik R</i> ♣ <i>Sai kiran Kumar C</i>	21

# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
22.	Automation of Smart Waste Management Using IOT to Support Swachh Bharat Abhiyan ♣ <i>Siddappaji M. R</i> ♣ <i>Poornima J</i> ♣ <i>Pavan B J</i> ♣ <i>Rajshekhar</i> ♣ <i>Shruthi A</i>	22
23.	Structural Optimization of Hydraulic Clamp ♣ <i>Balaraj.V</i> ♣ <i>Mallikarjuna.Y</i> ♣ <i>Dr. Nagaraj Kori</i>	23
24.	Women Safety Security System Using GSM and GPS ♣ <i>Dr Hanumanth Rao</i> ♣ <i>Kavya Shri.G</i> ♣ <i>Kavitha .N</i> ♣ <i>Manasa Devi . Y</i> ♣ <i>Patil Rudra Gowda</i>	24
25.	Automatic Rain Water Harvesting and Electrical Power Generation Using Solar Panel in Agriculture Fields ♣ <i>A. Sharanabasappa</i> ♣ <i>Ramyashree . P</i> ♣ <i>Anitha.C.S</i> ♣ <i>Praveen</i> ♣ <i>Raghavendra.S</i>	25
26.	Induction Generator for Pico Hydro Generation ♣ <i>Swapna.K</i> ♣ <i>Keerthana.M</i> ♣ <i>Divya.P</i> ♣ <i>Gouthami.D</i> ♣ <i>Monika.B</i>	26
27.	PDA for Physically Impaired People Using Li-Fi ♣ <i>S.Prabhavathi</i> ♣ <i>Sai Kavya.C.,</i> ♣ <i>Vijayalakshmi.K</i> ♣ <i>Sreevani.K</i> ♣ <i>Dilip.A</i>	27
28.	Study on Corrosion Behavior of Friction Stir Welded AA 6061 Hybrid Metal Matrix Composite Plates ♣ <i>Sadashiva.M</i> ♣ <i>H.K.Shivanand</i>	28
29.	Multitasking Induction Motor ♣ <i>Smt Anusuya Patil</i> ♣ <i>P Sumanth Shashank</i> ♣ <i>Ajay Kumar Y</i>	29

# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
	<ul style="list-style-type: none"><li>♣ <i>Nikhil A G</i></li><li>♣ <i>Uzra Yasmeen</i></li></ul>	
30.	Power Generation through Speed Breaker <ul style="list-style-type: none"><li>♣ <i>Sri. B. Dodda Basavanagoud</i></li><li>♣ <i>Prashanth D.N</i></li><li>♣ <i>Noor MD. Ayathullah.T</i></li><li>♣ <i>Sharanabasava</i></li><li>♣ <i>Rahul Rao MJ</i></li></ul>	31
31.	Analysis of Hybrid Renewable Energy System in RYMEC, BELLARY <ul style="list-style-type: none"><li>♣ <i>Dr.S B Shivakumar</i></li><li>♣ <i>SampathKumar.V.Patil</i></li><li>♣ <i>Harish A M</i></li></ul>	31
32.	Energy Management and Control Systems for Hybrid Wind-Solar Energy System with Battery Storage <ul style="list-style-type: none"><li>♣ <i>Sri Hanumantha Reddy</i></li><li>♣ <i>Megha .M.K</i></li><li>♣ <i>Roja.T</i></li><li>♣ <i>Rekha A.M</i></li><li>♣ <i>Roopa A.M</i></li></ul>	32
33.	IoT Based Intellingent Management System of Agriculture Green House <ul style="list-style-type: none"><li>♣ <i>Ragavendra Prasad</i></li><li>♣ <i>Santhosh</i></li><li>♣ <i>Meghanath</i></li><li>♣ <i>Vinaya shree JM</i></li><li>♣ <i>Ravi chandra</i></li></ul>	33
34.	Investigation on Hardness Properties of Friction Stir welded AA 2024 Hybrid Metal Matrix Composite Plates <ul style="list-style-type: none"><li>♣ <i>Sadashiva.M</i></li><li>♣ <i>H.K.Shivanand</i></li></ul>	34
35.	Next Battle of World War Is Due To Electrical Power Based On Renewable Power eneration In India <ul style="list-style-type: none"><li>♣ <i>Shashidhar R</i></li><li>♣ <i>Hajivali D</i></li><li>♣ <i>Azam Pasha</i></li></ul>	35
36.	Fault Tolerant and Scalable Iot Based Architecture for Health Monitoring <ul style="list-style-type: none"><li>♣ <i>Mr.Shridhar S Bilagi</i></li><li>♣ <i>Pavithra S M</i></li><li>♣ <i>Ranya R</i></li><li>♣ <i>Renuka</i></li><li>♣ <i>Sindhuja S R</i></li></ul>	36



# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
37.	Performance and Emission Evaluation of Diesel Engines Fuelled with Coconut Biodiesel and Diesel Fuel ♣ <i>Dr. Hiregoudar Yerrennagoudaru</i> ♣ <i>Chandragowda M</i> ♣ <i>Hanumanth</i>	37
38.	Internet of Things (IoT) ♣ <i>Hanumanthareddy</i> ♣ <i>Naga Bharathi. K</i> ♣ <i>Ganjigara Srikavya</i> ♣ <i>Taiseen Kausar. K</i> ♣ <i>Leha. C</i> ♣ <i>K. Reshma Begum</i>	38
39.	Nano Leaves Application Intelligent Wireless Street Lighting System ♣ <i>Sir. Doddabasavana Goud</i> ♣ <i>Sudha.M.R</i> ♣ <i>Sundhu Nayaka.A.N</i> ♣ <i>Renukamma</i>	39
40.	Re-Engineered Beam Design & Evaluation to Sustain High Impact for Mid -Size Four Wheeler's Using Finite Element Analysis: A Case-Study ♣ <i>Gopi S</i> ♣ <i>K Vinoi Mahadeva</i>	40
41.	Smart Grid Infrastructure Using Hybrid Network Architecture ♣ <i>Sujayeendra k</i> ♣ <i>Shrikanth</i> ♣ <i>Sreekanth D</i> ♣ <i>Suma D</i>	41
42.	Microcontroller Based Charge Controller for Pv Applications ♣ <i>Eliya Sundharam H M</i> ♣ <i>Anusha G</i> ♣ <i>Sandhya A</i> ♣ <i>Raghavendra R M</i> ♣ <i>Surendra N</i> ♣ <i>Dr.U.M.Netravati</i>	42
43.	Analysis of Speed Control of DC Motor using Various Controllers ♣ <i>Nagaraja Rao</i> ♣ <i>Dr.Shantharama Rai. C</i>	43

# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
44.	Transformer Health Condition Monitoring in Industry ♣ <i>Mr.Lingangouda.R</i> ♣ <i>Tasmiya Rahil V</i> ♣ <i>Tasleem</i> ♣ <i>Shailaja.V</i> ♣ <i>Rizwana shaik</i>	44
45.	Spectrum Sensing Techniques in Cognitive Radio ♣ <i>Uppara Vasavi</i> ♣ <i>Y V Sushma</i> ♣ <i>Uma Nageshwari P S</i> ♣ <i>V Ashwini</i> ♣ <i>MR. Surendranath H</i>	45
46.	Design of long wire Interconnects using MTCMOS Repeater with Low Power and Delay constraints ♣ <i>Ravi S. Hotkar</i> ♣ <i>Saroja V. Siddamal</i>	46
47.	Child Rescue System against Open Bore-Wells at Agricultural Fields in India ♣ <i>Shambulingana Gouda</i> ♣ <i>Varsha G</i> ♣ <i>Thriveni P</i> ♣ <i>Vijay B itigi</i> ♣ <i>Yunus Ahmed</i>	47
48.	Review of Speed Control of DC Motor using Various Controllers ♣ <i>Rushali Naik</i> ♣ <i>Suraksha</i> ♣ <i>Vishal A. Bhat</i> ♣ <i>Nagaraja Rao</i> ♣ <i>Raghavendra Rao</i>	48
49.	Automatic Dual Line Lubrication System Using Programmable Logic Controller ♣ <i>Sharath S</i> ♣ <i>Dr. Sudarshan Patilkulkarni</i>	49
50.	Clean Electricity ♣ <i>Smt.Anusuya Patil</i> ♣ <i>Venkatesh.M.</i> ♣ <i>Shubha.Y.M</i> ♣ <i>Rabiya</i> ♣ <i>Sujay naik.M.S</i>	50
51.	Gait Analysis for Possible Ulcerations using Smartphone ♣ <i>Mrs. A.Bhargavi Haripriya</i> ♣ <i>Srinidhi Ganesan</i> ♣ <i>Mohana Saha</i>	51

# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
52.	Automatic Back-Wash Filtering System ♣ <i>Supriya L C</i> ♣ <i>Mrs. Gayatri H M</i> ♣ <i>Dr. Gayathri S</i>	52
53.	Assistance for Borewell Victim ♣ <i>Dr. Gayathri S</i> ♣ <i>Sara Anjum</i> ♣ <i>Shreyas Hosur</i> ♣ <i>Shrimanth</i> ♣ <i>Sumithra P S</i>	53
54.	Review Study on Solar Roadways ♣ <i>Jeevan J Achari</i> ♣ <i>K Adith Holla</i> ♣ <i>Adarsha Hebbar</i> ♣ <i>Sourabh M Revankar</i>	54
55.	Coin Based Universal Mobile Battery Charger ♣ <i>Dr.S B Shivakumar</i> ♣ <i>Vijayalakshmi V S</i> ♣ <i>Sushmita Mannangi</i> ♣ <i>Varsha Sankannanavar</i>	55
56.	Economic Dispatch using a simple Probabilistic Method, a case Study of Karnataka Power Grid ♣ <i>Hanumantha Rao A</i> ♣ <i>K. Vijaya Bhaskar Reddy</i>	56
57.	Controlling a Robotic Arm Using Haptic ♣ <i>Dr.S.Prabhavathi</i> ♣ <i>Divya A</i> ♣ <i>Gurushruthi G.T</i> ♣ <i>H.Yogaraj</i> ♣ <i>Harshitha K.R</i>	57
58.	Leaf Disease Detection Using Raspberry PI ♣ <i>Dr M Rajeswari</i> ♣ <i>Pooja S, Likitha R</i> ♣ <i>Rachana C</i> ♣ <i>Shashank V</i>	58
59.	Simple Floor Cleaning Robot ♣ <i>Dr. U.M.Netravati</i> ♣ <i>Sandeep Reddy KS</i> ♣ <i>Anand Sagar K</i> ♣ <i>Hanumesh K.,</i> ♣ <i>Divya KJ</i>	59

# CONTENTS

S.NO	TITLES AND AUTHORS	PAGE NO
60.	Wireless Transmission System to Active Load ♣ <i>K. Raghavendra prasad</i> ♣ <i>Urukundappa .C</i> ♣ <i>Manjunath. B</i> ♣ <i>Sonia K.J</i> ♣ <i>Sushma. G</i>	60
61.	Ontology of Direction of Arrival Estimation Methods Based On Bias, Resolution, Variance, SNR & Performance ♣ <i>Awab Habib Fakih</i> ♣ <i>Dr.S.M.Shashidhara</i>	61
62.	Iot Based Smart Garbage and Waste Collection Bin ♣ <i>Varun B</i> ♣ <i>Shambunath D M</i> ♣ <i>Vishwaradhya C M</i> ♣ <i>Hemavathi</i>	62

**ICIET - 18**

*International Conference on  
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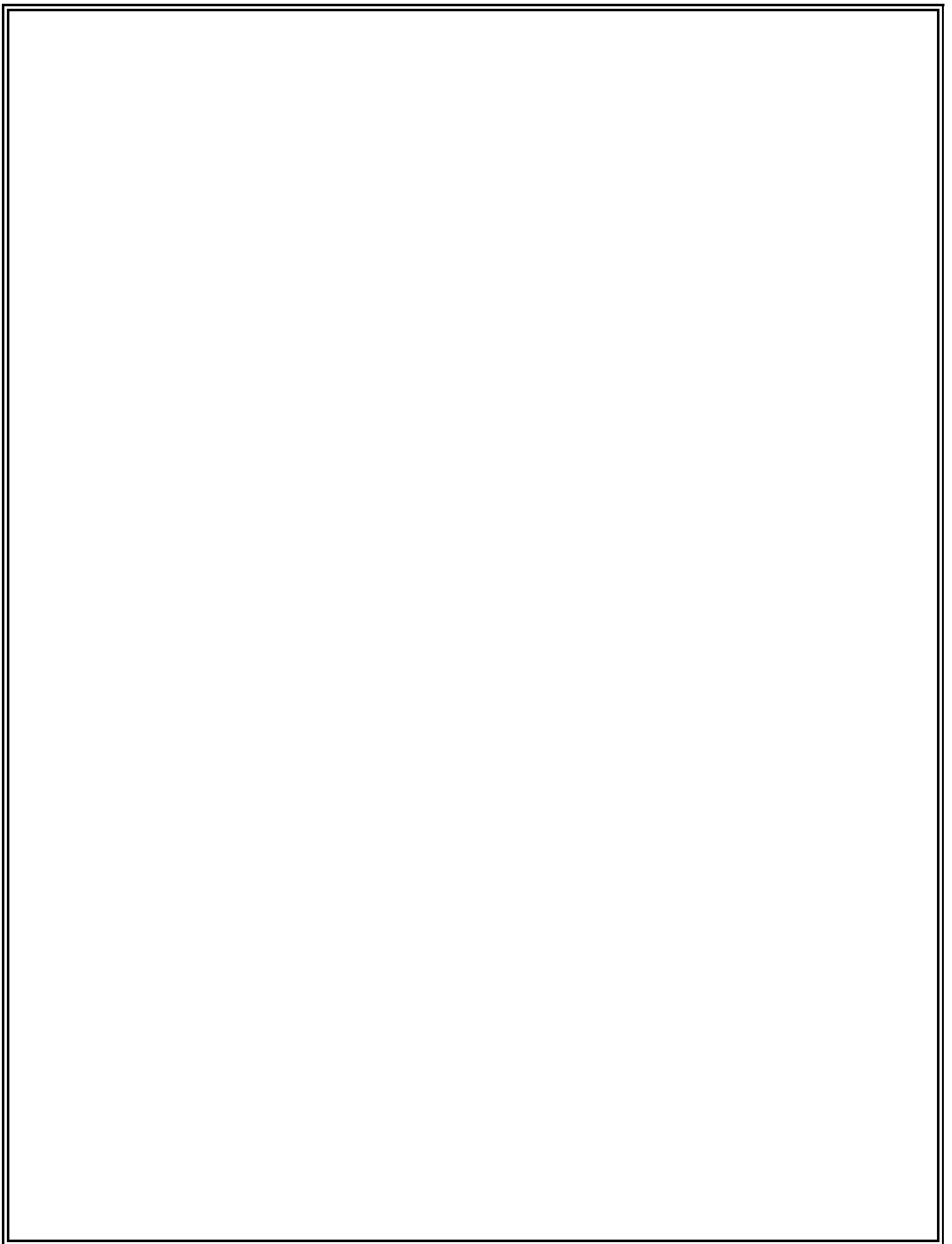
**Bellary, Karnataka  
12<sup>th</sup> – 13<sup>th</sup> April 2018**

**ABSTRACTS**

**ICIET - 18**

**Organized by**

**Rao Bahadur Y Mahabaleswarappa Engineering College  
and  
Institute For Engineering Research and Publication (IFERP)**



# *International Conference on Innovative Ideas in Engineering and Technology*

Bellary, Karnataka, 12<sup>th</sup> - 13<sup>th</sup> April 2018

## Improvement in Efficiency of Wireless Transmission Using Metamaterials

**Dr. Shiva Kumar B.**, Professor RYMEC BELLARY

**Sushma S M.**, Asst.Prof. SIR MVIT B'LORE

**Bhanu darshan S S.**, EEE DEPT SIR.MVIT

**Praveen Kumar C R.**, EEE DEPT SIR.MVIT

### ***Abstract:--***

A wireless power transmission (WPT) is one of the transmissions in modern era which is undergoing with lots of research and has been employed in many applications, including wireless charging of portable electronic devices, electrical vehicles & powering on of implanted bio medical devices. This WPT uses magnetically coupled resonant circuit to transmit the power without using any wiring medium. However, transmission efficiency decreases sharply due to the divergence of magnetic field, especially under coupled regions. Electromagnetic Meta material can manipulate the direction of electromagnetic fields due to its abnormal effective permittivity or permeability. Here in this paper, we are going to show the designing of metamaterial and its simulation results. A split ring resonator type meta material is employed to enhance the power transmission. The designing of Metamaterials is done through software and got the simulated results with 13.5 GHz and results are obtained and demonstrated on this paper.

### ***Keywords:--***

Metamaterials, split ring resonator, Wireless power transmission

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# *International Conference on Innovative Ideas in Engineering and Technology*

*Bellary, Karnataka, 12<sup>th</sup> - 13<sup>th</sup> April 2018*

## **Earthquake Detection Alert Alarm for People Security**

**A Hanumantha Rao.,** Associate.. Prof, EEE Dept, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA

**Abhishek .,** 8th Sem, EEE Dept, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA

**A Sai Chand.,** 8th Sem, EEE Dept, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA

**Sai Ram Y.,** 8th Sem, EEE Dept, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA

**Baskar Reddy P.,** 8th Sem, EEE Dept, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA

### ***Abstract:--***

An earthquake (also known as a tremor or temblor) is the result of a sudden release of energy in the Earth's crust that creates seismic waves. Earthquakes are recorded with a seismometer, also known as a seismograph. The moment magnitude of an earthquake is conventionally reported, or the related and mostly obsolete Richter magnitude, with magnitude 3 or lower earthquakes being mostly imperceptible and magnitude 7 causing serious damage over large areas. Intensity of shaking is measured on the modified Mercalli scale. Here we are presenting Microcontroller based An Earthquake Detection using Sensing Element to reduce its destructive losses. In this project we can alert the people who live in earth prone area by using MEMS technology. In this we have two sections. One is NODE section and another section is MONITOR section. When the earth quake is going to occur, MEMS observes the motion and the values are given to microcontroller. This information is transmitted to the MONITOR section using RF transmitter. At MONITOR section RF receiver receives the data and that is given to microcontroller. If the motion values increases threshold level then automatically BUZZER will on at the MONITOR section.

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## Paper Battery

**B. Kumuda.,** Assistant prof, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Ashwini Maheshgouda.,** 8th sem , Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**B.Divya.,** 8th sem , Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Channa Basava.,** 8th sem , Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Kiran K P.,** 8th sem , Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### *Abstract:--*

As now technology is improving today's biggest problem faced by the electronics industry is the size of materials used in the devices as weight creates an obstacle. We are dealing with the size of the battery as gadgets gets thinner and smaller day by day, size of the battery should be reduced. To overcome this problem 'Paper Battery' presents ultimate solution. The paper battery is literally a conducting paper with lot of power involved in it. Detailed construction of paper battery is explained in this paper and it also contains possible applications which could change our lives. Since paper battery uses nanotechnology, any health risks can be evaluated especially for medical applications. However the paper battery is promising innovation whose efficient use of space will open up thousands of possibilities for electronics designs.

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## **Study on Fresh Properties of Self Compacting Concrete Usnig Ggbs and Plastic Fibers**

**Chandrashekar V C.**, Assistant Professor, Dept. of Civil Engineering, Dayananda Sagar College of engineering Bangalore, Karnataka, India

**Priyanka A.**, Assistant Professor, Dept. of Civil Engineering, Dayananda Sagar College of engineering Bangalore, Karnataka, India

**Abhishek M Talageri.**, Assistant Professor, Dept. of Civil Engineering, Dayananda Sagar College of engineering Bangalore, Karnataka, India

**Sanjeev T P.**, Assistant Professor, Dept. of Civil Engineering, Dayananda Sagar College of engineering Bangalore, Karnataka, India

### ***Abstract:--***

The addition of fibers into self-compacting concrete will take advantages of its high performance in the fresh state to achieve more uniform dispersion of fibers which is critical for a wide and reliable structural use of fiber reinforced cement composites. The addition of discrete fibers with adequate mechanical properties, in to concrete matrix improves several properties such as toughness, increase resistance to fatigue, impact and blast loading, reduce spalling of the reinforcement cover and improve abrasion resistance and flexural and shear strength. The extent to which fibers contribute to each mechanical and durability characteristics depend on many factors including fiber type, configuration, length and volume, water-cementations material ratio and other mixture parameters. Many type of fibers like plastic or polymeric fibers, glass fibers, steel fibers, carbon fibers and natural fibers like bast or stem, leaf fibers, fruit fibers and wood fibers can be used in fiber reinforced concrete. Plastic which is a non-biodegradable material neither decays nor degenerates completely in water or in soil. Plastic when burnt releases many toxic gases which is not only dangerous to health of living beings but also results in environmental pollution. Such plastics can be used in concrete in the form of fibers to impart some additional desirable qualities to the concrete and also reduce the environmental pollution. In the present study different mix design trials are done to know the best mix proportion for the self compacting concrete with plastic fibers. The plastic fibers will be varied in self compacting concrete by 0%,0.25%,0.5%,0.75%,1%,1.1%,1.2%,1.3% percentage & their respective fresh properties are studied. From the studies it is conclude that 1% of Plastic fibers in self compacting concrete will gives good strength in scc.

### ***Key words:--***

SCC, fresh properties of self compacting concrete, plastic fibres.

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## Natural Language Programming In Process Control

**Dr.S M Shashidhar.,** ASS PROF, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Basava Prerana .,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**M Sushma.,** 8th sem ,Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Raghavendra prasanna.,** 8th sem ,Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Andigalappa.,** 8th sem ,Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### ***Abstract:--***

This paper addresses the opportunities and challenges involved in applying modern approach. A model to realize a natural language interface for process control is described. The interface accepts natural language input and it is translated to a form that can activate concerned process controller to start up motorized valve while monitoring associated sensors .The interface can be reconfigured to suit changes in process without altering program thus eliminating the tiring task of reprogramming. The field of natural language programming is trending and creating more interest on electrical, electronics and computer science. Monitoring and controlling a process has been an integral part of any industry. Every process control system consists of process and relevant control equipment. Modern process control systems are controlled by computers. Parameters of such as temperature, Pressure etc are monitored using set of relevant sensors which are interfaced to Computers. Based on information acquired from sensory inputs computer does job of running a program.

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## Energy Conservation and Industrial Safety

**Mr. Aladalli Sharanabasappa.,** Assistant Professor, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Bhemashankar.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Bharath.C.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Saipriyanka.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Yasmeen.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### **Abstract:--**

In thermal power plant it's difficult to maintain the steam drum level continuously so to maintain the level motor has to run continuously, if motor is run the power will be utilizing to maintain the drum level so motor to be run in auto mode based on the level it's planned to execute the project for consumption of power by maintaining the drum level in real application will be maintained through pid[1] block using the plc[2] logic, for demonstration we are making use of small DC motor pump along with dc motor driver. In every industry silo bunker are used to store the raw material such as coal conveyed from the conveyor, silo is in cone shape bunker at bottom of it. Here for cleaning the wet sticky material which is struck on the walls and opening, workers are getting into it so, here care to be taken that no conveyor should not operate until the persons under Working by any means. so here we are going to demonstrate that using motion sensor and motor control unit going to turn off the motor according the motion detection and show that how the chances of risk can have avoided. The radioactive source such as x-rays and laser[3] are harmful to human beings and no one should exposed to it and nearby it, but for the measurement of quality of the steel strip this source are necessary, we here demonstrating that laser source will turn OFF when a worker is come in contact with source. This can be implement in real time application by using suitable motion detector and plc logic, for demonstration purpose we using pir[4] sensor and laser source.

### **Key words:--**

[1] pid: proportional integral controller, [2] plc: programming logic controller, [3] laser: light amplification by simulated emission of radiation, [4] pir: passive infrared sensor.

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## Garden Leaf Compost Bin – A Waste Management Technique for Renewability

**Chetan B C.,** Students, Department of Mechanical Engineering, M S Engineering College, Bengaluru

**Goutham G L.,** Students, Department of Mechanical Engineering, M S Engineering College, Bengaluru

**Ajay A R.,** Students, Department of Mechanical Engineering, M S Engineering College, Bengaluru

**Vivek N.,** Students, Department of Mechanical Engineering, M S Engineering College, Bengaluru

**Sumangala Patil.,** Assistant Professor, Department of Mechanical Engineering, M S Engineering College, Bengaluru

### ***Abstract:--***

Composting has been used as a means of recycling organic matter back into the soil to improve soil structure and fertility. The composting process has received much attention in recent years because of pollution concerns and the search for environmentally sound methods for treating waste. Waste volumes continue to rise, which leads to loss of resources and increased environmental risks. Open dumping and sanitary landfill is a major method for waste disposal. This paper focuses on a better composting method. In the presence of oxygen, microorganisms consume organic matter and release heat and carbon dioxide; resulting in compost. To reduce this environmental risks a mesh wire (coated with epoxy) composting bin with churning mechanism has been made in order to convert green waste (leaves, vegetable waste) into compost. Processing of waste will result in a finished product that will allow the replacement of fertilizers and pesticides.

### ***Key words:--***

Composting, garden waste, green waste (leaves, vegetable waste, plant waste), mesh wire compost bin, churner.

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## Sound Dampening Device Using Attenuator

**A. Sharanabasappa.,** Assistant Professor, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Bharathi.K.,** 6th sem ,Department of Information Technology, Maharashtra Institute of Technology, Pune, India

**Saima Sabrin.,** 6th sem ,Department of Information Technology, Maharashtra Institute of Technology, Pune, India

**Keerthi Sree.K.M.,** 6th sem ,Department of Information Technology, Maharashtra Institute of Technology, Pune, India

### ***Abstract:--***

Sound pollution is universal in both developing and developed countries. sound pollution is a major problem which has its harmful impacts on both humans and animals life. The various sources of sound pollution are industries, traffics, vehicles, festivals etc., All these sources affect harmony of every individual and causes various health issues. It also affect the psychological health. It creates the rift between various religious groups by means of their religious practice of listening loud music in temples, mosques etc., Which is also uncomfortable to students and senior citizens. Sound pollution should be controlled to ensure better living for every beings on this Earth, reduce the upcoming health issues and to avoid the society becoming deaf and dumb. "sound dampening device" ensure's to eliminate the above stated problems. This device basically work on the principle of attenuator. The device is reliable as user can decide the amount of volume to delivered at the output. This device find its scope in premises near temple, mosque etc., Where loud music is encouraged, easy to install can be mounted on wall, wireless, Noise pollution can be reduced to an extent.

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## Wireless Power Transfer for Vehicles

**Dr.U.M.Netravati.,** prof & HOD, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Gururaj K K.,** Associate prof & Placement officer, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Gachi Lavanya.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Farheen Sulthana M.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Bounesh.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Panduranga G.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### **Abstract:--**

Wireless power transfer using magnetic resonance is the technology which could set human free from the annoying wires. In fact, the Wireless Power transfer adopts the same basic theory which has already been developed for at least 30 years with the term inductive power transfer. Wireless Power transfer technology is developing rapidly in recent years. At kilowatts power level, the transfer distance increases from several millimeters to several hundred millimeters with a grid to load efficiency above 90%. The advances make the Wireless Power transfer very attractive to the charging applications in both stationary and dynamic charging scenarios. This paper reviewed the technologies in the Wireless Power transfer area applicable to wireless charging. Idea of wireless power transfer originated from the inconvenience of having too many wires sharing a limited amount of power sockets. We believe that many people have the same experience of lacking enough sockets for their electronic devices. Thus by creating a wireless power transfer system, it would help clean up the clutter of wires around power sockets making the space more tidy and organized.

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## **Nutrient Film Technique Hydroponic Monitoring System Based On Wireless Sensor Network**

**Siddappaji M. R.**, Asst. Prof, Dept. of EEE, SIET, Tumakuru.

**Darshan M.B.**, UG Students, Dept. of EEE, SIET, Tumakuru..

**Pooja P.V.**, UG Students, Dept. of EEE, SIET, Tumakuru.

**Rahul L.**, UG Students, Dept. of EEE, SIET, Tumakuru

**Bindhu G.**, UG Students, Dept. of EEE, SIET, Tumakuru

### ***Abstract:--***

Hydroponic is one of the farming method without soil, but it uses water that contain nutrition. Nutrient solution is very important to define the successful of hydroponic cultivation. One of hydroponic technique is Nutrient Film Technique (NFT). System NFT uses nutrient solution to drain on the root area. pH level which is good for lettuce is 6.0-6.5, meanwhile the Electrical Conductivity (EC) level which is suggested is 0.8-1.2. Factor of pH and EC need to monitor 24 hours during the growth period. Hydroponic system requires wide area. However, in urban areas, the hydroponic green house can't get a wide area only in one place. This system is used to solve the problem in the real time monitoring lettuce cultivation hydroponic NFT. The method in this system contains communication, planning, modelling, construction, and socialization. The result of experiment shows that pH sensor has an error level of difference is 0.4. There is an error of sensor Analog Electrical Conductivity Meter, that is 5.1 ms/cm.

### ***Key-words:-***

EC, NFT, pH.

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## Display of Underground Cable Fault Distance over Internet (Iot) Of Things Using GSM

**Shambulingouda.,** Associate Prof, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Ashwini.B.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Devendramma.C.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Shashikala.K.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**H.M.Sindhuja.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### **Abstract:--**

The objective of this project is to determine the distance of underground cable fault from the base station in kilometers. Underground cable system is a common practice followed in major urban areas. While a fault occurs for some reason, at that time the repairing process related to that particular cable is difficult due to exact unknown location of the fault in the cable. Proposed system is used to find out the exact location of the fault and to send an SMS with details to a remote mobile phone using GSM module. The project uses the standard theory of Ohms law, i.e., when a low DC voltage is applied at the feeder end through a series resistor (Cable lines), then the current would vary depending upon the location of the fault in the cable as the resistance is proportional to the distance. In case there is a short circuit (Line to Ground), the voltage across series resistors changes according to the resistance that changes with distance. This is then fed to an ADC to develop precise digital data which the programmed microcontroller of the 8051 family displays in kilometers. The project is assembled with a set of resistors representing the cable length in km and the fault creation is made by a set of switches at every known km to cross check the accuracy of the same. The fault occurring at a particular distance, the respective phase along with the distance is displayed on the LCD. The same information is also sent to the concerned authority mobile phone over GSM, interfaced to the microcontroller. Furthermore, this project can be enhanced by using capacitor in an AC circuit to measure the impedance which can even locate the open circuited cable, unlike the short circuited fault that uses only resistors in DC circuit as followed in the above proposed project.

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## Thermo Electric Dish Power

**Hanumanthareddy.,** Asst Prof , EEE Dept, RYMEC, Ballari.

**Dheeraj .J.,** 6th sem, EEE Dept, RYMEC

**Dilip.A.,** 6th sem, EEE Dept, RYMEC

**Shiva kumar. KH.,** 6th sem, EEE Dept, RYMEC

**Syed Simran.,** 6th sem, EEE Dept, RYMEC

### ***Abstract:--***

In these days of modern technical world, the electricity is needed for everything from our basic needs to luxurious needs. With the advent of digital television and high definition broadcast, television setup boxes have become basic needs of houses today. So, in this paper we are presenting the idea of saving and generating electricity for our daily requirements. Here we are using dish antenna for two purposes like to receive T.V. signals, to generate electricity with the help of heat trapped by thermoelectric paint, painted on dish surface. From previous discoveries, it was found that 30% of dish antenna is sufficient to receive a good quality signal, and the rest of 70% is used for generation of electric power by the help of thermoelectric paint. The thermoelectric paint is responsible to produce electric power of 4mW/cm<sup>2</sup>. The heat received on surface of dish antenna is responsible for generation of power. A battery can also be connected across the terminals to get charged up. It is a clean green source of energy..

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## Monitoring of Highway Wind Power Parameter and Controlling Highway Light Through IOT

**Siddappaji M. R.**, Asst. Prof, Dept. of EEE, SIET, Tumakuru.

**Deeksha S.**, UG Students, Dept. of EEE, SIET, Tumakuru

**Vybhav N. J.**, UG Students, Dept. of EEE, SIET, Tumakuru

**Prashanth S.**, UG Students, Dept. of EEE, SIET, Tumakuru

**Sathish kumar N.L.**, UG Students, Dept. of EEE, SIET, Tumakuru

### ***Abstract:--***

In the proposed work the wind turbines is designed to produce wind energy from the highway due to rapid move of vehicles. The fast growing source of energies are wind and solar. In this we are using the wind energy as it is freely available everywhere. Due to the movement of vehicles, the wind energy is enormously produced on the highways which are unused. So, we can make use of this energy to produce power and to overcome some problems of electricity. Now, we can place the windmill or wind turbines at the mid of the highway, because it can generate the energy when the vehicles move on the both sides. The generated power is used for nearby streetlights. All this parameters are controlled and monitored through IOT from the base station.

### ***Keywords:--***

IOT, M2M, LCD

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## **A Smart System Connecting E-Health Sensor and Cloud (Iot)**

**Mrs. Kumuda .B.**, Assistant Prof , EEE Dept, RYMEC, Ballari.

**Bala Krishna .K.**, 8th sem, EEE Dept, RYMEC

**Vani .A.**, 8th sem, EEE Dept, RYMEC

**Supraja .N.**, 8th sem, EEE Dept, RYMEC

**Elisha .P. Cletus.**, 8th sem, EEE Dept, RYMEC

### ***Abstract:--***

This presents the model and implementation of an e-health smart networked system. The system is designed to prevent delays in the arrival of patients' medical information to the healthcare providers, particularly in accident and emergency situations. The engineering for this system is based on medical sensors which measures patient physical parameters. These sensors transfer data from patients' body over the wireless network to the cloud environment. IOT is a system that connects physical objects, people etc to the internet by assigning an IP address (IPV6) to everything on the earth. We urge a smart health monitoring system whereby IOT technology is implemented to monitor the health status of the patient and alert the doctor in case of emergency and cloud computing to store the information. Glucose meter, sphygmomanometer, heartbeat sensor, MEMS sensor, electromyography sensor, airflow sensor, ECG sensor, pulsioximeter to monitor patients' health. We use Raspberry Pi 3 model to collect data from various respective sensors and display them on the web page in real time. Therefore, the e-health smart system support by providing real-time data gathering, eliminating manual data collection, enabling to monitor numbers of patients..

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## Generation of Power Using Railway Track System

**Eshrath Fathima.,** 8th sem, EEE Dep, RYMEC

**Bibi Sana.,** 8th sem, EEE Dept, RYMEC

**Gousiya Banu.,** 8th sem, EEE Dept, RYMEC

**Fairoz Begam.,** 8th sem, EEE Dept, RYMEC

**Zoya Parvez.,** Assistant prof, EEE Dept, RYMEC

### ***Abstract:--***

In this paper, we are generated power by energy harvesting arrangement simply running on the railway track for power applications. Today there is a need of Non-conventional energy system to our nation. The energy obtain from railway track is one source of to generate non conventional energy because there is no need of fuel as a input to generate the output in the form electrical power and these is done by using simple gear drive mechanism. These mechanism carries the flap, rack and pinion, gears, freewheel, flywheel, DC generator, battery. The main focus of this arrangement is the harvesting large amount of power from railway track which can be used to power the track side infrastructures which has power rating up 8 to 10 watts or more..

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## Structural Optimization of Hydraulic Clamp.

**Balaraj.V.**, VTU, Belgaum/RYM Engg College,Ballari

**Mallikarjuna.Y.**, VTU, Belgaum/RYM Engg College,Ballari

**Dr. Nagaraj Kori.**, VTU, Belgaum/RYM Engg College,Ballari

### *Abstract:--*

Hydraulic clamping is preferred because it is flexible and simple to construct and operate. In the view of initial clearance a large deformation is required. Once disk deforms the clearance is eliminated and the engagement takes place. Any further hydraulic pressure gives the clamping force. The device must under take large deformation more than 200 microns and still the stress should be with in allowable limits. Otherwise induced stress goes beyond the yield limit and clamp will fail permanently. Criticality in design: In view of the large deformation, the clamp can get into large induced stress and cracks. It has to operate at a nominal hydraulic pressure. Thickness of the clamp members needs to be optimized, keeping in view of deformation and permissible stresses. FEM solution is used for design and optimization to compute the deflection field, stress field using iteration process and an optimum solution is obtained for better clamping device with allowable deflection and stresses. Also modal analysis is carried out to check the resonance condition of the hydraulic clamp for the working frequency of 100Hz. Results show safety of the hydraulic clamp for resonance as obtained natural frequencies are more than 30% away from the operating frequency.

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## Speed Control of Brushless Dc Motor Using Infrared Ray (IR) Sensor Controllers

**Girisha K M.,** MTech Student G.H.Raisoni College of Engineering & Management.

**Harish S.,** Asst.. Prof, EEE Dept, RYMEC, BALLARI

**H Sushma.,** 8th Sem, EEE Dept, RYMEC, BALLARI

**Geeta K K.,** 8th Sem, EEE Dept, RYMEC, BALLARI

**H Pavan.,** 8th Sem, EEE Dept, RYMEC, BALLARI

### ***Abstract:--***

Brushless DC (BLDC) motor speed control using Infrared Ray (IR) sensor is presented in this paper. Because of various advantages of BLDC motors over conventional DC motors the brushless DC motors are widely used. Fast and accurate speed responses of the system, quick recovery of speed from any disturbance and sensitivity to motor parameters are the requirements of the high speed motor. Operations of the motor at proper reference speed IR sensors are used. High control accuracy, increased efficiency, adaptability, decreased startup time and increased starting torque benefits can be attained in the present system. In the present work IR sensors are used for the speed control of BLDC motors. IR sensor connected to microcontroller unit is used to control the motor speed and know the motor live speed on LCD. Microcontroller automatically takes necessary action like speed control, etc. There will be a particular format that needs to be set the speed and get the speed from the BLDC motor. The Microcontroller used is programmed using Embedded C language. The “BLDC motor speed Synchronizer” using PIC16F73 microcontroller is an exclusive project which is used to control speed and direction of BLDC motor using IR SENSOR and PWM technique. BLDC motor status will display on LCD.

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## A Review on Hemp Fiber Reinforced Polymer Hybrid Composites and Its Applications

**K G Prakash.,** Assistant Professor, Department of Mechanical Engineering, RYMEC, Bellary, Karnataka, India.

**Dr.H.K Rangavittal.,** Professor, Department of Mechanical Engineering, BMS college of Engg, Bangalore, Karnataka, India.

**Dr. A Thimmana Gouda.,** Professor, Department of Mechanical Engineering, RYMEC, Bellary, Karnataka, India.

### ***Abstract:--***

Natural Fiber Reinforced Hybrid Composites have become essential part of today's materials owing to advantages such as low weight, high static and fatigue strength, corrosion resistance etc. An effort is made in this review article is to provide a comprehensive review of the appropriate as well as widely used natural fiber reinforced polymer hybrid composites (NFPHCs) and their applications. In this review article a work is carried to know the facts and applications of hemp fibers/fabrics when the composites are subjected to different tests and investigating the different properties and performance of the composites and incorporating the filler materials which is having low density and easily available material are reviewed. The applications of NFPHCs in Automobile and Construction industry and other applications are studied. It concluded that chemical treatment of the natural fiber improved adhesion between the fiber surface and the polymer matrix which ultimately enhanced physic mechanical and thermo chemical properties of the NFPHCs. Thus replacing conventional materials in making Aircraft and spacecraft structures, Automobile parts, Electronic packaging and medical equipments.

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## Evaluation and Comparison of LBP and HAAR Algorithms for Face Recognition

**Neha P.**, Department of CSE, Dayananda Sagar College of Engineering, Bangalore.

**Mohammed Faizan Bari.**, Department of CSE, Dayananda Sagar College of Engineering, Bangalore

**Vindhya P Malagi.**, Department of CSE, Dayananda Sagar College of Engineering, Bangalore

### ***Abstract:--***

Face detection for various purposes like fraud detection in passports, voting, audience attendance marking system etc face many challenges. In this paper we throw light on the face detection algorithms of LBP and HAAR with respect to face recognition. Based on the surveyed techniques, the proposed work evaluates the most promising algorithm and its associated cascades. Accordingly, here the LBP and HAAR algorithms along with their cascades have been explored in detail and the best strategy to go about this situation is identified.

### ***Key words:--***

Face detection, face recognition, cascade classifiers, features, visual descriptor.

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## Waterless Washing Machine

**Dr. Shiva Kumar.,** Prof, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

**K Murthy.,** 8th sem, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

**Mohan D.,** 8th sem, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

**Yogesh naik N.,** 8th sem, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

**Megha B.,** 8th sem, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

### ***Abstract:--***

This research paper details the development of water-less washing machine. This project is used for domestic and commercial purpose to clean the cloths automatically. When it is turned ON, it eliminates the stain by locking into thermo molecular structure of the polymer and also dries the cloths. The machine achieves its objective by using nylon polymer beads instead of detergent, which can be recycled for several wash cycles. This real time model can be implemented to benefit the mankind. At first glance the water-less washing machine appears to be typical laundry hardware. But, the front loading door is reminiscent of a highly efficient washing machine and its controls are designed to be familiar to a first time user. As the product saves water, which is the utmost need of human being, also saves time & less efforts are required to use it. So it is an Eco-Friendly machine.

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## Speed Control of Induction Motor Using Cyclo Converter

**Kotresh .S.**, Asso Prof, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

**K.S. Nikitha.**, 8th sem, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

**Nagaveni. A.**, 8th sem, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

**Kalyan Naik R.**, 8th sem, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka.

**Sai kiran Kumar C.**, 8th sem, eee department, rao bahadury, Mahabaleswarappa engineering college, ballari, karnataka

### **Abstract:--**

Induction motors are extensively used machine in various industries due to its reliability. It is a practically constant speed machine the difficulty of varying its speed economically constitutes one of its main disadvantages. This drawback can be solved using a thyristor controlled cycloconverter that enables the speed to be decreased in steps by microcontroller triggering a SCR bank. VFD approach is an efficient technique employed in industrial motors. It is a type of adjustable speed drive used in electromechanical drive systems to control the motor speed and torque by varying its input frequency and voltage. VFD provides the advantages of more efficient energy management as well as better accuracy and flexibility in process control. The variable frequency drive is focused on voltage amplitude control. However, it only control speed in constant limits. The load on induction motor is varied according to its requirement hence speed changes as well.. If the supply voltage is reduced motor then torque decreases, slip decreases hence speed also decreases. The motor speed is directly proportional to supply frequency, hence to maintain a speed, the supply V/F ratio must be varied accordingly. So it consumes the rated power and it becomes economically disadvantages. To overcome above problem a new concept of variable frequency drive (VFD) is introduced adding a variable frequency drive (VFD) to a motor driven system can offer potential energy saving in a system in which the load vary with respect to time . The primary function of VFD in application is to provide energy saving speed reduction of 20% can save energy up to 50%.

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## Automation of Smart Waste Management Using IOT to Support Swachh Bharat Abhiyan

**Siddappaji M. R.**, Asst. Prof, Dept. of EEE, SIET, Tumakuru.

**Poornima J.**, UG Students, Dept. of EEE, SIET, Tumakuru

**Pavan B J.**, UG Students, Dept. of EEE, SIET, Tumakuru

**Rajshekhara.**, UG Students, Dept. of EEE, SIET, Tumakuru

**Shruthi A.**, UG Students, Dept. of EEE, SIET, Tumakuru

### **Abstract:--**

“Swachh Bharat Abhiyaan” is a national campaign initiated by the Government of India, which covers 4,041 cities and towns, to clean the streets, roads and infrastructure of the country. The main motto of the mission is to cover all the rural and urban areas of the country. With proliferation of Internet of Things (IOT) devices such as Smartphone & sensors, this paper describes the effective dry and wet dirt collection using Embedded System. The main motto of the application is collection of dry and wet waste separately which is placed in a conveyor belt on which the dry waste collected dust bins are placed left side and wet waste collected bins on right side. The system will get the input through the dust collecting person through switches and sends signal to the Micro controller unit using RF technology and that makes the H-bridge to rotate conveyor belt. When the belt starts rotating clockwise the dust bin's lid is automatically closed, simultaneously the waste is dumped into the underground garbage container placed at the ground floor. Here IOT module is used to control and monitor the waste and the information will be sent to the particular organization and the common man. The mobile app shows the collection of waste and the particular date and arrival time of the vehicle.

### **Key words:--**

MC, H-Bridge, IOT, Android Application.

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## Structural Optimization of Hydraulic Clamp

**Balaraj.V.**, VTU, Belgaum/RYM Engg College,Ballari

**Mallikarjuna.Y.**, VTU, Belgaum/RYM Engg College,Ballari

**Dr. Nagaraj Kori.**, VTU, Belgaum/RYM Engg College,Ballari.

### ***Abstract:--***

Hydraulic clamping is preferred because it is flexible and simple to construct and operate. In the view of initial clearance a large deformation is required. Once disk deforms the clearance is eliminated and the engagement takes place. Any further hydraulic pressure gives the clamping force. The device must under take large deformation more than 200 microns and still the stress should be with in allowable limits. Otherwise induced stress goes beyond the yield limit and clamp will fail permanently. Criticality in design: In view of the large deformation, the clamp can get into large induced stress and cracks. It has to operate at a nominal hydraulic pressure. Thickness of the clamp members needs to be optimized, keeping in view of deformation and permissible stresses. FEM solution is used for design and optimization to compute the deflection field, stress field using iteration process and an optimum solution is obtained for better clamping device with allowable deflection and stresses. Also modal analysis is carried out to check the resonance condition of the hydraulic clamp for the working frequency of 100Hz. Results show safety of the hydraulic clamp for resonance as obtained natural frequencies are more than 30% away from the operating frequency.

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## Women Safety Security System Using GSM and GPS

**Dr Hanumanth Rao.,** prof, EEE Dept,8thsem, RYMEC,BALLARI

**Kavya Shri.G.,** 8thsem, EEE Dept , RYMEC

**Kavitha .N.,** 8thsem, EEE Dept , RYMEC

**Manasa Devi . Y.,** 8thsem, EEE Dept , RYMEC.

**Patil Rudra Gowda.,** 8thsem, EEE Dept , RYMEC

### ***Abstract:--***

Increases in green house sizes have forced the growers to increase measurement points for tracking changes in the environment, thus enabling energy saving and more accurate adjustments. However, increases in measurement points mean increases in installation and maintenance cost. The purpose of this presentation AUTOMATED WIRELESS GREENHOUSE CLIMATE MANAGEMENT SYSTEM which is capable of intelligently monitoring and controlling the green house climate conditions in a preprogrammed manner. The proposed system consists of three stations: Sensor Station, Coordinator Station, and Central Station. To allow for better monitoring of the climate condition in the greenhouse, these ns or station is equipped with several sensor elements such as CO<sub>2</sub>, Temperature, humidity, light, soil moisture and soil temperature. The communication between the sensor station and the coordinator station is achieved via ZigBee wireless modules and the communication between coordinator station and the central station is achieved via Zigbee wireless modules.

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## Automatic Rain Water Harvesting and Electrical Power Generation Using Solar Panel in Agriculture Fields

**A. Sharanabasappa.**, Asst Prof, EEE Dept, RYMEC, Ballari.

**Ramyashree . P.**, 8th sem, EEE Dept.RYMEC.

**Anitha.C.S.**, 8th sem, EEE Dept.RYMEC.

**Praveen.**, 8th sem, EEE Dept.RYMEC.

**Raghavendra.S.**, 8th sem, EEE Dept.RYMEC.

### ***Abstract:--***

Solar power is being increasingly utilized worldwide as a renewable source of energy. India has huge untapped solar off-grid opportunities. Power problem to farmers for irrigation is a regular problem where still a permanent solution has not been find out. In such situation we can go for an alternate power solution-solar power. Solar light is readily available where we will not pay to it. There will be n-number of work in field like water pumping that to in required amount depending upon crop and time. Some time excess of water and some deficiency of water makes crop difficult to grow. In such situation automation play an important role to maintain water level without human interaction. The farmer (user) can water the fields from any place using GSM technique which provides an acknowledgement message about the job status. The main advantage of this project is optimizing the power usage through water resource management and also saving government's free subsidiary electricity. This proves an efficient and economy way of irrigation and this will automate the agriculture sector.

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## Induction Generator for Pico Hydro Generation

**Swapna.K.**, 6th ,sem, Eee Department,Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Keerthana.M .**, 6th ,sem, Eee Department,Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Divya.P.**, 6th ,sem, Eee Department,Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Gouthami.D.**, 6th ,sem, Eee Department,Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Monika.B.**, 6th ,sem, Eee Department,Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### ***Abstract:--***

Around 16% of the electrical energy supply generated in world is through hydro power . In rural high terrain areas with low population density the energy per capita is low compared to city needs. Grid supply to these areas is not economical .Based and nuclear energy. Micro hydro and Pico hydro are most appropriate for rural high terrain areas with water streams. The initial cost mainly involves construction and equipment cost. Pico hydro plant does not require construction of dam It is a run off river plant. Pumps as turbine provide huge relief in the equipment cost. Centrifugal pump which are readily available have advantage over custom made turbine s for micro and Pico hydro power generation .Induction generators are useful in applications such as mini, micro and Pico hydro power plants because e they can recover energy with relatively simple controls.The Selection of capacitors for induction generator used for standalone Pico hydro is also explained in this paper. Pico turbines can provide power for small clusters or even single households Individual hydropower supply cuts out the efforts of organising a community

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## **PDA for Physically Impaired People Using Li-Fi**

**Dr.S.Prabhavathi.**, Professor & HOD of E&CE department, Rao Bahadur Y. Mahabaleswarrappa Engineering College (RYMEC), Ballari.

**Ms.Sai Kavya.C.**, UG student of E&CE department, Rao Bahadur Y. Mahabaleswarrappa Engineering College (RYMEC), Ballari.

**Vijayalakshmi.K.**, UG student of Electronics and Communication Engineering, RYMEC Ballari.

**Sreevani.K.**, UG student of Electronics and Communication Engineering, RYMEC Ballari

**Dilip.A.**, UG student of Electronics and Communication Engineering, RYMEC Ballari

### ***Abstract:--***

The main aim of this paper is to highlight the importance of how could the latest technology Li-Fi (Light Fidelity) which was discovered by Mr.Harald Haas professor at edinburg university be made helpful for the physically impaired people. PDA (Personal Digital Assistant) for the physically impaired people using Li-Fi, this paper is used to enlighten the life's of the physically impaired people. Wi-Fi could also be used but taking health issues and economical issues into consideration Li-Fi is being used which has the advantages of eco friendliness and does not cause any health issues. This paper is basically the combination of the Voice Communication using Li-Fi & Data Transmission using Li-Fi. Li-Fi does not make use of any external resources for its operation, it just needs the available light (E.g.: -bulb's) as its medium for communication with some external circuitry. Physical impairment is the biggest problem of India which cannot be eliminated. Many people lose hopes on life because of physical impairment, but to help these types of people this project has been designed. This project acts as an assistant for the physically impaired people and helps them live their life conveniently. This project can also be developed using Wi-Fi but Wi-Fi uses radiations for its operation and radiations are harmful to the health and can still spoil the health of the physically impaired people, hence Li-Fi is used, Li-Fi is a from the family of Visible Light Communication (VLC) which is another type of wireless communication. Li-Fi is completely eco-friendly and provides complete security, as it uses visible light for its operation. This Personal Digital Assistant (PDA) can be designed at low cost by just using simple two microcontrollers of 8-bit with some external circuitry.

### ***Index Terms: -***

Li-Fi, VLC, Wi-Fi, PDA.

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## Study on Corrosion Behavior of Friction Stir Welded AA 6061 Hybrid Metal Matrix Composite Plates

**Sadashiva.M.**, Department of Mechanical Engineering, PES College of Engineering, Mandya, Karnataka, India.

**H.K.Shivanand.**, Department of Mechanical Engineering, UVCE, Bangalore, Karnataka, India.

### ***Abstract:--***

Cast Aluminium 6061 alloy is most widely used in Advanced engineering fields like marine engineering, automobile and aircraft industry due to corrosion resistance, lightweight, high specific strength and flexural stiffness, however to extend their applications limit, an appropriate joining process is needed for developing a robust structure. In the present investigation, Hybrid Aluminium metal matrix composites (MMCs) is prepared by varying the weight percentage of reinforcement of fine greenish Silicon carbide particulates and short chopped E-glass fiber along with Aluminium 6061 alloy by stir casting technique using graphite crucible furnace, The process yields sound castings which is then followed by joining of plates carried out by Friction stir welding (FSW) process using cylindrical tapered tool with varying welding parameters like rotational speed and traverse feed, and the impetus given on the effects of torque, normal force, traverse force that acts on the plates during welding. The studies majorly focusses on the corrosion behavior of joint obtained by Friction Stir Welding process and compare the same with base material in respect to its corrosion rate.

### ***Key words:--***

Corrosion, Friction stir welding, metal matrix composites, Stir casting.

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## Multitasking Induction Motor

**Smt Anusuya Patil.,** Assoc. Prof Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**P Sumanth Shashank.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Ajay Kumar Y.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Nikhil A G.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Uzra Yasmeen.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### ***Abstract:--***

In industries an induction motor, welding transformer and split phase induction motor which are separately installed with high installation cost. To overcome this difficulty a model is introduced, which performs three functions on a three phase Slip ring induction motor. This model is obtained by redesigning the stator of three phase induction motor and rotor. So that it can act as Induction motor as well as welding transformer. Here The induction motors work on the principle of Faradays Laws of electromagnetic induction. According to this law an emf gets induced in the rotor. The stator windings are connected to the three phase supply and as the rotor circuit is closed one, the current starts flowing in the rotor called rotor current. This rotor current interact with the air gap field to produce torque. Welding is a process of joining of two metals which requires low voltage and high current. This multipurpose motors is very convenient for using in mega workshops. This reduces the cost required for other two machines and also increases the motor performance.

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## **Power Generation through Speed Breaker**

**Sri. B. Dodda Basavanagoud.,** Associate professor, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Prashanth D.N.,** 8th sem, EEE Dept. Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Noor MD. Ayathullah.T.,** 8th sem, EEE Dept. Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Sharanabasava.,** 8th sem, EEE Dept. Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Rahul Rao MJ.,** 8th sem, EEE Dept. Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### ***Abstract:--***

Now a day's, Electricity is one of the major needs for human life and development, hence there is a need to develop non- conventional sources for power generation due to the reason that our conventional sources of power are getting used day by day and hence energy conservation is a compulsory thing. This paper emphasizes on the idea of the kinetic energy of the vehicles that is getting wasted while vehicles move on the roads and hence this kinetic energy can be utilized to generate power by using a special arrangement called "power hump". Now this generated power can be used for general purposes like streetlights, traffic signals and even providing the electricity to the nearby villages. In addition, we could also have solar panels with automatic control which would satisfy our power needs, when there is no or less vehicular movement. We will use solar panel in such a way that whenever there will be sunlight, the street lights will remain off and after the sunset street lights will glow.

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## Analysis of Hybrid Renewable Energy System in RYMEC, BELLARY

**Dr.S B Shivakumar.,** Professor RYMEC BELLARY

**SampathKumar.V.Patil.,** Research Scholar VTU.

**Harish A M.,** Asst.Proff AGM Varur

### ***Abstract:--***

This paper demonstrates the use of Hybrid Renewable System in RYMEC College of Karnataka State ,Indian Country.The meterological Data of solar radation and wind speed from NASA surface and solar energy database have been taken (latitude 15.15°N and longitude 76.89°E).Presently many Hybrid Resources using Diesel generator as a backup source,where we again depend on fossil fuel or coal which is exhaustible,but in these paper we are completely demonstrating use of Hybrid wind/PV in Bellary for around 1800 People community and based on wind speed ,solar energy and available components,the optimization of Hybrid system is done and lastly demonstrated the economic advantages like cost,paypback period, compared to Conventional energy source It finds that Cost Reduction is around 70% compared to Conventional Energy source, but due to Non-linear Power generation and Load side variation, usage of Hybrid power system became very less. So, in order to avoid the above, we came up with Energy Management system (EMS), where the PID Parameters are used for controlling the EMS charging and discharging. Here the PID Controller is tuned through different Evolutionary Algorithm approaches like Genetic Algorithm(GA), Hyper-Spherical Search(HSS), Flower Pollination Algorithm(FPA) and Particle swarm Optimization(PSO).Hybrid System like Wind/PV is modelled in Simulink and algorithms is implemented in Matlab, finally, all the above algorithms are computed based on Objective Function Value, Rise time, Settling time and Overshoot and it is validated that HSS algorithm is best compared to all other algorithms...

### ***Key words:--***

Renewable Energy Sources, Wind-Turbine, Photovoltaic,NASA Surface and Solar Energy Database,Google Earth Hybrid-RES, Load Sensitive EMS control, Evolutionary Algorithms.

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## Energy Management and Control Systems for Hybrid Wind-Solar Energy System with Battery Storage

**Sri Hanumantha Reddy.,** Asst Prof , EEE Dept, RYMEC, Ballari.

**Megha .M.K .,** 8<sup>th</sup> sem, EEE DEPARTMENT, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA

**Roja.T.,** 8th sem, EEE DEPARTMENT, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA.

**Rekha A.M .,** 8th sem, EEE DEPARTMENT, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA.

**Roopa A.M.,** 8th sem, EEE DEPARTMENT, RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE, BALLARI, KARNATAKA.

### ***Abstract:-***

A hybrid wind solar energy system with battery storage and its control systems are presented in this dissertation. The proposed system consists of a wind turbine, a solar panel, a battery storage unit and a set of loads. A power electronics interface, based on various converters, is used to integrate the renewable energy sources and the storage device to the main DC-bus feeding a single phase AC load. The main challenge of the hybrid system is to maintain the load demand under constraints. The objective of the proposed controllers is to ensure a proper control and coordination between all the sources of the system. At the wind energy side, a speed controller is used to keep the rotor speed under control for safe operation of the wind turbine. At the solar energy side, an incremental conductance method approach is realized to extract the maximum power from solar irradiance. A bidirectional DC-DC converter is employed to control the charging and discharging of the battery storage system. An energy management system is developed to keep a balanced energy in the hybrid system. A load voltage regulator enables the system to fix the output voltage and frequency.

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## IoT Based Intelligent Management System of Agriculture Green House

**Ragavendra Prasad.,** Prof, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**SANTHOSH.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**MEGHANATH.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**VINAYA SHREE JM.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**RAVI CHANDRA.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

### ***Abstract:--***

The Internet of Things (IoT) is the most promising technology in recent years, which is used for network of physical objects or things embedded with software, electronics, sensors and network connectivity, which enables these objects to collect and exchange data. The IoT can be used in various fields like Home automation, Building automation, Industries and Hospitals. The proposed system is used for irrigational monitoring and controlling using wireless sensor networks. The data can be monitored and the output devices can be controlled using IOT. Different sensors are used for data acquisition. Sensed datas are delivered to an Android Application device where an Monitoring Application (MA) makes them easily accessible to monitor and analyze received data. In agricultural country like India, greenhouses form an important aspect of agricultural and horticulture sectors. In greenhouses, plants are grown under favorable climatic conditions for its production and growth. Thus monitoring and control of greenhouse environment is necessary for production and management of greenhouses. This project is designed to monitor and control the indoor humidity and weather conditions affecting the plants using embedded system and IOT

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## Investigation on Hardness Properties of Friction Stir welded AA 2024 Hybrid Metal Matrix Composite Plates

**Sadashiva.M.**, Research Scholar, Department of Mechanical Engineering, JNTUA, Anathapuram, A.P, India.

**H.K.Shivanand.**, Department of Mechanical Engineering, UVCE, Bangalore, Karnataka, India.

### ***Abstract:--***

In today's world, requirement of light, inexpensive and quickly processed materials has increased to a great extent. The Al 2024 is an alloy with copper as the primary alloying element and used in applications requiring light weight, wear resistance, high strength to weight ratio and high elastic modulus. The Aluminium metal matrix composites (MMCs) have applications in many industries specially in Aerospace domine, however to extend their applications limit, an appropriate effective joining methods needed for developing a robust structure. In the present research work, Aluminium based metal matrix hybrid composite plates are prepared using stir casting method using graphite crucible furnace, followed by joining is carried out by Novel Solid state Friction stir welding (FSW) process using non consumable cylindrical tapered tool with the welding parameters like rotational speed and traverse feed, and the impetus given on the effects of torque, normal force, traverse force that acts on the plates during welding. The specimens made were tested on vickers hardness tester. The effect of different weight percentages of SiC particulates and E-glass fiber reinforcement in hybrid MMC plates on hardness was studied. The main objective is to evaluate and compare the hardness of Hybrid Aluminium metal matrix composite plates with basic material and weld zone. The results show that, the hardness increases with the reinforcement of SiC and E-glass fibers with AA 2024 alloy also weld zone exhibits excellent hardness compare to base.

### ***Key words:--***

Friction stir welding, Metal matrix composites, Stir casting, Hardness.

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## Next Battle of World War Is Due To Electrical Power Based On Renewable Power Generation In India

**Shashidhar R.**, Dept8th sem, EEE Dept. Rao bahadur y mahabaleswarappa Engineering college, ballari, karnataka

**Hajivali D.**, Dept8th sem, EEE Dept. Rao bahadur y mahabaleswarappa Engineering college, ballari, karnataka

**Azam Pasha.**, Dept8th sem, EEE Dept. Rao bahadur y mahabaleswarappa Engineering college, ballari, karnataka

### ***Abstract:--***

The development of Renewable Energy Sources (RES) is necessary for the sustainable development of any country due to depleting fossil fuel level, climbing fossil fuel prices across the world and more recently pressure for reduction emission level. In India, several schemes and policies are launched by the government to support the use of RES to achieve energy security and self-sufficiency. This paper discusses the present scenario and future prospects of RES in India. Various schemes such as financial assistance, tax holiday etc for promoting RESs development and utilization are also discussed. The present situation is seen to be very promising and favorable for RES in India. Renewable energy sources and technologies have potential to provide solutions to the longstanding energy problems being faced by the developing countries like India. Renewable energy is energy created from natural sources such as sunlight, wind, water, waste products and other sources that can be naturally replenished.

India is fortunate to be blessed with an abundance of such sources. These sources of energy are available locally throughout the year and do not need elaborate arrangements for distribution. This makes them well suited to decentralized applications for use in remote areas. Other advantages of renewable energy sources are its environment friendliness and low operation costs. The Ministry of New and Renewable Energy- External website that opens in a new window is responsible for putting into action comprehensive programmes for the development and utilization of renewable energy. It is promoting many new technologies and devices that are now commercially available. These include biogas plants, solar water heaters, solar cookers, street lights, pumps, wind electric generators, water-pumping wind mills, biomass gasifiers and small hydro-electric generators.

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## Fault Tolerant and Scalable Iot Based Architecture for Health Monitoring

**Mr. Shridhar S Bilagi.**, ASS PROF, ECE Dept Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Pavithra S M.**, 8th sem, Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Ramya R.**, 8th sem, Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Renuka.**, 8th sem, Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Sindhuja S R.**, 8th sem, Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### ***Abstract:--***

Health monitoring systems integrated into a telemedicine system are novel information technology that will be able to support early detection of abnormal conditions and prevention of its serious consequences. Many patients can benefit from continuous ambulatory monitoring as a part of a diagnostic procedure, optimal maintenance of a chronic condition or during supervised recovery from an acute event or surgical procedure. Even there are situations that the patients should be monitored continuously for certain parameters. With the increasing in the aging population, the health of the elderly caused widespread concern. The recently developed body sensor networks (BSN) have been confirmed to be a low cost and efficient way for elderly health monitoring. We mainly introduced the design of a ZigBee based personal health device monitoring system which consisted an embedded system with sensors transmitting the details of the person and at another end the reception of the data is done which also displays the health status of same person. The Internet of Things (IoT) is one of the major technological trends which is utilized to monitor natural and human made resources help in predicting and detecting exigency events like flood, fire, gas and water leak that can pose an intimidation to human life. This system describe a novel wireless health weather monitoring station that uploads person's health information received from the array of sensors to cloud database from a remote location which can be monitored from anywhere.

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## Performance and Emission Evaluation of Diesel Engines Fuelled with Coconut Biodiesel and Diesel Fuel

**Dr. Hiregoudar Yerrennagoudaru.**, G VTU, India / RYMEC Bellary, Karnataka

**Chandragowda M.**, VTU, India / RYMEC Bellary, Karnataka

**Hanumanth.**, VTU, India / RYMEC Bellary, Karnataka

### ***Abstract:--***

Energy demand is the hot topic of all developing and developed countries. Automobiles are having a major role in atmospheric pollution and global warming. Particularly, diesel engines produce high quantities of oxides of nitrogen (NO<sub>x</sub>) and smoke emissions. Day by day Energy demand increases in a big rate. So it is necessary to find an alternative solution which is eco-friendly. Biodiesel can be the alternative solution for this problem. Several investigations have evidenced that, vegetable oils based biofuels are promising substitutes for diesel fuel without major engine modifications. The main purpose of this paper is to test the Engine performance and Emission parameters of diesel engine using coconut biodiesel and diesel fuels on both conventional and modified piston. The measuring parameters are brake thermal efficiency, brake specific energy consumption, CO, NO<sub>x</sub> and HC.

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## Internet of Things (IoT)

**Hanumanthareddy.,** RYM engineering collage ballari

**Ganjigara Srikavya.,** RYM engineering collage ballari

**Naga Bharathi. K.,** RYM engineering collage ballari

**Taiseen Kausar. K,** RYM engineering collage ballari

**Leha. C.,** RYM engineering collage ballari

**K. Reshma Begum.,** RYM engineering collage ballari

### *Abstract:--*

The internet of things is arising as the third wave in the evolution of the internet. Internet of things is expected to have a gigantic impact on consumers, products, business and vast culture but these are still early days. It is applicable for almost all different levels of hierarchy and aspects of consumer goods, supply chains, business, industries, manufacturing etc.. It is an important technology that promises a smart being life. Internet of things is facing on its way to mainstream adoption and who has potential to win in this segment. It examines the current leading companies in the market and technologies driving the same.

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## Nano Leaves Application Intelligent Wireless Street Lighting System

**Sir. Doddabasavana Goud .,** Associate professor, Eee Department , Rao Bahadur Y Mahabaleshwarsappa Engineering College, Ballari , Karnataka

**Sudha.M.R.,** 8th sem, Eee Department , Rao Bahadur Y Mahabaleshwarsappa Engineering College, Ballari , Karnataka

**Sundhu Nayaka.A.N .,** 8th sem, Eee Department , Rao Bahadur Y Mahabaleshwarsappa Engineering College, Ballari , Karnataka

**Renukamma.,** 8th sem, Eee Department , Rao Bahadur Y Mahabaleshwarsappa Engineering College, Ballari , Karnataka

### ***Abstract:--***

Harvesting energy from the environment responsibly is important, natural trees and plants do this efficiently already for millions of years. Our invention is the mimicking of this ingenious concept also referred to as bio mimicry or bio mimetic. In particular this invention relates to the shape and form of leaves and needles and their incorporated non-materials that allows the NANO leaf to harvest, capture environmental energies like solar radiation, wind and sound and turn this into electricity, the NANO leaves made from a flexible substrate, is exploited on both sides, using a process called thin-film deposition which will incorporated thermo and photovoltaic material for the purpose of converting solar radiation (light and heat) in addition we introduce piezoelectric connective elements that connect/affix the leaf to the plant or tree, this not only allows quick and secure assembly but it also serves for turning wind energy into electricity. It uses many sensors to control and guarantee the optimal system parameters the information is transferred point-by-point using ZIG Bee transmitters and receivers and is sent to a control terminal used. Wireless communication uses ZIG Bee-based system which allow wireless devices more efficient and to take appropriate measures, in case of failure. The main purpose of this project is to switch ON and OFF street lights without manual operation.

- By using this system energy consumption is reduced.
- IR sensors and micro controller are the main components of the project.

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## Re-Engineered Beam Design & Evaluation to Sustain High Impact for Mid -Size Four Wheeler's Using Finite Element Analysis: A Case-Study

**Gopi S.**, Associate Professor, Department of Mechanical Engineering, CMR Institute of Technology, Bangalore- 560 037, India

**K Vinoi Mahadeva.**, Scholar, Department of Mechanical Engineering, CMR Institute of Technology, Bangalore- 560 037, India

### ***Abstract:--***

Objective of this research paper is to replace the current car door side impact beam with re-engineered design and use a high strength steel of yield stress 1.2 GPa, instead of low strength steel of yield stress 0.366 GPa, in order to reduce the intrusion of side closure structure which in turn reduces injuries of the occupant during fatalities. The usage of high strength impact beam on the car door has been implemented and its effect in the reduction of intrusion of the door structure has been evaluated.

### ***Keywords:***

Re-engineered design, Impact Beam, High Strength Steel, Yield Stress, Intrusion.

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## Smart Grid Infrastructure Using Hybrid Network Architecture

**Sujayendra k.**, Rao Bahadur Y Mahabaleswarappa Engineering College, Bellary

**Shrikanth.**, Rao Bahadur Y Mahabaleswarappa Engineering College, Bellary

**Sreekanth D.**, Rao Bahadur Y Mahabaleswarappa Engineering College, Bellary

**Suma D.**, Rao Bahadur Y Mahabaleswarappa Engineering College, Bellary

### ***Abstract:--***

Smart grid can be defined as a modern electric power grid infrastructure for improved efficiency, reliability and safety, with smooth integration of renewable and alternative energy sources through automated control and modern communications technologies. The increase need for more effective power electrical systems control turned the development of smart grids, the main object of study for many researchers. This paper proposes a digital system for condition monitoring, diagnosis and supervisory control applied to smart grids. The system is based on hybrid network architecture (HNA), consisting of a wired infrastructure, a wireless radio network communication (WRNC), a Microcontroller ( $\mu$ c) and a controller area network (CAN). The system is based on three hardware topologies: micro-controller units ( $\mu$ cUs), Zigbee modules (ZMs) and a CAN bus. The basic characteristics are: a) easy/low cost implementation, b) easy to set up by user, c) easy implementation of redundant routines (security), d) portability/versatility, and e) close system. To validate the developed system, it was implanted in one underground electric substation power distribution, characterized as an extremely hostile environment for supervisory control applications. In this application, the main challenge is to establish a communication system installed inside the substation with the outside (operations center-OC) considering that there are not commercial solutions appropriate to solve completely this problem..

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## Microcontroller Based Charge Controller for Pv Applications

**Eliya Sundharam H M.**, prof & HOD, Eee Department Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Anusha G.**, 8th sem, Eee Department Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Sandhya A.**, 8th sem, Eee Department Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Raghavendra R M.**, 8th sem, Eee Department Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Surendra N.**, 8th sem, Eee Department Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Dr.U.M.Netravati.**, 8th sem, Eee Department Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

### ***Abstract:--***

This project describes a microcontroller based charge controller using PWM (pulse width modulation) technique. This PWM technique is employed by the PIC16F877 microcontroller. The microcontroller is to charge a 12V battery using 10W solar panel. This PWM technique is employed by the PIC16F877 microcontroller. The microcontroller is to charge a 12v battery using 10W solar panel. When the battery is at full charge (13.7V), the charging current becomes “pulsed” interrupted by the PIC16F877. “Battery Full” will be displayed on the liquid crystal display (LCD). An inbuilt analog to digital converter (ADC) is used to determine voltage level of the battery and the solar panel voltage. Fuels reserves are diminishing rapidly across the world, due to increased demand, the stress over the existing reserves are intensified. Nevertheless, fossil fuel contributes 80% of world primary energy which is an enormous impact on environment. Again our environment is affected by production of greenhouse gas emissions which is driven by human activities which has major role leading to climatic changes. Energy is also responsible for producing environmentally harmful substances during its production, distribution and consumption. For the sustainability of modern societies a secure and accessible supply of energy is thus crucial. To meet the present and projected world demand switching of energy system from conventional to renewable is an urgent need. Among the renewable sources of energy solar energy is one of the most promising renewable as it is reliable and less vulnerable to changes in seasonal weather patterns.

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## Analysis of Speed Control of DC Motor using Various Controllers

**Nagaraja Rao.**, Associate Professor, Department of ECE, SMVITM, Bantakal, Udupi

**Dr. Shantharama Rai. C.**, Professor, Department of ECE, AJIET, Kottara, Mangaluru

### ***Abstract:--***

This paper presents the design of various controllers like P, PI, PD, PID used to supervise the speed response of the DC Motor. PID Controllers are widely used in an industrial plants because of their simplicity and robustness. The purpose of developing a simulation using P, PI, PD, PID Control system is to get the steady state and transient response of the system. This paper focuses modelling of separately excited DC motor and simulated using MATLAB/SIMULINK and compares the step response of the system using various controllers.

### ***Keywords:***

Speed Control, DC Motor, P, PI, PD, PID Controller.

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## Transformer Health Condition Monitoring in Industry

**Mr.Lingangouda.R.,** Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Tasmiya Rahil V.,** 8<sup>th</sup> sem, Department of Computer Engineering, G.H.Raisoni College of Engineering and Management, Wagholi, Pune.

**Tasleem.,** 8th sem, Department of Computer Engineering, G.H.Raisoni College of Engineering and Management, Wagholi, Pune.

**Shailaja.V.,** 8th sem, Department of Computer Engineering, G.H.Raisoni College of Engineering and Management, Wagholi, Pune.

**Rizwana shaik.,** 8th sem, Department of Computer Engineering, G.H.Raisoni College of Engineering and Management, Wagholi, Pune.

### ***Abstract:--***

Transformers are a vital part of the transmission and distribution system. Monitoring transformers for problems before they occur can prevent faults that are costly to repair and result in a loss of service. Current systems can provide information about the state of a transformer, but are either offline or very expensive to implement. This project objective is to develop low cost solution for monitoring health condition of remotely located distribution transformers using GSM technology to prevent premature failure of distribution transformers and improving reliability of services to the customers. An Embedded based hardware design is developed to acquire data from electrical sensing system. It consists of a sensing system, signal conditioning electronic circuits, advanced embedded hardware for middle level computing, a powerful computer network for further transmission of data to various places.

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## Spectrum Sensing Techniques in Cognitive Radio

**Uppara Vasavi.,** (PROJECT GUIDE), Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College (Vtu), Ballari, Karnataka.

**Y V Sushma.,** Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College (Vtu), Ballari, Karnataka.

**Uma Nageshwari P S.,** Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College (Vtu), Ballari, Karnataka.

**V Ashwini.,** Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College (Vtu), Ballari, Karnataka.

**MR. Surendranath H.,** Ece Department, Rao Bahadur Y Mahabaleswarappa Engineering College (Vtu), Ballari, Karnataka.

### ***Abstract:--***

The radio frequency spectrum is a limited natural resource and it's getting crowded day by day due to massive entry of wireless services. Most spectrum bands are allotted to certain services but with insufficient spectrum resource utilization led to an apparent scarcity of usable radio spectrum. Moreover, there are large spatial and timed variation in spectrum utilization. In the development of future wireless system, Cognitive Radio (CR) is regarded as an emerging technology to utilize the scarce natural resource and its efficient use is of the utmost importance. One of the major elements of cognitive radio applications are spectrum sensing. Spectrum sensing schemes which detects the presence of primary user in a licensed spectrum is the fundamental task in cognitive radio to identify spectrum opportunities reliably and optimally. In our literature we propose some specific signal detection techniques for spectrum sensing in order to identify idle spectrum so that CR user can use those underutilized spectrum band opportunistically without creating harmful interference to the primary user.

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## Design of long wire Interconnects using MTCMOS Repeater with Low Power and Delay constraints

**Ravi S. Hotkar.**, School of Electronics KLE Technological University.

**Saroja V. Siddamal.**, School of Electronics KLE Technological University.

### ***Abstract:--***

The RC connection of global line has more delay. Buffer insertion along on-chip global lines results in decreasing the delay but it has some power leakage. This paper addresses effect of inserting CMOS inverters to reduce delay. To reduce power leakage MTCMOS repeaters are inserted along the wire with each RC connection. Sleep transistors of MTCMOS minimizes the energy consumption. For 10 stage RC interconnect the delay is reduced by 81.95% using CMOS inverter as repeater. To solve the problem of power leakage MTCMOS inverter is used as repeater. Using MTCMOS inverter as repeater delay is reduced by 65.15% but leakage power is reduced. MTCMOS repeater uses low power 41.323pW compared to CMOS repeater of 17.872nW. Using CMOS repeater proves better when delay is considered. As a trade-off between delay and power MTCMOS repeater can be used for LOW power designs.

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## Child Rescue System against Open Bore-Wells at Agricultural Fields in India.

**Shambulingana Gouda.,** Asst Prof, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Varsha G.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Thriveni P.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Vijay B itigi.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Yunus Ahmed.,** 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### ***Abstract:--***

In past few years, there have been several accidents of children falling into abandoned bore-wells in India. A lot of money and time is also spent in these missions. The rescue team tries to approach the victim from a parallel well that take about 20-60 hours to dig. This complicated process makes 70% of the rescue operations fail. Our project deals with extreme safe handling of the victim. This paper presents a proactive approach to prevent child fatalities at the umpteen open uncapped bore wells in India, which is based on communication using infra-red signals. when the IR signal, placed to inches diametrically under the ground surface of bore well, breaks due to any obstructing object, a buzzer starts sounding as an alert and at the same time, a stake that is kept a few feet lower in the bore well closes the bore in order to prevent the object from falling deeper into the well, the solution presented in this paper is a simple and yet easily scalable on the highly cost effective solution utilizing proven technology of infra-red signaling.

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## Review of Speed Control of DC Motor using Various Controllers

**Rushali Naik.,** 4th semester, Dept.of ECE, SMVITM, Bantakal, Udupi, Karnataka

**Suraksha.,** 4th semester, Dept.of ECE, SMVITM, Bantakal, Udupi, Karnataka

**Vishal A. Bhat.,** 4th semester, Dept.of ECE, SMVITM, Bantakal, Udupi, Karnataka

**Nagaraja Rao.,** Associate Professor, Dept.of ECE, SMVITM, Bantakal, Udupi, Karnataka

**Raghavendra Rao.,** Assistant Professor, Dept.of ECE, SMVITM, Bantakal, Udupi, Karnataka

### ***Abstract:--***

This paper presents a review study on analysis of speed control of DC motor. A DC motor is any of a class of rotary electrical machines that converts direct current electrical energy into mechanical energy. DC motor speed control is one of the most useful features of the motor .By controlling the speed of the motor we can vary the speed of the motor according to the requirements and can get the desired operation. DC motors find extensive applications in industries where precise speed control over a wider range of speed both above and below the rated speed is required like process control, manufacturing, automation, aerospace etc. usually speed control of DC motor is achieved with PID controller

### ***Keywords:—***

C Motor, PI and PID Controller, ZieglerNichols, Neural Network Controller, Fuzzy logic controller.

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## Automatic Dual Line Lubrication System Using Programmable Logic Controller.

**Sharath S.**, 4th semester M.Tech, Dept. of ECE, Sri Jayachamarajendra College of Engineering, Mysuru

**Dr. Sudarshan Patilkulkarni.**, Professor, Dept. of ECE, Sri Jayachamarajendra College of Engineering, Mysuru.

### ***Abstract:--***

Lubrication is a technique employed in most of the steel industries that delivers controlled amount of lubricant to multiple points of rollers in order to perform a smooth operation. The manual lubrication system requires more manpower that leads to more downtime in production and maintenance. Meanwhile, the discrete wiring system leads to complication in the wiring. The proposed automatic dual line lubrication system using programmable logic controller sends a command to initiate lubrication cycle that pumps the lubricant to the entire first supply line and then signals a changeover valve to the second supply line. The pressure in the supply line is vented out and lubricant in the line is returned to the pump reservoir through lubrication filter. Thus the lubrication is done alternatively in both the lines to the bearings of rollers with a time interval of every 45 minutes. If any fault occurs during the lubrication cycle, the system will generate a fault message in human-machine interface and gives a signal to alarm. Hence, it overcomes the constraints that are associated with the manual and discrete wiring lubrication systems.

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## Clean Electricity

**Smt.Anusuya Patil.**, Assoc Prof, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka.

**Venkatesh.M.**, 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Shubha.Y.M .**, 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka e

**Rabiya.**, 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

**Sujay naik.M.S.**, 8th sem, Eee Department, Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari, Karnataka

### ***Abstract:--***

INDIA'S energy outlook from fossil fuels sources, in particular in the sector of oil and gas, point out to a very high import dependence in the next twenty years. On the other hand, the prospect of obtaining energy from renewable energy sources has a positive outlook due to abundant availability of such resources in various parts of the country. Out of all these sustainable resources, solar, wind and biomass energy are some of the fields where past and present development have already witnessed major achievement. Global climate change could threaten every way of life. Floods can destroy our homes and communities, drought can disrupt our food production and water supplies and severe weather can cause the damage to nation's economy and infrastructure. The best and cheapest way to cut carbon pollution is to generate more power from the cleanest sources and then use that energy more efficiently. The above development has benefited certain areas of the country, while at the same time it has helped to a certain level to develop the local economy. Solar energy in particular, from a recent governmental policy, has gained the momentum as one of the most important sources of energy for the country.

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## Gait Analysis for Possible Ulcerations using Smartphone

**Mrs. A.Bhargavi Haripriya.**, SRM Institute of Science and Technology

**Srinidhi Ganesan.**, SRM Institute of Science and Technology

**Mohana Saha.**, SRM Institute of Science and Technology

### ***Abstract:--***

Diabetes Mellitus prevalence is much higher than estimated. It is estimated that approximately around 8% of diabetic people develop foot ulcer and around 1.8% lose their lower limb, by amputation. Main objective of our project was to develop an android mobile application to check the possibility of foot ulceration in individuals such that the percentile of lower limb amputation due to foot ulcer can be reduced as well as prevented. For this purpose, gait of individuals was analyzed with respect to their Body Mass Index. The gait was recorded and analyzed using Diafoot, our mHealth application. To suffice the research domain of this project, smartphone with the application was attached to the lower thigh of the subject. The subject was asked to walk a fixed distance of 8m and the developed application recorded acceleration, speed, step count, Body Mass Index and Ground Reaction Force. Kinetic parameters were defined based on the subject's Body Mass Index. and acceleration. The Ground Reaction Force values of the underweight, normal, overweight and obese showed significant differences as compared to the standard Ground Reaction Force value. Based on this difference, the possibility of developing foot ulceration is computed. However, this novel technique has few drawbacks which can be overcome in future research.

### ***Key words:--***

Gait, Acceleration, Body Mass Index, Ground Reaction Force, Foot Ulceration

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Bellary, Karnataka, 12<sup>th</sup> - 13<sup>th</sup> April 2018

## Automatic Back-Wash Filtering System

**Supriya L C.**, 4th semester M.Tech, Dept. of ECE, Sri Jayachamarajendra College of Engineering, Mysuru

**Mrs. Gayitri H M.**, M.Tech Assistant Professor, Dept. of ECE, Sri Jayachamarajendra College of Engineering, Mysuru.

**Dr. Gayathri S.**, M.Tech, Ph. D, Professor, Dept. of ECE, Sri Jayachamarajendra College of Engineering, Mysuru

### ***Abstract:--***

Water is a vital resource to the chemical, paper, steel and petroleum refining industries. Usually industries use enormous amount of water to flush the impurities and to cool down the products. As the industries are in need of water for multiple purposes, they tend to reuse water by a mechanism called “Filtering”. In the existing conventional filters, filter elements are cleaned manually when it get clogged, leading to more man power and longtime. In “Automatic back-wash filtering system”, when filter elements gets clogged, a pressure difference is created between inlet and outlet valve. This is sensed by differential pressure sensor connected to the Programmable Logic Controller which initiates the backwash cycle that automatically cleans the filter elements. An alarm and Human Machine Interface display is also provided for the purpose of continuous monitoring and troubleshooting. The proposed “Automatic back-wash filtering system” is more efficient and overcomes the constraints of conventional filters”.

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## Assistance for Borewell Victim

**Dr. Gayathri S.,** Associate Professor, Department of Electronics & Communication Engineering, Sri Jayachamarajendra College of Engineering, Mysuru-570 006

**Sara Anjum.,** Department of Electronics & Communication Engineering, Sri Jayachamarajendra College of Engineering, Mysuru-570 006

**Shreyas Hosur.,** Department of Electronics & Communication Engineering, Sri Jayachamarajendra College of Engineering, Mysuru-570 006

**Shrimanth.,** Department of Electronics & Communication Engineering, Sri Jayachamarajendra College of Engineering, Mysuru-570 006

**Sumithra P S.,** Department of Electronics & Communication Engineering, Sri Jayachamarajendra College of Engineering, Mysuru-570 006

### ***Abstract:--***

According to the survey from several years, there have been many accidents of children's falling into the borewells in India. In order to save the little kids, Rescue teams spending several hours, a lot of money and sometimes many days. But in most of the cases they are unable to save the kids. Procedure used by the Rescue team in order to save the kids is very complicated and time-consuming process hence more than 70% of the rescue operation fails. Now a day due to development in technology Robots can be used to rescue child from the borewell so that we can complete rescue operation with less time and success ratio of the operation will be greater. Hence the proposed system "Assistance for Bore well victim" is designed in such a way that it rescues child from the borewell with less time and without harming child using DELTA robotics and Safety balloons. This proposed system uses Delta Robotic concept in order to bring child in to the proper position inside the borewell. Safety balloon is used to lift the child up using gear motors. For monitoring Camera is used, controlling is done by using Joystick.

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## Review Study on Solar Roadways

**Jeevan J Achari.**, 2nd Semester B.E Electronic and Communication Engineering, Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi, Karnataka

**K Adith Holla.**, 2nd Semester B.E Electronic and Communication Engineering, Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi, Karnataka

**Adarsha Hebbar.**, 2nd Semester B.E Electronic and Communication Engineering, Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi, Karnataka

**Sourabh M Revankar.**, 2nd Semester B.E Electronic and Communication Engineering, Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi, Karnataka

### **Abstract:--**

The Solar Roadway is a series of structurally engineered solar panels that are driven upon. The idea is to replace all current petroleum-based asphalt roads, parking lots, and driveways with Solar Road Panels that collect energy to be used by our homes and businesses. The renewable energy generated by solar road panels will replace the current need for fossil fuel which is used for generation of electricity as also oil used for driving the vehicles which in turn reduces the greenhouse gases nearly to half. The implementation of Solar Roadways Technology will create the clean energy boom, spurring private investment on a massive scale, with relatively little extra cost. An intelligent highway infrastructure and a self-healing decentralized power grid that will eliminate our need for fossil fuels. Solar Roadways will also features wildlife preservation, the elimination of impervious surfaces, law enforcement, DUI detection, counter-terrorism, etc. It provides a decentralized, secure, intelligent, self-healing power grid which pays for itself. So it's time to upgrade our infrastructure (especially roads & power grids) with the 21st century technology i.e. "Solar Roadways"

### **Keywords:—**

Solar roadways, Solar panels, Fossil Fuel, Intelligent Roads, Electric vehicles, Smart Grid.

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Bellary, Karnataka, 12<sup>th</sup> - 13<sup>th</sup> April 2018

## **Coin Based Universal Mobile Battery Charger**

**Dr.S B Shivakumar.,** Professor RYMEC, Bellary.

**Vijayalakshmi V S.,** Assistant professor stjit, Ranebennur

**Sushmita Mannangi.,** Department of ECE, Ranebennur.

**Varsha Sankannavar.,** Department of ECE, Ranebennur

### ***Abstract:--***

We all know this era is mobile phone era. Almost 70-80 percent people having mobile phone. Communication is more important in all fields. Today's smart phone having much more facilities, due to that facilities mobile phone required more charging. Sometimes our call may cut in mid-way due to lack of charging. This system gives charging to that mobile phone which need immediate charging. Once we connect the mobile to charging slot we required to put the coins in this system. After inserting coin it will compare with database, and if the coin insertion is exact then mobile will charge. This charging system is depend on the solar. Using solar panel the sun energy(photons) is converted into electrons(current). We know much of sun energy is wasted on earth and we need to use that energy. That's why in this system use the solar energy.

### ***Keywords:—***

Adapters, Battery Charger, Mobile Phones, Microcontroller, Solar Panel.

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Bellary, Karnataka, 12<sup>th</sup> - 13<sup>th</sup> April 2018

## Economic Dispatch using a simple Probabilistic Method, a case Study of Karnataka Power Grid

**Hanumantha Rao A.**, Students of E&CE Dept. RYMEC Ballari.

**K. Vijaya Bhaskar Reddy.**, Students of E&CE Dept. RYMEC Ballari

### ***Abstract:--***

The probabilistic evaluation of system behavior has been gaining importance in recent years, though recognized since 1930s, A wide range of probabilistic techniques have been developed. A common concept behind each of these developments is the need to recognize that power systems behave stochastically and all input and output state and event parameters are probabilistic variables. In power system studies, The Optimization technique constitutes a study of paramount importance in power systems for future expansion, stability and reliability of the power systems. A simple method of a Economic dispatch with probable variations in loads has been presented here for a case study of Karnataka power grid.

### ***Keywords:—***

Power system Optimization, Economic Dispatch, Probabilistic Optimal Power Flow.

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Bellary, Karnataka, 12<sup>th</sup> - 13<sup>th</sup> April 2018

## Controlling a Robotic Arm Using Haptics

**Dr.S.Prabhavathi.**, Prof. & Head RYMEC Ballari.

**Divya A.**, Students of E&CE Dept. RYMEC Ballari

**Gurushruthi G.T.**, Students of E&CE Dept. RYMEC Ballari

**H.Yogaraj.**, Students of E&CE Dept. RYMEC Ballari

**Harshitha K.R.**, Students of E&CE Dept. RYMEC Ballari

### ***Abstract:--***

The integration of medical science and engineering has made the task like complicated surgery by robotic arm simpler. To capture the motion of human limbs, sensors can be used. These units can be worn for video game character modeling, virtual reality, and activity recognition. The arm moment is reciprocated almost exactly by the robotic arm. Data capture is achieved with the special motion capture sensor called "Shape Tape" that is worn by the human operator. Any human arm or even leg, neck or spine moment can be mapped on to any of the robotic arm manipulator. Flex sensor robotic arm deals with controlling a bionic/robotic arm with the help of motion sensing technology by Flex Sensors. The system is basically a master-slave system wherein the master motion sensing glove sits on hosts arm sensing motions of the finger and then using this data to control the Dc motor Which control the finger movement of the slave bionic/robotic arm. And a 3-axis sensor or tilt sensor is used for the movement of the arm to move upwards and down.

### ***Keywords:—***

Haptic, Flex sensor, Tilt sensor.

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## Leaf Disease Detection Using Raspberry PI

**Dr M Rajeswari.**, Department of Telecommunication, Engineering, Bangalore Institute of Technology, Bangalore, Karnataka.

**Pooja S, Likitha R** Department of Telecommunication, Engineering, Bangalore Institute of Technology, Bangalore, Karnataka.

**Rachana C.**, Department of Telecommunication, Engineering, Bangalore Institute of Technology, Bangalore, Karnataka.

**Shashank V.**, Department of Telecommunication, Engineering, Bangalore Institute of Technology, Bangalore, Karnataka

### **Abstract:--**

Agricultural productivity is an important criterion in Indian Scenario. This is the one of the reasons that disease detection in plants plays an important role in agriculture field, as having disease in plants are quite natural. If proper care is not taken in this area then it causes serious effects on plants. Major challenges that the farmers face are higher cost of production due to pesticides. To enhance the quality and quantity of the agriculture product, there is a need to adopt a new technology. Pesticide management requires early and cost effective solutions which will lead to higher yield. Image processing approach is a technique which provides consistent, reasonably accurate, less time consuming and cost effective solution for farmers to manage pesticides. Detection of plant disease through automatic technique is beneficial as it reduces a large work of monitoring in big fields of crops. It detects the symptoms of diseases i.e. when they appear on plant leaves. This paper uses kMeans Clustering algorithm for image segmentation technique for automatic detection of plant leaf diseases. Raspberry PI is used for the implementation of the system and an alert message about the disease caused is sent via E-mail or SMS to the farmer

### **Keywords:—**

Leaf disease detection; Image processing; Raspberry Pi; k-means clustering algorithm.

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# *International Conference on Innovative Ideas in Engineering and Technology*

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## Simple Floor Cleaning Robot

**Dr. U.M.Netravati.**, Prof & HOD, EEE Dept, RYMEC, Ballari.

**Sandeep Reddy KS.** 8th sem, EEE Dep, RYMEC, Ballari.

**Anand Sagar K.**, 8th sem, EEE Dep, RYMEC, Ballari

**Hanumesh K.**, 8th sem, EEE Dep, RYMEC, Ballari

**Divya KJ.**, 8th sem, EEE Dep, RYMEC, Ballari

### ***Abstract:--***

The research paper details the development of Automatic Floor Cleaner. The project is used for domestic and industrial purpose to clean the surface automatically. When it is turned ON, it sucks in the dust by moving all around the surface (floor or any other area) as it passes over it. The controller is used to drive the motors and the suction unit also a couple of sensors are used to avoid the obstacles. This can be useful in improving the lifestyle of mankind.

### ***Keywords:—***

Microcontroller, Motor Driver, Ultrasonic Sensor, Suction Unit, Vacuum Unit.

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## Wireless Transmission System to Active Load

**K. Raghavendra prasad.**, Prof & HOD, EEE Dept, RYMEC, Ballari.

**Urukundappa .C.**, 8th sem, EEE Dep, RYMEC, Ballari.

**Manjunath. B.**, 8th sem, EEE Dep, RYMEC, Ballari

**Sonia K.J.**, 8th sem, EEE Dep, RYMEC, Ballari

**Sushma. G.**, 8th sem, EEE Dep, RYMEC, Ballari

### ***Abstract:--***

The main idea of this project is to explain advanced method of wireless power transmission compared to old design. This project transfers power without wires and supplies load. Wireless power transmission (WPT) has been attracting a wide range of subjects in various fields and also become a highly active research area because of their potential in providing high technology to our daily lives. The wireless power transmission will be mandatory to use in the near future because this technology enables the transmission of electrical energy from a power source to an electrical load across an air gap without interconnecting wires. In this paper, we carry out a pilot study to present the existing technologies of wireless power transmission, their recent technology as well as its future trends. Furthermore, we also describe plenty of applications in wireless transmission. The wireless power transmission technology is well suited for transferring power to the home appliances without wires such as smart phones, tablets, LED TV's, DVD player and home lighting systems and also for military surveillances. Commonly the Electro Magnetic (EM) waves are used for transferring the electric power through air to get a device powered.

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## Ontology of Direction of Arrival Estimation Methods Based On Bias, Resolution, Variance, SNR & Performance

**Awab Habib Fakih.**, Asst.Professor (AIKTC, Panvel), Research Scholar,VTU(RRC), Belgaum,Karnataka, India.

**Dr.S.M.Shashidhara.**, Professor,Dept of Electrical and Electronics Engg., Raobahadur Y Mahabaleswarappa Engg College, Ballari, India.

### **Abstract:--**

The DOA estimation in array signal processing is one of the important and emerging research area. The effectiveness of this direction of arrival estimation greatly determines the performance of smart antennas.it works on digitized output from each sensor array. The estimation results for coherent signals, broadband signals and multiple signals are of greater consideration. Various information's of the parameters relating to a particular wave can be obtained by analyzing the incoming wave, that is received by a sensor or N array of sensors the accuracy is the estimation of direction of arrival is very crucial in array signal processing. DOA estimation has vital application in radar, SONAR, seismology, earthquake, astronomy, biomedicine and communication the purpose of this papers is to provide analysis of Bartlett method, MUSIC method, Linear prediction method, Max Likelihood method, Minimum Norm method, CLOSET method, ESPRIT Method, etc. between several Direction of presented. The informative signal are corrupted by an additive white Gaussian noise (AWGN), to show performance of each method by applying directly algorithms without pre-processing techniques.

### **Keywords:—**

DOA Estimation; MUSIC; MVDR; Min-Norm.

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## **IoT Based Smart Garbage and Waste Collection Bin**

**Varun B.**, Dept of Electrical and Electronics Engg., Raobahadur Y Mahabaleswarappa Engg College, Ballari, India.

**Shambunath D M.**, Dept of Electrical and Electronics Engg., Raobahadur Y Mahabaleswarappa Engg College, Ballari, India.

**Vishwaradhya C M.**, Dept of Electrical and Electronics Engg., Raobahadur Y Mahabaleswarappa Engg College, Ballari, India.

**Hemavathi.**, Dept of Electrical and Electronics Engg., Raobahadur Y Mahabaleswarappa Engg College, Ballari, India.

### ***Abstract:--***

Many times, in our city we see that the garbage bins or dustbins placed at public places are overloaded. It creates unhygienic conditions for people as well ugliness to that place leaving bad smell and also leading to so many diseases like malaria, fever, dengue, chikungunyaetc. From survey it is known that in the world the death rate because of mosquitoes bite is more so it is necessary to clean the dust bin from time to time and also well in advance. Because of these diseases are incurable and take the life of human beings. To avoid all such situations we are going to implement a project called IOT based smart garbage and waste collection bins. These dustbins are interfaced with microcontroller based system having IR wireless systems along with central system showing current status of garbage. The status will be wirelessly send to the control unit. The main aim of this project is to reduce human resources and efforts along with the enhancement of a smart city vision.

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*Organized by:*

**Rao Bahadur Y Mahabaleswarappa Engineering College Ballari, Karnataka**

*And*

**Institute For Engineering Research and Publication (IFERP)**

