





## **INDEX**

**CRITERION: 3.3.3** 

## Details of Books publication, Book Chapters and Conferences participation during 2021-16

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2	Cover page content page and certificates of selected article during 2020-21	43
3	Cover page content page and certificates of selected article during 2019-20	101
4	Cover page content page and certificates of selected article during 2018-19	127
5	Cover page content page and certificates of selected article during 2017-18	196
6	Cover page content page and certificates of selected article during 2016-17	256







## Details of Faculty participation in books, chapters and conference / 2016-21

SN	Name of the teacher	Title of the book/ chapters published	Title of the paper	Name of the conference	ISBN/ISSN number of the proceeding	Name of the publisher
			2020-21 CIVIL			
1	Ms.R.Revathi		Experimental Investigation on self curing, self compacting and high performance concrete with Bamboo	International Conference on Emerging Technologies and adaptation in Geotechnical Engineering – ICETAGE'21, organized by Meenakshi Sundharam Engineering College		Meenakshi Sundharam Engineering College
2	Mr.R.Sundhara m		Experimental Investigation on Geomembrane by Recycled plastic waste	International Conference on Emerging Technologies and adaptation in Geotechnical Engineering – ICETAGE'21, organized by Meenakshi Sundharam Engineering College		Meenakshi Sundharam Engineering College
3	Mr.R.Sundhara m		Experimental Investigation on Geomembrane by Recycled plastic waste	Virtual National Conference on Sustainable Technologies and smart materials (NCSSM-2021) organized by SRM TRP Engineering College		Meenakshi Sundharam Engineering College
4	Mr.K.Arun		Experimental Investigation on partial utilization of crushed oyster shell for fine aggregate in SCC	International Conference on Emerging Technologies and adaptation in Geotechnical Engineering – ICETAGE'21, organized by Meenakshi Sundharam Engineering College		Meenakshi Sundharam Engineering College
5	Mr.K.Arun		Comparative study on conventional fine aggregate versus crushed oyster shell for fine aggregate in SCC	Virtual National Conference on Sustainable Technologies and smart materials (NCSSM-2021) organized by SRM TRP Engineering College		SRM TRP Engineering College

6	Ms.V.Ishwarya		Experimental Investigation on permeable pavement block by using construction waste	e- National Conference on Emerging Trends and advanced technologies in Civil Engineering (NC – ETATCE'21) Organized by KCE	978-93-85057	Kings College of Engineering
	1		CSE		ı	
1	Ms. S.PUVANESWA RI, etal		Social networking application for KCE	National Level Conference on Recent Trends in Computing & Communication Technologies for Smart Environment – NCRTCCTSE'21	978-93-85057- 18-2	Kings Publication
2	Ms.J.CHANDRAP RIYA,		Mental Health Care Application	National Level Conference on Recent Trends in Computing & Communication Technologies for Smart Environment – NCRTCCTSE'21	978-93-85057- 18-2	Kings Publication
3	Dr. S. M. Uma, Dr. D. Sivakumar		Intrusion Detection System using Deep Learning A New hybrid Genetic Search Algorithm and Invasive Weed Optimization Algorithms for Skin Lesion Cancer Classification	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)		Shri Vishnu Engineering College for Women
4	Dr. S. M. Uma, Dr. D. Sivakumar		A Novel Approach to Solve Class Imbalance by using Ensemble Classifier	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
5	Mrs. R. Sugantha Lakshmi , Mrs. G. Chandra Praba, Mrs.K.Abhirami	<del></del>	Automated Water Management and Leakage Detection System using IOT	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	_	Shri Vishnu Engineering College for Women
6	J. Chandra Priya,S. Puvaneswari, etal		BIIoT: Provenance of Industrial IoT Data with Blockchain Technology	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	_	Shri Vishnu Engineering College for Women
7	Dr. S. M. Uma, etal		Biometric based Secured ATM Transaction incorporating GSM Technology	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	_	Shri Vishnu Engineering College for Women

8	Ms. R. Suganthalaksh mi, etal	 Covid-19 Facemask Detection with Deep Learning and Computer Vision	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
9	Mrs. S. Puvaneswari, etal	 Criminal Investigation Tracker with Suspect Identification	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
10	S.Puvaneswari & J.Chandrapriya	 Detection of Gas Leakage in Polymer Industries using IOT	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
11	Dr. S. M. Uma, etal	 Digitized Banking Transactions using QR Scanner	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
12	Mrs. G. Chandra Praba, et.al	 Fake Education Document Detection using Image Processing and Deep Learning	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
13	Mr. M. Arun, et.al	 Food Conservation Application - Mobile App Connecting Provider and Consumer	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
14	Ms.K. Abhirami, et.al	 Handwritten Digit Recognition for Banking System	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women

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15	Mr. S. Rajarajan, et.al		Intrusion Detection System using Deep Learning	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
16	K. Abhirami, G. Chandra Praba, R. Sugantha Lakshmi		IOT Based Paddy Crop Disease Identification and Prevention System using Deep Neural Networks and Image Processing	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
17	Mrs. K. Abhirami, et.al		Iris Detection based Authentication for Secure Voting System	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
18	Mrs. G. Chandra Praba, Mrs. K. Abhirami, Mrs. R. Suganthalaksh mi		Prediction and Analysis of Key Performance Indicators (Kpi) For Students using Data Science	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
19	Dr. D. Sivakumar, Preetha. B, Priyadharshini. K, Thulasi. K		Smart E-Marketing in Agricultural Products	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
20	Mr.R.Sriramku mar, et.al		Wireless IoT based Solution for Women Safety	Online International Conference on Recent Advances in Deep Learning (ICRADL-2021) Organized by Shri Vishnu Engineering College for Women(Autonomous)	-	Shri Vishnu Engineering College for Women
			ECE			
1	R. J. Kavitha, T. Avudaiyappan, T. Jayasankar, J. Arputha Vijaya Selvi	Smart Sensors for Industrial Internet of Things	Industrial Internet of Things (IIoT) with Cloud Teleophthalmology-Based Age-Related Macular Degeneration (AMD) Disease Prediction Model	-	978-3-030- 52623-8	Springer International Publishing
2	Sathyaraj R et al		An IOT based Efficient Waste Collection Management with Smart Bins	7th International E- Conference on Latest trends in Science, Engineering and Technology, Karpagam Institute of Technology	-	Karpagam Institute of Technology

3	U.Jeyamalar et al	IOT Based multifunctional agribot	7th International E- Conference on Latest trends in Science, Engineering and Technology, Karpagam Institute of Technology	-	Karpagam Institute of Technology
4	P.Rajapirian et al	Environmental Climate creation for Plant using IOT(Polyhouse)	7th International E- Conference on Latest trends in Science, Engineering and Technology, Karpagam Institute of Technology	-	Karpagam Institute of Technology
5	R.Ponni et al	Implementation of assistive robot for patient monitoring	7th International E- Conference on Latest trends in Science, Engineering and Technology, Karpagam Institute of Technology	-	Karpagam Institute of Technology
6	R.Balakrishnan et al	Advanced fire detection system for Indian Railways	7th International E- Conference on Latest trends in Science, Engineering and Technology, Karpagam Institute of Technology	-	Karpagam Institute of Technology
7	N.Mangaiyarkar asi et al	Real time safety system for women using GSM(HEVERA)	7th International E- Conference on Latest trends in Science, Engineering and Technology, Karpagam Institute of Technology	-	Karpagam Institute of Technology
8	S.Ramarajan et al	Design and Implementation of safe drive for Electrical vehicle with IOT	International Virtual Conference on Innovative Research in Power and Energy Engineering, Arasu Engineering College,Kumbakonam	-	Arasu Engineering College
9	T.Pasupathi et al	IIOT Based Smart Control Model for Motorcycle Durability Test	International Virtual Conference on Innovative Research in Power and Energy Engineering, Arasu Engineering College,Kumbakonam	-	Arasu Engineering College
10	S.Sivakumar et al	Design and Implementation of border security system in military field	International Virtual Conference on Innovative Research in Power and Energy Engineering, Arasu Engineering College,Kumbakonam	-	Arasu Engineering College
11	D.Vennila et al	Design of an Intelligent Wheel Chair System using Arduino	7th International E- Conference on Latest trends in Science, Engineering and Technology, Karpagam Institute of Technology,26- 27th March 2021, Coimbatore	-	Karpagam Institute of Technology

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12	T.Shanthi et al	Design and Implementation of E Vehicle Charging Station Using Solar With IOT	7th International E- Conference on Latest trends in Science, Engineering and Technology, Karpagam Institute of Technology	-	Karpagam Institute of Technology
13	P.Raja pirian, R.Hinduja	Advanced Secure Electronic Voting Machine Using Deep Learning	Engineering-2021, Cambridge Institute of Technology, Bangalore	-	Cambridge Institute of Technology,
14	W.Newton David Raj	Single watermark for image watermarking	National conference on advancement in Electronics and Communication for Digital India, Kings College of Engineering	ı	Kings College of Engineering
15	K.Sudharsanan	Medical application of Electromagnetic fields	National conference on advancement in Electronics and Communication for Digital India, Kings College of Engineering	-	Kings College of Engineering
16	K.Sudharsanan	Energy efficient routing protocol for WSN	International Conference on Recent trends in Engineering and Technology, Samskruti College of Engineering and Technology.	-	Samskruti College of Engineering and Technology.
		EEE			
1	M. Meenalochani , A. Albert Martin Ruban	PV Based Switched Capacitor Converter for NPC Inverter in Grid Connected Applications	International Conference on Research and Developments in Science, Engineering and Technology (ICRDSET)	-1	St. Anne's College of Engineering and Technology,
2	S.R. Karthikeyan, J. Arokiaraj	IoT Based Monitoring and Control of Distribution Transformer & Transmission Lines	International Conference on Research and Developments in Science, Engineering and Technology (ICRDSET)	-	St. Anne's College of Engineering and Technology,
3	N.Rajeswari , A. Albert Martin Ruban	A Single Phase Bidirectiona Electric Drive Reconstructed Onboard Converter For Electric Vehicles Applications	International Conference on Research and Developments in Science, Engineering and Technology (ICRDSET)	-	St. Anne's College of Engineering and Technology,
4	Mr.S.R.Karthike yan	Non Touching Attendance Monitoring Systems	AICTE Sponsored International E-Conference on Smart Technologies in Electric Vehicles & Power Grid	-	Sri Venkateswara College of engineering

				National Conference on		
5	Mr.S.R.Karthike yan		Touch Free Smart Gadget	"Flourishing Areas in Electrical and Electronics Engineering" (NACOFEE'21)	978-93-85057- 23-6	Kings College of Engineering
6	Mr.S.R.Karthike yan		IoT Based Monitoring and Control of Distribution Transformer and Transmission Lines	National Conference on "Flourishing Areas in Electrical and Electronics Engineering" (NACOFEE'21)	978-93-85057- 23-6	Kings College of Engineering
7	Dr.M.Meenaloch ani		Early prediction of breast cancer through machine learning with minimal features	6th international E- conference on information technology & society 2020 (ICITS 2020)	-	International Islamic university college, selangoor, Malaysia
8	Dr.M.Meenaloch ani		Machine learning based vehicle health monitoring system	6th international E- conference on information technology & society 2020 (ICITS 2020)	-	International Islamic university college, selangoor, Malaysia
9	Mr.R.Sundaram oorthi		Battery Management Systems using Ultra Capacitor for Electric Vehicles and Energy Storage Applications	International E-conference on "Challenges and Opportunities in Renewable Energy, Smart systems and E-obility" (ICCORSE-2020)	-	Eswari Engineering College
10	Mr.R.Sundaram oorthi		Study of Battery Electric Vehicle Performance using Ultra capacitor and digital Controller	Virtual International Conference on Power Initiatives (ICPI-2020)	-	K.Ramakrishn an College of engineering, Trichy
		m. (D. 3	Mech		<u> </u>	
1	Dr.P.P.Shanthar aman, Dr.T.Pushparaj	Text Book on Internal Combustion Engines	-	-	978-93-5437- 340-4	Kings Publications
2	Dr.P.P.Shanthar aman, R. Shankar	Text Book on Power Plant Engineering	-	-	978-93-5445- 571-1	Kings Publications
3	PP Shantharaman, T Pushparaj, M Prabhakar	New Ideas Concerning Science and Technology	Chapter on "Study on Performance and Emission Studies on Cashewnut Shell Liquid Bio-Oil Fuelled Diesel Engine with Acetone as Additive"	-	978-93-90768- 71-4	B P International
4	M.Aswin, Aravindasamy, Arjunkumar, Maheswaran, Manimaran		Mechanical and Corrosion Behaviour of Aluminium welded metals Al6061 & Al7075.	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications

5	M.Prasanth, K.Prem kumar, N.Santhosh kumar, K.Ajith kumar, M.Melwin Jagadeesh Sridhar	Tribological behaviour and characterization studies on Metal Matrix Composities	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
6	M.Sathyamoort hi,K.Senthamizs udar, R.Senthil, R.Sriharan,S.Sab anayagam	Corrosion Behavior of IN625 coated Stainless Steel (SS309) at an elevated temperature of 800°C.	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
7	M.Prakesh,M.Sa rathkumar, B.D.Senthamil priyan, R.Mukilan, M.MelwinJagade esh Sridhar	Mechanical Testing and characteristics of Copper Matrix Composite through Powder Metallurgy route	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
8	Shankar.R,Kabil an.S,Annamalai. K,Balamurugan .M,Kathiravan.R	Efficiency Improvement in polycrystalline solar panel by thermal control	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
9	S.Siva, M.Subhaneshwa ran, A.Suriya, J.Vijaychandru,S .Desikan	Analyse the effect of welding parameter in Gas Tungsten arc welding process in Caron and Alloy steel plate.	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
10	K.Shriram sundar,M.Venka tesh,MV.Venkat eswaran,E.Dines h,M.Sakthivel	Investigation of Mechanical properties for Sisal and Abaca with Epoxy resin composite material	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
11	D.Thirupugazh, S.Vishnu,R.L.Wil ber Judson,K.Santho sh shivan	An Experimental investigation and optinmization of friction stir welding on AA6061 & AA5052	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
12	P. Enoch Ebenezer, J. Abdul Shimak, R. Hariharan, M. Karthick,S. Desikan	Design and fabrication of portable micro grinding machine using Carbonium wheel and analysis on different materials	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
13	S. Nelson raja, K.vadivel, R.rajadurai	An investigation on mechanical properties of combined natural fibers using epoxy resin	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
14	Pushparaj.T,Dhi vakaran.K, Hariharan.V,Ma nimaran.S,Muth u Manikandan.J	Solar Powered Trolley	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications

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15	P.Raghu Devan,T.Raghul, N.Renga Rajan,S.Ruban, M.Ashwin		Application of Grey relation analysis to optimize EDM parameters for cast Aluminium Composite Plates	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
16	Agilan.H, Dr.Pushparaj.T		Performance and Emission Characteristic Analyses in CI Engine by Using of Alternative Fuel of Jojoba and Juliflora with I Pentanol Additives	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
17	Shantharaman.P .P, Alagesan.K, Bharath.M, Infantraja.S, Karan.K		Fabrication and Properties of Magnesium Hybrid Nano Metal matrix composites using powder metallurgy	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
18	S.Sabanayagam, S.Abbas Mohamed,S.Abi shek,A.Jerome Nicholas,D.Mad esh		Structural Characterization on Stainless Steel (SS316) with Inconal 625 Coating by HVOF	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
19	Agilan.H,AjithK umar.K,Rajaraje shwaran.B,K.VS asiKumar,Vigne shKumar.J		Performance and Emission Characteristics on Biofuel in CI Engines	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
20	R. Shankar, S. Muthu, K. Keerthivasan, Sudarsan, K. Kannan		Design and Fabrication of Motorized Sheet Metal Rolling Machine	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
21	N.Magesh, A.Murugesan , B.Prakash, P.Kaviyarasu , R.Pragadeesh		Pumpkin and Maize Biodiesel with Elaeocarpus Ganitrus Additive Performance Emission Analysis in CI Engine	National Conference on Energy and Manufacturing Scenario-2021	978-93-85057- 22-9	Kings Publications
	<u> </u>		S&H		Γ	
1	Dr.V.Suresh Kumar & Dr.P.Saravanan	CY8151- Engineering Chemistry	-	-	7.89385E+11	KINGS PUBLICATION
			2019-20 CSE			
1	Ms.G.ChandraPr aba, et.al		Prediction and Analysis of Key Performance Indicator (KPI) for Student using Data Science	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
2	Ms.R.Ranitha, et.al		IOT based Early Detection and Prediction of Unfavourable Pathogens in Cattle (Cow)	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College

3	Ms.R.Sugantha Lakshmi, et.al	Automated Water Management and Leakage Detection System using IOT	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
4	Mr.R.Sriram Kumar, et.al	Smart Self Defense & Monitoring System incorporating GPS and GSM Technologies	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
5	Ms.S.Puvaneswa ri, et.al	IOT Based Fire and Gas Accident Prevention System for Industries	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
6	Ms.K.Abhirami, et.al	IOT Based Paddy Crop Disease Identification and Prevention System	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
7	Dr.D.Sivakumar, et.al	IOT based Smart System Detecting Air Pollution Aiding Asthma Patient	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
8	Ms.P.Nalayini, et.al	Mono Systematic Monitoring system handling multiple sequence of DB.	International Conference on Intellectual Research in Science, Engg&Mgmt ICIRSEM- 2020	-	St.Joseph College of Engineering &Techonology
9	Mr.M.Arun, et.al	IOT Based auto climate change monitoring to support warehouse logistics	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
10	Mr.S.Rajarajan, et.al	Heart Arrhythmia Detection Using GPU Deep Learning	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
11	Mr.K.Rajesh, et.al	Android App Handling Clinical Data Aiding Diagnosis	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
12	Ms.B.Sangeetha, et.al	Forest Fire Detection Based on IOT	National conference on "Recent Trends and Technologies in Computing" – NCRTTC'20	-	Arasu Engineering College
13	Dr.S.M.Uma, et.al	IOT Based Transformer Monitoring System	National Conference on ETCCCT - 2020	978-93-85057- 19-9	Kings College of Engineering
14	Ms.G.ChandraPr aba, et.al	Multi view facial expression based on gsrrr model	Advanced Technology in power & robotics engg (ICONPOWROBO'20)	978-81- 944813-4-8	Arasu Engineering College
15	Dr.S.M.Uma, et.al	Home appliances control using Android Application	International Conference on Intellectual Research in Science, Engg&Mgmt ICIRSEM- 2020	-	St.Joseph College of Engg. &Tech.

16	Dr.S.M.Uma, et.al	Skin lesion classification using supervised algorithm in Data mining	International conference on Advanced Technology in power & robotics engg (ICONPOWROBO'20)	978-81- 944813-4-8	Arasu Engineering College
17	Mr.S.Rajarajan, et.al	A Data sharing protocol to minimize security and privacy risks in cloud storage	International conference on Advanced Technology in power & robotics engg (ICONPOWROBO'20)	978-81- 944813-4-8	Arasu Engineering College
18	Dr.S.M.Uma, et.al	Feature Selection Technique using Hybridization IWO and SSA for Skin Lesion cancer prediction	National Conference on ETCCCT	978-93-85057- 19-9	Kings College of Engineering
	T T	ECE	Γ		
1	P.Rajapirian, et.al	Vision based onboard controller for safe landing and target detection using UAV	International conference on Intellectual Research in Science, Engineering and Management (ICIRSCM2000), at ST.Joseph's College of Engineering and Technology, Thanjavur	-	ST.Joseph's College of Engineering and Technology,
2	P.Rajapirian, et.al	UAV based rice corp monitoring system	National Conference on Emerging Trends in Computing, Control and Communication Technologies (ETCCCT'20), Kings college of Engineering	-	Kings College of Engineering
3	R.Sathyaraj et al	Implementation of Smart agriculture using IoT	National Conference on Emerging Trends in Computing, Control and Communication Technologies (ETCCCT'20), Kings college of Engineering, Pudukkottai	-	Kings College of Engineering
4	Herald A	Design and analysis of antenna for underwater communication	International Conference on Empowering Engineering and Technology (ICEET-2020), Parisutham Institute of Technology and Science, Thanjavur	-	Parisutham Institute of Technology and Science,
5	U.Jeyamalar, R.Hinduja	Women security and self defence system, National Conference on Emerging Trends in Computing	National Conference on Emerging Trends in Computing, Control and Communication Technologies (ETCCCT'20), Kings college of Engineering, Pudukkottai	-	Kings College of Engineering

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6	P.Thirumagal et al	Green leaf disease detection using Raspberry Pi	National Conference on Emerging Trends in Computing, Control and Communication Technologies (ETCCCT'20), Kings college of Engineering, Pudukkottai	-	Kings College of Engineering
7	R.Balakrishnan, et.al	Advanced design of solar powered agricultural robot	Proceeding of 2nd International conference on communication, computing and Internet of Things (IC310T-2020)	-	Kings College of Engineering
		EEE			
1	Dr.S.Sivakumar	Prediction of Fault and Protection of Single phase motor	International conference on "Advanced Technologies in Power and Robotics Engineering" (ICON POWROBO'20)	978-81- 944813-4-8	Arasu Engineering college
2	Dr.A.Albert Martin Ruban	Optimised Domestic Load Scheduling for Power Management in Smart Grid	International conference on "Advanced Technologies in Power and Robotics Engineering" (ICON POWROBO'20)	978-81- 944813-4-8	Arasu Engineering college
3	Mr.R.Sundaram oorthi	Implementation of Battery Monitoring and Smart Charging using IOT for Electrical vehicle Operation	International conference on "Advanced Technologies in Power and Robotics Engineering" (ICON POWROBO'20)	978-81- 944813-4-8	Arasu Engineering college
4	Dr.M.Meenaloch ani	An Intelligent technique for fault detection in smart grid		978-81- 944813-4-8	Arasu Engineering college
		Mech	•		
1	Dr.T.Pushparaj	Comprehensive assessment of performance and emission characteristics of Pumpkin sheed oil with C2H5 20 and Jojoba sheed oil with C5H1 20 in CI engine	International Conference on Nanotechnology : Ideas, Innovation and Initiatives (ICN2K19)	-	Syed Ammal Engineering College Ramanathapur am, India
2	S. Sabanayagam, S. Chockalingam	Analysis of High Temperature oxidation behaviour of SS316 by Al203 and Cr203 Coating	International Conference on Nanotechnology : Ideas, Innovation and Initiatives (ICN2K19)	-	Syed Ammal Engineering College Ramanathapur am, India
		S&H			
1	Dr.P.Saravanan	Dyeing of Polyester with Eco – Friendly Natural dye obtained from flowers of Lantana Camara Ling	National Conference on Multidisciplinary Research in Science and Humanities	-	Arasu Engineering College,Kumba konam

2	Mrs.T.Gnanajey a	-	1.Neutrosophic Forests and Neutrosophic Trees.	Virtual Heber International Conference on Applied Mathematics	-	Bishop Heber College, Trichy
3	Mrs.T.Gnanajey a	-	2.Isomorphic Single Values Neutrosophic Graphs and their Complements	e-National Conference on Advancements of Science and Humanities at Kings College of Engineering	-	Kings College of Engineering
4	Dr.G.Shankarak alidoss	-	Decagonal Numbers- Simultaneously Equal to Triangular And Hexagonal Numbers	International Conference on Recent Trends and Technology of Mathematics & Science	-	Queens College of Arts and science
5	Dr.R.Suresh	-	Characteristics of Complex Neutrosophic Graphs	International Web – Conference on Complex Analysis and Differential Geometry:Revisiting	-	SKBU University , West Bengal
			2018-19			
	T		CIVIL	T .		I
1	Dr.R.Saravanan	Railways ,Airports and Harbour Engineering	-	-	978-81- 932114-7-2	Suchitra Publications chennai
2	Dr.R.Saravanan	Concrete Technology	-	-	978-81- 932114-9-6	Suchitra Publications chennai
3	Ms.R.Revathi	1	Experimental investigation on concrete by replacement of fine aggregates with stabilised soil	4th International conference on cement research in engineering science and technology, Jayaram college of engineering and technology	-	Jayaram college of engineering and technology
4	Ms.R.Revathi	-	Experimental study on recycled coarse aggregate in concrete in concrete by using m-sand and silica fume	National conference on recent trends in civil engineering,Mother Teresa College of Engineering & Technology	-	Mother Teresa College of Engineering & Technology
5	Mr.R.Sundhara m	-	Experimental Report on Flexible Pavement by Using Hydrophobic Silica, Zeolite and Steel Mesh	International Conference on "Multi Disciplinary Research (ICMR 2019)",KSK College of Engineering & Technology, Kumbakonam	-	KSK College of Engineering & Technology,
6	Mr.R.Sundhara m	-	Experimental Investigation on Carbon Nanotube Concrete	International Conference on "Multi Disciplinary Research (ICMR 2019)",KSK College of Engineering & Technology, Kumbakonam	-	KSK College of Engineering & Technology,
7	Mr.R.Sundhara m	-	Experimental Study On Partial Replacement Of Clay Using Boiler Ash In Bricks	National Conference on "Innovative Trends and Advances in Civil Engineering (NCITACE'19)"	-	Kings College of Engineering

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8	Mr.R.Sundhara m	-	Experimental Study On Partial Replacement Of Cement Using Egg Shell Powder And Brick Powder	International Conference on "Emerging Technique in Engineering Technology and Management - 2019"Rathinam Technical campus, Coimbatore.	-	Rathinam Technical campus, Coimbatore.
9	Mr.K.Arun	-	Experimental Investigation on Partial Replacement of Cement Using Medical Waste in Concrete	International Conference on Emerging Techniques in Engineering Technology and Management ,Rathinam Technical campus, Coimbatore	-	Rathinam Technical campus, Coimbatore.
10	Mr.K.Arun	1	Experimental Investigation on Partial Replacement of Bitumen Using Sugarcane Molasses	International Conference on Emerging Techniques in Engineering Technology and Management,Rathinam Technical campus, Coimbatore	-	Rathinam Technical campus, Coimbatore.
11	Mr.K.Arun	-	Comparative Study on Polymer Fibre Reinforced Concrete with Conventional Concrete	National Conference on Recent Trends in Civil Engineering (NCRTCE'19),Mother Teresa College of Engineering and Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology
12	Ms.S.Kamaraj	-	Comparative Study of Self Curing Concrete with Super Absorbent Polymer and Glycerine	International Conference on "Recent Trends in Nano materials for Energy, Environmental and Engineering applications (ICONEEEA-2K19)",K.Ramakrishna College of Technology, Trichy	-	,K.Ramakrishn a College of Technology,
13	Ms.S.Kamaraj	-	Experimental Study Of Fibre Reinforced Concrete	National Conference on "Innovative Trends and Advances in Civil Engineering (NCITACE'19)"	-	Kings College of Engineering
14	Ms.S.Kamaraj	-	Experimental Investigation Of Brick Manufacturing Using Phopho Gypsum	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology
15	Ms.S.Kamaraj	-	Experimental Investigation on Strength of Fly ash Bricks with Addition of Lime, M- Sand and Gypsum.	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology

16	Mr.S.R.Elwin Guru Chanth	-	Experimental Investigation on Composite Bricks with Partial Replacement of Weeds Ash	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology
17	Mr.S.R.Elwin Guru Chanth	-	Experimental Study On Partial Replacement Of Cocunut Fibres And Sea Shell In Roofing Tiles	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology
18	Mr.K.Ranjith	-	Experimental investigation of plastic sand coarse aggregate	International conference on Multidisciplinary Research (ICMR - 2019)	-	School of Distance Education (SDE), Universiti Sains Malaysia (USM)
19	Mr.K.Ranjith	-	Experimental investigation on Marble powder on concrete as replacement of cement	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology
20	Mr.M.Mohamed Ilyas	-	Experimental Investigation on Concrete by Partial Replacement of Cement by Metakaolin	International Conference on "Current Research in Engineering, Science & Technology", Jayaram College of Engineering & Technology, Trichy	-	Jayaram College of Engineering & Technology
21	Mr.M.Mohamed Ilyas	-	Experimental Study On Partial Replacement Of Cement Using Rice Husk	National Conference on "Innovative Trends and Advances in Civil Engineering (NCITACE'19)"	-	Kings College of Engineering
22	Ms.V.Ishwarya	-	Experimental Investigation on Partial Replacement of Coarse Aggregate and Cemnt Concrete by rubber tyre and Silica Fume in Concrete	International Conference on "Current Research in Engineering, Science & Technology", Jayaram College of Engineering & Technology, Trichy	-	Jayaram College of Engineering & Technology
23	Ms.V.Ishwarya	-	Comparitive Study On Partial Replacement Of Sand Using Crumb Rubber With Conventional Concrete	National Conference on "Innovative Trends and Advances in Civil Engineering (NCITACE'19)"	-	Kings College of Engineering
24	Ms.V.Ishwarya	-	Experimental Study On Partial Replacement Of Coarse Aggregates With Qyarry Dust And Copper Slag	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology

25	Ms.M.Priya	-	Experimental Study on Partial Replacement of Coconut Shell as Coarse Aggregate in Concrete	National Conference on "Innovative Trends and Advances in Civil Engineering (NCITACE'19)"	-	Kings College of Engineering
26	Ms.M.Priya	-	Experimental Investigation Of Manufacturing Of Fly Ash Bricks	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology
27	Ms.K.Jeyashank ari	-	Experimental Study Of Papercrete In Concrete	International Conference on "Multi Disciplinary Research (ICMR 2019)",KSK College of Engineering & Technology, Kumbakonam	-	KSK College of Engineering & Technology
28	Ms.K.Jeyashank ari	-	Experimental study on Partial Replacement of Cement by Ground Granulated Blast Furnace Slags(GGBFS)	National Conference on "Innovative Trends and Advances in Civil Engineering (NCITACE'19)"	-	Kings College of Engineering
29	Ms.K.Bhavarohi ni	-	Comparitive Study Of Normal Paver Block With Partial Replacement Of Sand By Saw Dust	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology
30	Ms.K.Bhavarohi ni	-	Experimental Investigation of Partial Replacement of Clay by Waste Water Sludge and Silica Fume in Bricks	National Conference on "Recent Trends in Civil Engineering",Mother Teresa College of Engineering & Technology, Pudukkottai	-	Mother Teresa College of Engineering and Technology
			CSE		I.	
1	Dr.S.M.Uma et al	-	Autonomous Self Parking Robot	International Conference on Multi disciplinary Research	978-93-87793- 76-7	KSK College of Engineering
2	Ms.K.Abhirami et al	-	ANN Based credit card fraudulent detection using Autoencoder for Secured environment	International Conference on Multi disciplinary Research	978-93-87793- 76-7	KSK College of Engineering
3	Dr.D.Sivakumar et al	-	Computer interfaced smart A1 battle field Tank	International Conference on the Advances in information Technology and Networking	-	Dr.G.R.DAMOD ARAN College OF SCIENCE(AUT ONOMOUS),Co imbatore
4	Mr.R.SriramKu mar et al	-	Data Transfer over Internet using Quantum Key Distribution Protocol	National Conference NCACCPS'19	978-93-85057- 18-2	St.Josephs College of Engineering and Technology
5	Ms.R.Suganthala kshmi et al	-	Smart home automation system using IOT based Sensing and Monitoring	National Conference NCACCPS'19	-	St.Josephs College of Engineering and Technology

6	Ms.R.Suganthala kshmi et al	-	PACIFIER (Multi Utility Mobile Application"	International Conference on Multi disciplinary Research(ICMR'19)	978-93-87793- 76-7	KSK College of Engineering
7	Ms .R.Ranitha et al	-	Account trade: Accountable Protocols For Big Dara Trading Against DisHonest Consumers	International Conference on Multi disciplinary Research	978-93-87793- 76-7	KSK College of Engineering
8	Ms.B.Sangeetha et al	-	Radar Surveillance system with IOT Enabled system for security alert in bank and borders	International Conference on Multi disciplinary Research	978-93-87793- 76-7	KSK College of Engineering
9	Mr.S.Rajarajan et al	-	An Intelligent Solar LED Street Ligthting System	National Conference NCON'19		Kings College Of Engineering
10	Mr.S.Rajarajan et al	-	Edge Computing based Manhole Cover Management	National Conference NCON'19		Kings College Of Engineering
11	Ms.P.Nalayini et al	-	Speech Stress Analysis based lie detecting Software	International Conference on Multi disciplinary Research(ICMR'19)	978-93-87793- 76-7	KSK College of Engineering
12	Mr.K.Rajesh et al	-	Proposed Security Model for Session Transfer and Services using OTP	International Conference on Multi disciplinary Research(ICMR'19)	978-93-87793- 76-7	KSK College of Engineering
13	Ms.S.Puvaneswa ri et al	-	Automatic Railway Gate & Track monitoring System using IOT	International Conference on Multi disciplinary Research(ICMR'19)	978-93-87793- 76-7	KSK College of Engineering
14	Ms.G.Chandrapr aba et al	-	Semi supervived based PSO Framework for Microarray Analysis	International Conference on Multi disciplinary Research(ICMR'19)	978-93-87793- 76-7	KSK College of Engineering
15	Mr.M.Arun et al	-	Enhanced Automated Toll Collection	National Conference NCACCPS'19	978-93-85057- 18-2	St.Josephs College of Engineering and Technology
16	Ms.S.Puvaneswa ri et al	-	Automated trouble ticket routing models and their reviews based on demand of the user	Int. Conf on Electrical, Information and Communication Technologies, ICEICT – 2K'19	-	MAM College of Engineering,
17	Dr.S.M.Uma et al	-	Advanced Botnet command and control traffic detection	Int. Conf on Electrical, Information and Communication Technologies, ICEICT – 2K'20	-	MAM College of Engineering,
			ECE			
1	J.Arputha Vijaya Selvi, T.Pasupathi		An Inspired Underwater Communication Robotic Fish for Aquatic Animals	1st International Conference on Innovations in Information and Communication Technology (ICIICT), CHENNAI	-	IEEE Proceedings

2	T. Pasupathi and J. A. Vijaya Selvi	Wavefront Compensation Technique for Terrestrial Line of Sight Free Space Optical Communication	1st International Conference on Innovations in Information and Communication Technology (ICIICT), CHENNAI	-	IEEE Proceedings
3	N.Mangaiyarkar asi et al	Securing the national pride women safety by using IOT	International conference on multidisciplinary Research (ICMR-19), K.S.K.College of Engineering and technology, March-2019	-	K.S.K.College of Engineering and technology
4	N Mangaiyarkaras i, A. Aruna Devi	SAR ADC in CMOS for Medical Implant Devices	National Conference on Emerging Trends in Electronics and Communication Engineering (NTECE'19), Kings College of Engineering, Punalkulam	-	Kings College of Engineering
5	T. Shanthi	Multilayer Multifault diagnosis for fault tolerance network on chip (NOC),	National conference on advanced, computing and power system (NCACCPS- 2K'19), St. Josephs college of engineering and technology, Thanjavur	-	St. Josephs college of engineering and technology
6	R.Ponni, T.Jayasankar	Handover position based signaling sensor	National Conference on Emerging Trends in Computing, Control and Communication Technologies (ETCCCT'20)	-	Kings College of Engineering
7	K.Sudarsanan et al	Dual banned microstrip antenna design for WLAN application	National conference on advanced, computing and power system (NCACCPS- 2K'19), St.Josephs college of engineering and technology, , Thanjavur	-	St. Josephs college of engineering and technology
8	D. Thatshayini and Rajapirian	FPGA Realization of Fuzzy Based Robotic Manipulator for Agriculture Applications	1st International Conference on Innovations in Information and Communication Technology (ICIICT), CHENNAI	-	IEEE Proceedings
9	P.Rajapirian et al	IOT Applications on secure smart shopping system	National Conference on Emerging Trends in Electronics and Communication Engineering (NTECE'19), Kings College of Engineering, Punalkulam	-	Kings College of Engineering

10	P.Rajapirian, D.Thatshayini	Fuzzy based Robotic Manipulator with FPGA Realization for Cultivate Applications	National Conference on Emerging Trends in Electronics and Communication Engineering (NTECE'19), Kings College of Engineering, Punalkulam	-	St. Josephs college of engineering and technology
11	P.Rajapirian et al	Quick fix impedimenta for women's safety based on IOT, National conference	National conference on advanced, computing and power system (NCACCPS- 2K'19), St. Josephs college of engineering and technology	-	St. Josephs college of engineering and technology
12	R.Sathyaraj et al	Bus speed control when the human detector in the steps	I /K 191 St Incenhe college	-	St. Josephs college of engineering and technology
13	W.Newton david raj, et.al	Smart agriculture on planting & monitoring system for protected cultivation,	National conference on advanced, computing and power system (NCACCPS- 2K'19), St. Josephs college of engineering and technology, Thanjavur	-	St. Josephs college of engineering and technology
14	A.Herald, et al	Point of care implementation in blood cholesterol monitoring system for cardiovascular disease prevention	National conference on advanced, computing and power system (NCACCPS- 2K'19), St. Josephs college of engineering and technology, Thanjavur, March-2019	-	St. Josephs college of engineering and technology
15	D. Vennila and P. Rajapriyan	Design and Implementation of Low Power Nanogrid with Intelligent Solar PV Utilization	1st International Conference on Innovations in Information and Communication Technology (ICIICT), Chennai	-	IEEE Proceedings
16	D. Vennila et al	Implementation of roadside wireless sensor communication using intelligent navigation	National conference on advanced, computing and power system (NCACCPS- 2K'19), St. Josephs college of engineering and technology, Thanjavur	-	St. Josephs college of engineering and technology
17	S.Ramarajan et al	Implementation of effective driver vigilance system for drowsiness detection	National conference, National conference on advanced, computing and power system (NCACCPS- 2K'19), St. Josephs college of engineering and technology, Thanjavur	-	St. Josephs college of engineering and technology

18	S.Ramarajan et al	FPGA based real time data logging system for automatic metrological weather station, National conference on advanced, computing and power system (NCACCPS-2K'19), St. Josephs college of engineering and technology, Thanjavur, March-2019	-	St. Josephs college of engineering and technology		
19	J.Deepika, U.Jeyamalar	Measurement and Analysis of Human Body Communication for Bio- Medical Application  1st International Conference on Innovations in Information and Communication Technology (ICIICT), CHENNAI	-	IEEE Proceedings		
20	U.Jeyamalar et al	An IOT based system for passenger service and comfort in railways of engineering and technology, Thanjavur,	-	IEEE Proceedings		
21	S. Sheeba and T. Jeyaseelan	Design and Implementation of Reconfigurable Architecture for Automatic Monitoring and Detection System for Tonsillitis  1st International Conference on Innovations in Information and Communication Technology (ICIICT), CHENNAI	1	IEEE Proceedings		
22	S.Ashiga, J.S.Gayathri, S. Kavibala,P. Malathi	Design and implementation of physiological signal based driver state detection system in the national conference  National conference on advanced, computing and power system (NCACCPS-2K'19), St. Josephs college of engineering and technology, Thanjavur	-	St. Josephs college of engineering and technology		
23	P.Thirumagal, et al	Smart phone based photoplethysmography for physiotherapy  National conference on advanced, computing and power system (NCACCPS-2K'19), St. Josephs college of engineering and technology	-	St. Josephs college of engineering and technology		
24	R.Balakrishnan et al	Communication during natural disaster with help of black box  National conference, National conference on advanced, computing and power system (NCACCPS-2K'19),St. Josephs college of engineering and technology, Thanjavur	-	St. Josephs college of engineering and technology		
25	T. Pasupathi et al	Civil structure life monitoring and alert system using GSM  National conference on advanced, computing and power system (NCACCPS-2K'19), St. Josephs college of engineering and technology	-	St. Josephs college of engineering and technology		
	EEE					

1	Dr.S.Sivakumar	Intelligent Safe for Mob		of nics _	Kings College of Engineering, Punalkulam
2	Dr.S.Sivakumar	Implementatio automated Plar Storage Sy	on innovative Research for Grain Engineering and Scien	h in	
3	Dr.A.Albert Martin Ruban	IoT based Moni Controlling of appliance by us Technol	of home sing Zigbee  Electrical and Electror Engineering	of	Kings College of Engineering, Punalkulam
4	Dr.N.Hemavathi	Implementation Gesture based v for physically o perso	wheel chair challenged Simulation Technique	& s in _	AVC Engineering college,Mayila duthurai
5	Dr.N.Hemavathi	EG Chair:Eye a based Wheelch for Physically ( Perso	air Control Challenged  Electrical and Electror Engineering	of	Kings College of Engineering, Punalkulam
6	Mr.R.Sundaram oorthi	A simulation Electric drive po using ultra cap digital contro battery operat systen	erformance acitor and on Science, Technologoller and Engineering and Management (ICSTEM)	gy, -	KIT- Kalaignarkaru nanidhi Institute of Technology
7	Mr.R.Sundaram oorthi	Design of charg for solar power statio	ed charging Communication and S	gies -	Saranathan College of Engineering, Trichy
8	Mrs.N.Rajeswari	Solar based In Automatic Irrig Ligting syste Microcont	gation and Electrical and Electror	of	Kings College of Engineering, Punalkulam
9	Mrs.A.Prabha	Smart Grid M System based Measureme	on phasor Electrical and Electron	of	K.Ramakrishn an College of Engineering, Trichy
10	Mr.J.Arokiaraj	Microcontrol Monitoring and of PV panel b modu	Controlling by zigbee "Flourishing Areas of Electrical and Electron Engineering" (NACOFF)	of nics _	Kings College of Engineering, Punalkulam

11	Mr.J.Arokiaraj	IoT based Monitoring and Controlling of home appliance by using Zigbee Technology	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'18)	-	Kings College of Engineering, Punalkulam
12	Mr.C.Balaji	A New Soft Switching Dual Input Converter for Renewable Energy Systems	Electrical and Electronics	-	Kings College of Engineering, Punalkulam
13	Mr.J.Arokiaraj, Mr.S.R.Karthike yan	Solar based Inverterless Automatic Irrigation and Ligting system using Microcontroller	2nd International Conference on Innovations in Engineering, Technology and Science(ICIETS-2018)	-	NIE Institute of Technology, Mysore,
14	Mr.J.Arokiaraj, Mr.S.R.Karthike yan	IoT based smart home Automation	National Conference on Modeling, Analysis & Simulation Techniques in Engineering Research (MASTER'18)	-	AVC Engineering college,Mayila duthurai
15	Mr.S.R.Karthike yan	Microcontroller based Monitoring and Controlling of PV panel by zigbee module	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'18)	-	Kings College of Engineering, Punalkulam
16	Mr.S.R.Karthike yan	IoT based Monitoring and Controlling of home appliance by using Zigbee Technology	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'18)	-	Kings College of Engineering, Punalkulam
17	Mr.P.Narasimm an	Implementation of Zero Voltage Switching	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'18)	-	Kings College of Engineering, Punalkulam
	-	Mech	-	•	
1	H.Agilan, et al.	Performance and Emission of C.I Engine Using Biofuel With Additives	Recent Advances in	978-93-85057- 16-8	Kings Publications
2	P.P.Shantharam an, et al.	Mechanical Properties Of Reinforced Fiber Metal Laminates	National Conference on Recent Advances in Mechanical Engineering – 2019	978-93-85057- 16-8	Kings Publications
3	M.Melwin Jagadeesh Sridhar	Grey Relational Analysis To Determine the Optimum Process Parameters For Cylindrical Grinding Process on Ohns (AISI 0-1) Steel Rounds	National Conference on Recent Advances in Mechanical Engineering –	978-93-85057- 16-8	Kings Publications
4	Dr.T.Pushparaj, et al.	Performance And Emission Characteristic Of Icengine Using Cucurbita Pepo L. And Zea Mays Bio Diesel Blend 23	I National Conterence on	978-93-85057- 16-8	Kings Publications

5	T.Pushparaj	Performance and Emission Studies on an Agriculture Engine on Karanja Bio Diesel With Diethyl Ether Additive	National Conference on Recent Advances in Mechanical Engineering – 2019	978-93-85057- 16-8	Kings Publications
6	H.Agilan1,et al.	Performance And Evaluation of Thermoelectric Refrigeration By Using Peltier Effect	National Conference on Recent Advances in Mechanical Engineering – 2019	978-93-85057- 16-8	Kings Publications
		S&H			
1	Dr.V.Suresh Kumar	A Study on Immersion timeHCl using Polythiophene derivatives	International conference on Recent Applications in Advanced Materials	-	E.R.K Arts & Science College, Dharmapuri
2	Dr.V.Suresh Kumar	Inhibition effectsteel in Hcl solution	International conference on Emerging Trends & Innovations in chemistry(ETIC-2019)	-	Sengamala Thayaar Educational Trust Women's College, Mannargudi
3	Dr.S.Udayakum ar	Kinetic studies on the Removal Iron(III)vitex negunds stem	International conference on Recent Applications in Advanced Materials	-	E.R.K Arts & Science College, Dharmapuri
4	Dr.S.Udayakum ar	Studies on theActivated Carbon	International conference on Emerging Trends & Innovations in chemistry(ETIC-2019)	-	Sengamala Thayaar Educational Trust Women's College, Mannargudi
5	Dr.P.Saravanan	A Improving the Dye ability of silkDye from flowers of Landana Camara Linn		-	E.R.K Arts & Science College, Dharmapuri
6	Dr.P.Saravanan	Dyeing of silkArjuna Linn	International conference on Emerging Trends & Innovations in chemistry(ETIC-2019),	-	Sengamala Thayaar Educational Trust Women's College, Mannargudi
7	Dr.AL.Kavitha	Overview of modified carbon paste electrode with chitosan composite	Technologies(FACTS 2019)	-	Alagappa University, Karaikudi
		2017-18 CIVIL			
1	Ms.R.Revathi	Experimental study on concrete by partial displacement of fine aggregate by using quarry dust & saw dust.	International Conference on Modern Global Research in Engineering and Technology,Sri Ramakrishna college of Engineering, Perambalur	-	Sri Ramakrishna college of Engineering,

2	Ms.R.Revathi	-	Experimental study on strength characteristics of steel fibre reinforced concrete	International Conference on Modern Global Research in Engineering and Technology,Sri Ramakrishna college of Engineering, Perambalur	-	Sri Ramakrishna college of Engineering,
3	Ms.R.Revathi	-	Experimental investigation on concrete by partial replacement on cement by using GGBFS & added with human hair	International Conference on Modern Global Research in Engineering and Technology,Sri Ramakrishna college of Engineering, Perambalur	-	Sri Ramakrishna college of Engineering,
4	Ms.R.Revathi	-	Experimental study on partial replacement of coarse aggregate by coconut shell and with addition of chicken feather in concrete	International Conference on Modern Global Research in Engineering and Technology,Sri Ramakrishna college of Engineering, Perambalur	-	Sri Ramakrishna college of Engineering,
5	Ms.T.Bhuvanes wari	-	Comparitive study on partial replacement of wood ash with cement.	International conference on Emerging Trends in Engineering and Technology, Pandian Saraswathi yadav engineering college,Sivagangai	-	Pandian Saraswathi yadav engineering college,Sivaga ngai
6	Mr.R.Sundhara m	-	Experimental Investigation By Incorpation Of Flyash, Stp Sludge, Lime, Gypsum And Quarry Dust In Brick Making	International Conference On Innovations In Science Engineering, Technology And Management" (ICISETM 2018), Annapoorna Engineering College, Salem.	-	Annapoorna Engineering College, Salem.
7	Mr.R.Sundhara m	-	Experimental Investigation Of Construction Properties Using Fibre Concrete	International Conference On Innovations In Science Engineering, Technology And Management" (ICISETM 2018), Annapoorna Engineering College, Salem.	-	Annapoorna Engineering College, Salem.
8	Mr.K.Arun	-	Experimental Investigation on Utilisation of E-Waste as partial replacement of Fine Aggregates in Concrete	International Conference on Innovations in Science, Engineering, Technology and Management "ICISETM 2018",Annapoorana Engineering College, Salem	-	Annapoorna Engineering College, Salem.

9 Mr.K.Arun - Slag with Goarse Aggregate and testing its binding properties with Bitumen 2018", Annapoorana Engineering College, Salem  10 Mr.K.Arun - E-Waste as an alternate to minimize Scarcity of fine aggregate for Concrete 2018", Annapoorana Engineering College, Salem  National Conference on Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-ATCEGE'18"  Experimental Investigation on influence of Steel Slag with Coarse Aggregate in Bitumen and testing its binding properties  National Conference on Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-ATCEGE'18"  National Conference on Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-ATCEGE'18"  National Conference on Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-ATCEGE'18"  International conference on Emging Trends in Engineering and Technology and management "ICISETM 2018" and Geotechnical 2018" and Geotechnical 2018 an			_				
E-Waste as an alternate to minimize Scarcity of fine aggregate for Concrete  E-Waste as an alternate to minimize Scarcity of fine aggregate for Concrete  Experimental Investigation on influence of Steel Slag with Coarse Aggregate in Bitumen and testing its binding properties  Assesment and impact of Surfacewater quality a case study of Thanjayur region  Experimental Investigation on influence on Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-ATCEGE'18"  Pand Saraswayath yaday  International conference on Emerging Trends in Engineering and Technology, Pandian Saraswayad engine	9	Mr.K.Arun	-	Slag with Coarse Aggregate and testing its binding	on Innovations in Science, Engineering, Technology and Management "ICISETM 2018",Annapoorana	-	Annapoorna Engineering College, Salem.
Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-ATCEGE'18"  International conference on Emerging Trends in Engineering and Saraswathi yaday  Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-ATCEGE'18"  International conference on Emerging Trends in Engineering and Saraswathi yaday engine	10	Mr.K.Arun	-	minimize Scarcity of fine	Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-	-	
Assesment and impact of surfacewater quality a case study of Thanjayur region study of Thanjayur	11	Mr.K.Arun	-	on influence of Steel Slag with Coarse Aggregate in Bitumen and testing its	Advanced Techniques in concrete, Environmental and Geotechnical Engineering "NC-	-	
engineering college,	12	Ms.D.Sarmila	-	-	on Emerging Trends in Engineering and Technology, Pandian Saraswathi yadav engineering	-	Pandian Saraswathi yadav engineering college,Sivaga ngai
Mr.S.R.Elwin Guru Chanth  Mr.S.R.Elwin  Mr.S.R.Elwin Guru Chanth  Mr.S.R.Elwin	13		-	on Concrete blocks using flyash and recycled plastic waste as raw material with	on Modern Global Research in Engineering and Technology,Sri Ramakrishna college of	ı	Sri Ramakrishna college of Engineering,
14 Mr.K.Ranjith partial replacement of cement with egg shell in Engineering and rechnology,Sri Ramaki	14	Mr.K.Ranjith	-	partial replacement of cement with egg shell	on Modern Global Research in Engineering and Technology,Sri Ramakrishna college of	-	Sri Ramakrishna college of Engineering,
16 Mr.K.Ranjith - of Light weight concrete with partial replacement of College Engineering, Christian - College Engineering Ch	16	Mr.K.Ranjith	-	of Light weight concrete with partial replacement of coarse aggregate by using	Conference on recent Trends in Mechanical ans Civil Engineering,Christian College of Engineering &	-	Christian College of Engineering & Technology,
17 Mr.M.Mohamed Ilyas - of partial replacement of coarse aggregate by in Engineering and recommendation of coarse aggregate by Technology,Sri - Ramaking college.	17		-	of partial replacement of coarse aggregate by demolished concrete	on Modern Global Research in Engineering and Technology,Sri Ramakrishna college of	-	Sri Ramakrishna college of Engineering,

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18	Mr.M.Mohamed Ilyas	-	Experimental investigation of partial replacement of fine aggregate with steel slag	International Conference on Modern Global Research in Engineering and TechnologySri Ramakrishna college of Engineering, Perambalur	-	Sri Ramakrishna college of Engineering,		
19	Mr.M.Mohamed Ilyas	-	Experimental investigation And analysis of Agriculture waste as partially Replacement of cement	International Conference on Modern Global Research in Engineering and TechnologySri Ramakrishna college of Engineering, Perambalur	-	Sri Ramakrishna college of Engineering,		
	CSE							
1	Ms.K.Abhirami et al	-	Pedometer and Calorie calculator for fitness tracking using mems digital accelerometer	National Conference NCACCPS'18	-	St.Josephs College of Engineering and Technology		
2	S.Puvaneswari et al	-	Helmet Based vehicles auto ignition with alcohol detection &accident indication with reporting	National Conference NCACCPS'18	-	St.Josephs College of Engineering		
3	R.Sugantha Lakshmi et al	-	Electronics voting using finger print sensor and adhar card	National Conference NCACCPS'18	-	St.Josephs College of Engineering and Technology		
4	R.Sriram kumar et al	-	Onion routing protocol	National Conference NCACCPS'18	-	St.Josephs College of Engineering and Technology		
5	P.Nalayini et al	-	An apply for efficient data sharing using CRN	National Conference NCACCPS'18	-	St.Josephs College of Engineering and Technology		
6	B.Sangeetha et al	-	Privacy preserving user review verification using fuzzy and particle swarm optimization	National Conference NCACCPS'18	-	St.Josephs College of Engineering and Technology		
7	M.Arun et al	-	Enhanced content sharing in social network	National Conference NCACCPS'18	-	St.Josephs College of Engineering and Technology		
			ЕСЕ					
1	N.Mangaiyarkar asi et al		A mobile airbag system using MEMS sensors	2nd International Conference on Innovations In Engineering, Technology and Science (ICIETS-2018)	-	K.Ramkrishna College of Engineering		

2	T.Pasupathi et al	SBA: Swatch Bharat Abhiy smart dustbin managemen	in Engineering	-	K.Ramkrishna College of Engineering
3	P.Thirumagal et al	Wheel inflation maintanence device for enabling safetly driving	2nd International Conference on Innovations In Engineering, Technology and Science (ICIETS-2018), K.Ramkrishna College of Engineering	-	K.Ramkrishna College of Engineering
4	P.Geetha Bai et al	Real Time Smart Walking Stick for Visually Challenged People using raspberry Pi3	2nd International Conference on Innovations In Engineering, Technology and Science (ICIETS-2018), K.Ramkrishna College of Engineering	-	K.Ramkrishna College of Engineering
5	T.Jeyaseelan et al	Visible Light Communication Link for Indoor Hospital Communication Systems	2nd International Conference on Innovations In Engineering, Technology and Science (ICIETS-2018), K.Ramkrishna College of Engineering	-	K.Ramkrishna College of Engineering
6	U.Jeyamalar et al	Efficient Line Spectrum Pa Computation for LPC using ETT		-	K.Ramkrishna College of Engineering
7	S.Ramarajan et al	Design And Implementatio of Fully Automated Plant for TNCSC	National Conference on innovations in Engineering and Management-(NCIEM 2018)	-	K.Ramkrishna College of Engineering
8	A.Aravind Armstrong et.al.	Design of Wireless Optical Communication for Underwater Vehicles	National conference on Advanced Communication, Computing and Power Systems (NCACCPS- 2018),March 2018	-	St. Josephs college of engineering and technology
9	P.Raja Pirian et al	IOT based Wireless Senso Networks for Agriculture	2nd International Conference on Innovations In Engineering, Technology and Science (ICIETS-2018), K.Ramkrishna College of Engineering	-	K.Ramkrishna College of Engineering

	I				
10	J.Arputha Vijaya Selvi et al	Smart Ration Distribution System	2nd International Conference on Innovations In Engineering, Technology and Science (ICIETS-2018), K.Ramkrishna College of Engineering	-	K.Ramkrishna College of Engineering
11	U.K.Vithyashri et.al.	Wireless Controlled Robot Movement System Designed using Microcontroller	National conference on Advanced Communication, Computing and Power Systems (NCACCPS-2018)	-	St. Josephs college of engineering and technology
12	K.Sudarsanan et al	Realtime Implementation of LIFI based Zone sensing and Adaptive Lighting System for Automobile	2nd International Conference on Innovations In Engineering, Technology and Science (ICIETS-2018), K.Ramkrishna College of Engineering	-	K.Ramkrishna College of Engineering
13	N.Mangaiyarkar asi, R.Sathyaraj et al	Detection of Leukemia in Human Blood Samples	International Conference on Emerging Trends in Engineering and Technology (ICETET-2018),	-	K.Ramkrishna College of Engineering
14	R.Ponni, et al.	Segmentation and Volume Estimation of Thyroid modules using Ultra Sound Images	2nd International Conference on Innovations In Engineering, Technology and Science (ICIETS-2018), K.Ramkrishna College of Engineering	-	K.Ramkrishna College of Engineering
	l l	EEE			
1	Dr.S.Sivakumar	Mitigation of Harmonics in Multilevel Inverter using MPWM and SWM Techniques	2017 Asian Institute of Technology Conference Center	-	Asian Institute of Technology, pathum Thani,Thailan d
2	Dr.N.Hemavathi	Implementation of Smart Navigation System for Visually Impaired using Sensors	International Conference on Engineering, Energy and Environment(ICEEE'17)	-	TRP Engineering college
3	Mr.R.Sundaram oorthi	Student Centric Instructional and Learning Resources Nurturing Active Learning experience	46th ISTE Annual National Convention and National Conference	-	ISTE
4	Mr.R.Sundaram oorthi	Role of Mentoring System in Educational institutions Facilitating Learner's Progression Leading to Value Enriched Citizens	46th ISTE Annual National Convention and National Conference	-	ISTE

5	Mrs.N.Rajeswari		Improved Performance of Hybrid Bidirectional DC-DC Converter in Grid application	International Conference on Engineering, Energy and Environment(ICEEE'17)	-	TRP Engineering college
6	Mrs.N.Priya, Mr.P.Narasimm an		Multi level inverter based Single Phase AC-DC_AC Converter	Interntional Conference on Communication and security(ICCS 2017)	-	SASTRA University
7	Mr.P.Narasimm an		FPGA based Interleaved Bidirectional Converter for Electric Vehicle	International Conference on Research Advances in Communication, Computation, Electrical Science and Structures	-	
			Mech			
1	S.Karikalan, V.Vinoth Kannan, J.Prabakaran		Prediction of Optimal Machining Rate on Titanium in CNC-Wire cut Electrical Discharge Machining using Response Surface Methodology	National Conference on Emerging trends in Mechanical Engineering – 2018	978-93-85057- 13-7	Kings Publications
2	S.Karikalan, V.Vijayakumar		Performance study of machining on coated carbide tool using response surface methodology in CNC	National Conference on Emerging trends in Mechanical Engineering – 2018	978-93-85057- 13-7	Kings Publications
3	Balaji.R, Arivazhagan.R, Dr.T.Pushparaj		Manually operated eco- friendly floor cleaning machine	National Conference on Emerging trends in Mechanical Engineering – 2018	978-93-85057- 13-7	Kings Publications
4	H.Agilan, R.Shankar		Experimental Investigation on the performance and emission characteristics of a diesel engine fuelled with ethanol with additives, diesel and 1-pentanol, jatrophaa based biodiesel blends	National Conference on Emerging trends in Mechanical Engineering – 2018	978-93-85057- 13-7	Kings Publications
			S&H			
1	Mrs.T.Gnanajey a	-	Isomorphism On Neutrosohic Fuzzy Graphs	International Conference on Graph Theory & its Applications	-	AMET University, Coimbatore
2	Dr.V.Suresh Kumar	-	A Study on Homocysteine status Myocardial infection among Tamilians	Adroit Conference on Emerging Trends in Chemistry - National Level conference	-	Jeppiaar SRR EngineeringCo llege, Padur, Chennai
3	Dr.S.Udayakum ar	-	Thermal studies on Transition metal ion doped Zno nanoparticles by simple chemical precipitation method	Adroit Conference on Emerging Trends in Chemistry - National Level conference	-	Jeppiaar SRR EngineeringCo llege, Padur, Chennai
4	Dr.P.Saravanan	-	Effect of Chitosan and mordants on Dyeablity of silk fabrics with natural dye from barks of odinawodier 30	Adroit Conference on Emerging Trends in Chemistry - National Level conference	-	Jeppiaar SRR EngineeringCo llege, Padur, Chennai

	1.Low cost of Coloured N.S.SHinduColl							
5	Dr.AL.Kavitha	-	Emulsion Paints with IR Resistant Coatings over Asbestos Sheets	National seminar on 6- 7thSep 2018,	-	ege, Changanacher ry.		
6	Dr.AL.Kavitha	-	2.Synthesis and Characterization of Antiscalants for Cooling Water Applications	International Conference on Chemical and Environmental Research	-	Jamal Mohamed College, Trichy.		
7	Dr.AL.Kavitha	Book of Environmental Science and Engineering	-	-	978-93-86712- 03-5	Jeyalakshmi publications		
8	Dr.V.Sureshkum ar	-	Evaluation of Synthesized water system Application	National conference on RACS – 2017	-	Sri Ramakrishna Instituteof Technology, Coimbatore.		
9	Dr.S.Udayakum ar	-	Kinetic study of removal of Fe III from aqueous solution by Acid Activated Negundo Stem	National conference on RACS – 2017	-	Sri Ramakrishna Instituteof Technology, Coimbatore.		
10	Dr. AL.Kavitha	-	1.Synthesis and Characterization of Iron oxide-Chitosan Nano composite	International conference onICAMST 2017, Center for crystal Growth	-	VIT University, Vellore		
11	Dr. AL.Kavitha	-	2.Multifunctional application of Iron Oxide- Chitosan Composite	National Seminar, School of Chemistry	-	Alagappa University, Karaikudi.		
12	Dr.V.Suresh Kumar	-	Influence of polythiophene derivatives on corrosion inhibition of mild steel in acidic solution	International conference on Innovations in Science, Engineering and Technology for sustainable Development	-	Muthayammal Engineering College, Rasipuram.		
13	Dr.S.Udayakum ar	-	Optical studies on Transition Metal ion doped ZnO Nano rods by simple precipitation method	International conference on Innovations in Science, Engineering and Technology for sustainable Development	-	Muthayammal Engineering College, Rasipuram.		
14	Dr.P.Saravanan	-	Effects of Chitosan & Mordants on the dye ability of silk fabrics with a Eco- friendly Natural Dye from the Barks of Ficus Religiosa Lion	International conference on Innovations in Science, Engineering and Technology for sustainable Development	-	Muthayammal Engineering College, Rasipuram.		
15	Dr.AL.Kavitha	-	Economical Development of IR coatings in Asbestos Sheet	ICREST 2017	-	Alagappa University, Karaikudi		
			2016-17					
1	Dr.R.Saravanan	Environmental science & Engineering	CIVIL –	-	978-93-83103- 10-2	Lakshmi Publications chennai		
2	Dr.R.Saravanan	Repair and Rehabilitation of structures	- 31	-	978-93-83103- 74-4	Lakehmi		

3	Dr.R.Saravanan	Municipal Solid Waste Management	-	-	978-93-83103- 65-2	Lakshmi Publications chennai
4	Mr.R.Sundhara m	-	Experimental Analysis On Self-Consolidating Concrete	2nd International Conference On Engineering Innovations And Soutions (2'ICEIS – 2017) ,Sri Venkateswara College Of Technology, Sriperumbudur.	-	-
5	Mr.R.Sundhara m	-	Experimental Investigation Of Partial Replacement Of Sand By M-Sand & Eco Sand And Replacement Of Cement Using Fly Ash In Concrete	2nd International Conference On Engineering Innovations And Soutions (2'ICEIS – 2017) ,Sri Venkateswara College Of Technology, Sriperumbudur.	-	Sri Venkateswara College Of Technology, Sriperumbudu r.
6	Mr.K.Arun	-	Experimental Investigation of influence of Marble Powder in Concrete as a partial replacement of Cement	International Conference on Newer Engineering concepts & Technology (ICONNECT-2K17)	-	-
7	Mr.K.Arun	-	Study of Concrete properties by partial replacement of Cement using Marble Powder	National Conference on Advances in civil Engineering	-	-
8	Mr.K.Arun	1	Experimental Study on partial replacement of Bitumen by recycled rubber from tyre on Asphalt Pavement	National Conference on Recent Advancement in Technologies	-	1
9	Mr.R.Sundhara m	-	Experimental investigation on self curing concrete	International Conference on Current Research in Engineering Science and Technology (ICCREST- 2016), Jayaram College of Engineering and Technology	-	Jayaram College of Engineering and Technology
10	Mr.R.Sundhara m	-	Innovative concrete by using paper waste	International Conference on Advances in Mechanical and Civil Engineering (ICETMSH'16),E.G.S. Pillay Engineering College, Nagapattinam.	-	E.G.S. Pillay Engineering College, Nagapattinam.
11	Mr.R.Sundhara m	-	Experimental investigation of internal curing concrete	National Conference On Emerging Trends And Challenges In Civil Engineering (NC – ETCCE'16)	-	-
12	Mr.K.Arun	-	Flexural behavior of RC Beam with welded mesh as shear reinforcement  CSE	National Conference on Emerging Trends and Challenges in Civil Engineering	-	-

1	S.M.Uma et al	-	Energy Efficient And Interference Aware Multi hop In Underwater Acoustic Networks	Recent Trends and Technologies in Computing(NCRTTC'17)	-	Arasu Engineering College
2	K.Abhirami	-	Web user behavior modeling discovering behavior patterns & analysis on pattern acuracy	international Conference on Innovative research in engineering & science-IRES	-	Asian Institute of Technology, Thailand (ONLINE mode)
3	S.Hemalatha	-	Adaptive Crowd Sourcing In Medical Bigdata Platform	International conference on newer engineering concepts & technology	-	K.Ramakrishn a College of technology
4	R.Sriram kumar	-	Survey On File Recovery System For Hadoop Using Grid Based Query Language	International conference on newer engineering concepts & technology	-	K.Ramakrishn a College of technology
5	R.Sriram kumar	-	Compressing video using Asymmetric algorithm & implementing blind video water marking technique	International conference on Recent trends in Engineering and Sciences(NCICRTES 2017)	-	Vetri vinayaga College of Engineering
6	J.Jegan, D.Sivakumar	-	Secure cost aware routing protocol for wireless sensor networks	International Conference on Computation of power,energy,information and communication 2017(ICCPEIC)	978-1-5090- 4324-8	Adhiparasakth i Engineering College
7	J.Jegan, D.Sivakumar	-	Design of earlier flood and landslides monitoring system based on weather forecasting data using wsn	International conference on newer engineering concepts & technology- 2K17	-	K.Ramakrishn a College of technology
8	J.Jegan, D.Sivakumar	-	A secure and efficient power saving analysis for wireless sensor network	International conference on newer engineering concepts & technology- 2K17	-	K.Ramakrishn a College of technology
9	K.Rajesh, J.Jegan, D.Sivakumar	-	Survey on file recovery system for hadoop using grid based query language	ICONNECT 2K17	-	K.Ramakrishn a College of technology
10	P.Nalayini	-	Wireless communication with power saving technologies	International conference on engineering, energy and environment(ICEEE-2017)	-	TRP Engineering College
12	S.Rajarajan	-	Quick response system App for service support	International conference on newer engineering concepts & technology- 2K17	-	K.Ramakrishn a College of technology
13	S.Rajarajan	-	Chaotic map combined with MSIS scheme for secure data transmission,	International conference on newer engineering concepts & technology- 2K17	-	K.Ramakrishn an college of technology
			ECE			

				International Conference		Alagappa
1	J. Arputha Vijaya Selvi, J. Niranjan Samuel et al	Colle	al Lighting by Solar ectors and Optical pers - A Review	on Microwave and Optical Communication, Alagappa Chettiar College of Engineering and Technology, Karaikudi.	_	Chettiar College of Engineering and Technology
2	T.Pasupathi et al	of Grav Power Syste	and Implementation ity/Magnet Assisted (GAP) Generating em for Harvesting ectrical Energy	International Conference on Engineering, Energy & Environment (ICEEE 2017), TRP Engineering College, Tiruchirappalli.	-	TRP Engineering College
3	J. Niranjan Samuel, T. Pasupathi et.al	using	y Efficient Lighting 3 Optical Fiber for mercial Buildings	International Conference on Emerging Trends in Electrical, Electronics and Communication Systems, Anna University (BIT Campus), Tiruchirappalli.	-	Anna University (BIT Campus)
4	A.Herald, et al.	Commusing N	fireless Optical nunication System Media Converter for rnet Applications	International Conference on Engineering, Energy & Environment (ICEEE 2017), TRP Engineering College, Tiruchirappalli.	-	TRP Engineering College
5	J. Arputha Vijaya Selvi, S.Durairaj, T. Shanthi		OS – An Insight to och for UG Students	1st International Conference on Multidisciplinary research for the accomplishment of academic excellence in higher and technical education through industrial practices, organized by ISTE,Bangkok, Thailand, June 2016	-	ISTE,Bangkok
6	S.Durairaj, K.Abhirami, V.Filomin Joseena		K – An Innovative ice to Engineering Students	1st International Conference on Multidisciplinary research for the accomplishment of academic excellence in higher and technical education through industrial practices, organized by ISTE, Bangkok, Thailand, 2016	-	ISTE,Bangkok

7	R.Ponni, M.Ashvitha	Segmentation and Volume Estimation of Thyroid Nodules using Ultrasound Image	1st International Conference on Multidisciplinary research for the accomplishment of academic excellence in higher and technical education through industrial practices, organized by ISTE, Bangkok, Thailand, June 2016	-	ISTE,Bangkok
8	T.Jayasankar, A.Appas Apdulrajak,J.Ar putha Vijaya selvi	Improvement of Speaker Identification System Using MFCC and Pitch Based MFCC in Noise Environment	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Kings College of Engineering, Punalkulam, pp 475-478	-	Kings College of Engineering
9	Pasupathi T, Arputha Vijaya Selvi J, Niranjan Samuel J	Mitigation Of Low-Order Atmospheric Turbulent Effects Using Sensorless Adaptive Optics In Terrestrial Free Space Optical Communication	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 514-519	-	Kings College of Engineering
10	Shanthi.T, et al.	'FPGA based Frequency Synthesizer for 14-Band MB- OFDM UWB Tranceivers	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 514-519	-	Kings College of Engineering
11	Herald A, Vennila C	Comparison of Modulation Techniques for Underwater Optical Wireless Communication at Mallipattinam	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp. 520-524	-	Kings College of Engineering
12	B.Priya J.Arputha Vijaya Selvi	Dynamically Reconfigurable Multilevel Multiphase Space Vector Pulse Width Modulator for Overmodulation Region	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Kings College of Engineering, Punalkulam, pp 735-738	-	Kings College of Engineering

13	A. Albert Martin Ruban,T. Pasupathi, N. Rajeswari	A Fuzzy-logic Based Management System in Smart- Microgrid for Residential Applications	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 711-717	-	Kings College of Engineering
14	J Arputha Vijaya Selvi, et al.	Parametric Analysis of a Novel Reconfigurable Wireless Sensor Network Architecture	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Kings College of Engineering, Punalkulam, pp.91-95	-	Kings College of Engineering
15	J Arputha Vijaya Selvi, et al.	Finite State Markovian Model for Trustworthy Reliable Communication in Dynamic Reconfigurable Wireless Sensor Network Architecture	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Kings College of Engineering, Punalkulam, pp.146-151	-	Kings College of Engineering
16	J Arputha vijayaselvi, et al.	Efficient Mobile Transporter in WSNs Lifetime Enhancement	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Kings College of Engineering, Punalkulam, pp. 175-180	-	Kings College of Engineering
18	J.Arputha Vijaya Selvi	Comparative performance analysis of forward error correcting codes for Free Space Optical Communication	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 529-534	-	Kings College of Engineering
19	Sharmila S, Shanthi T	A survey on wireless Adhoc network issues and implementation	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 559-564	-	Kings College of Engineering

20	Jeyaseelan T	Medical imaging modalities: A survey	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 525-528	-	Kings College of Engineering
21	Bhuvaneshwati S, Arockia Bazil Raj A	Survey on soft computing assisted controller driven insulin injection gadget	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 535-538	-	Kings College of Engineering
22	Ponni R	Testing in VLSI: A survey	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 539-543	1	Kings College of Engineering
23	Sudarsanan K	A survey on smart grid	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 544-549	-	Kings College of Engineering
24	Filomin Joseena.V	A survey on Wireless Communication	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS- 2016), Organized by Kings College of Engineering, Punalkulam, pp 550-554	-	Kings College of Engineering
25	N. Mangaiyarkaras i et al	A Low power Multiplier with the spurious Power Technique	International Conference on Current Research in Engineering Science and Technology (ICCREST) 2016	-	Jayaram College of Engg. & Tech., Trichy.
26	Mangayarkarasi .N	Low Cost Hybrid Solar Car Concept -A Technique that challenges the conventional cars in efficiency and usability	International Conference on Current Research in Engineering Science and Technology (ICCREST) 2016	-	Jayaram College of Engg. & Tech., Trichy.

27	Jeyaseelan.T	Design of Ultrafast Imagin System for Thyroid Nodu Detection	-	-	E.G.S Pillay Engineering College
28	Rinitha R	FPGA implementation o OFDM transceivers usin BIST	=	-	E.G.S Pillay Engineering College
29	Arputha Vijaya Selvi J, Pasupathi.T	'FPGA implementation of Low Density parity Chec Code encoder	=	-	E.G.S Pillay Engineering College
30	Rajapirian P, et al.	A novel approach for WS based Plant monitoring a Low complexity Design		-	E.G.S Pillay Engineering College
31	V. Filomin Joseena	A New Architecture Usin Polynomial Matrix Multiplication For Advanced Wireless Communication	National Conference on Integrated Technologies 2016, Organized By Department of Electronics and Communication Engineering, E.G.S Pillay Engineering College. Nagapattinam, February 2016	-	E.G.S Pillay Engineering College
32	Sharmila S, Shanthi T	Low Complexity FPGA architecturefor SC-FDMA MIMO detector	Engineering, E.G.S Pillay Engineering College. Nagapattinam, February 2016	-	E.G.S Pillay Engineering College

			EEE			
1	Dr.S.Sivakumar	Sr	nart Tracking systems for Domestic Consumers	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'16)	978-93-85057- 07-6	Kings College of Engineering, Punalkulam
2	Dr.A.Albert Martin Ruban		A fuzzy-logic based management system in smart-microgrid for residential applications	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS)	978-1-4673- 6726-4	Kings College of Engineering, Punalkulam
3	Mr.A.Tamilselva n		Vibration analysis of 3- phase squirrel cage induction motor due to oken rotor using artificial intelligence	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS)	978-1-4673- 6726-4	Kings College of Engineering, Punalkulam
4	Mr.R.Sundaram oorthi	9	Implementation and Control of Multiple Input Single Converter Battery charged for DC Nanogrid applications	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'16)	978-93-85057- 07-6	Kings College of Engineering, Punalkulam
5	Mr.R.Sundaram oorthi	of r	esign and implementation SEPIC converter with low ripple battery current for ectric vehicle applications	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS)	978-1-4673- 6726-4	Kings College of Engineering, Punalkulam
6	Mrs.N.Rajeswari		mplementation of Hybrid Bidirectional DC-DC Converter in Microgrid	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'16)	978-93-85057- 07-6	Kings College of Engineering, Punalkulam
7	Mrs.N.Rajeswari		A fuzzy-logic based management system in smart-microgrid for residential applications	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS)	978-1-4673- 6726-4	Kings College of Engineering, Punalkulam
8	Mrs.N.Priya		Student Centric nstructional and Learning esources Nurturing Active Learning experience	46th ISTE Annual National Convention and National Conference	-	ISTE
10	Mr.J.Arokiaraj		Series compensation technique based energy nanagement at micro-grid	International Conference on Emerging Trends in Engineering, Technology and Science (ICETETS)	978-1-4673- 6726-4	Kings College of Engineering, Punalkulam
11	Mr.C.Balaji	Sr	nart Tracking systems for Domestic Consumers	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'16)	978-93-85057- 07-6	Kings College of Engineering, Punalkulam

12	Mrs.A.Prabha	Smart Tracking systems for Domestic Consumers	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'16)	978-93-85057- 07-6	Kings College of Engineering, Punalkulam
13	Mr.S.R.Karthike yan	A Study on self Monitoring Glucose Sensing with Multiple Parametric Surface Plasmon Resonance	Flourishing Areas of	978-93-85057- 07-6	Kings College of Engineering, Punalkulam
14	Mr.M.Mayapand i	Simulation of Three Phase Five Level Neutral Clamped Inverter (NPC) for Induction Motor	National Conference on "Flourishing Areas of Electrical and Electronics Engineering" (NACOFEE'16)	978-93-85057- 07-6	Kings College of Engineering, Punalkulam
		Mech	ı	1	1
1	Dr. T Pushparaj	Performance analysis of linear Fresnel reflector concentrating solar system with horizontal and vertica absorber with varying width of reflector"		9.78151E+12	Dusseldorf, Germany
2	Dr. T Pushparaj	Performance and Emission studies on Cashewnut Shell Liquid Diesel Engine with Acetone as AdditiveBio-oil Fuelled		978-1-5090- 6789-3	Gazi University in Ankara, Turkey
3	Dr. T Pushparaj	Effects of nano additive on Cashew Nut Shell Liquid bio oil blends in diesel engine	- ICETES-2016	978-1-4673- 6725-7	Kings Publications
4	Dr. T Pushparaj	Cold flow analysis of various biomass mixtures in self fluidized bed biomass gasifier"circulating	ICETES-2016	978-1-4673- 6725-7	Kings Publications
5	Dr. T Pushparaj	Shell side flow behavior analysis with various tube bundle and tube heat exchanger using CFDalignment in shell	ICETES-2016	978-1-4673- 6725-7	Kings Publications
6	Dr. T Pushparaj	Shell side flow behavior analysis with baffles configuration in tube heat exchanger using CFDshell and	ICAMC-2016	978-1-4673- 6725-7	Kings Publications
7	Mr. R. Shankar	Effects of nano additive on Cashew Nut Shell Liquid bio oil blends in diesel engine		978-1-4673- 6725-7	Kings Publications
8	Venkatesh. S, M.Babu	A Review on Thermodynamic Properties of various fuels, solar cells and nano grid particles for eco friendly power generation. 40		978-93-85057- 13-6	Kings Publications

9	D.Yogendran	Developing a model for institutional capacitated vehicle routing problem	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
10	S.karikalan, J.Prabakaran,	Effect of surface roughness on titanium alloy in cnc-wedm using response surface methodology.	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
11	M.Pradeep, N,Mahesh	Effect of surface roughness on aa6061 with titanium nickel composite fabricated via friction stir processing	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
12	Venkatesh. S , Mathan. S, M.Babu	Fuels for future splitting of hydrogen from water by carbon-graphite method	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
13	T.Pushparaj, P.P.Shantharam an	Experimental investigation on the effects of acetone additive with cashew nut shell liquid bio-oil blends in diesel engine	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
14	V.Vijayakumar, G.Mathivanan	Finite element analysis of welding induced residual stresses for duplex stainless steel weld joint using contour method	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
15	Arun M, Ramesh, K. Jothibasu	A comprehensive analysis of the latest technologies for controlling nox and sox emissions in mobile and stationary sources and their scope for improvement	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
16	N.Anatharaman, V.Vinoth kannan	Experimental investigation of aluminium alloy reinforced with Zrsio4 – b4c by using amc's	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
17	M.Babu, J.Jennifer Ranjani	Optimization methods, techniques and their themes for renewable energy conversion system - A review	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
18	V.Brahadeeswar an ,R.Suriyamurthy	Optimum design of dynamic vibration absorber for boring process	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
19	M.Melwin Jagadeesh Sridhar, B.Adichelvan	Influence of friction stir welding parameters on microstructural and mechanical properties of dissimilar aa6061 and aa7075 alloy joints	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
20	H.Agilan, R.Shankar	Effect of molasses as a blending agent with metonal gasoline fuel engine emission 1	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications

21	T.Tamilselvan ,T.Muralidharan , K.Jothibasu		Design and fabrication of solar water heater	National Conference on Recent Advances in Mechanical Engineering – 2016	978-93-85057- 13-6	Kings Publications
			S&H		•	
1	Dr.V.Suresh Kumar	-	Effect of immersion time on percentage inhibition efficiency of carbon steel in 1N HCl using polythiophene inhibitors	International Conference on'Advanced Polymers for Science and Technology"	-	VIT University,Vell ore
2	Dr.P.Saravanan	-	Dyeing of polyester with Eco-Friendly Natural dye obtained from Barks of Odina Wodier	National Level Conference on "Chemistry of Heterogeneous Emerging Materials"	-	ERK Arts and Science College, Dharmapuri
3	Dr.AL.Kavitha	-	Study of interaction of γ- Fe2O3-CH composite carbon paste modified electrode	International conference ICECAFE2016	-	Dhanalakshmi College of Engineering, Chennai
4	Dr.S.Udayakum ar	-	Systematic Approaches to inculcate professional competencies and Holistic development among Engineering students	46th ISTE National Level Conference	-	Gulzar group of institutes, Ludhiana, (Punjab)
5	Dr.S.Udayakum ar	-	Structural and Thermal studies of cotaltdoped hexagonal ZNo by simple chemical precipitation method	Nationa Conference on Research Advances in Materials Science and Applications	-	Bharathidasan Institute of Technology
6	Dr.P.Saravanan	-	Technology-enabled, Eco- friendly modes of effective parent – Teaching communication supporting student progression	46th ISTE National Level Conference	-	Gulzar group of institutes, Ludhiana, (Punjab)
7	Mrs.T.Gnanajey a	-	Activity based learning approaches in handling Engineering mathematics enhancing problem solving skills	19th ISTET (N&P) Section Annual Convention	-	Dr.N.G.P.Instit ute of Technology,Co imbatore
8	Dr.R.Suresh	-	Activity based learning approaches in handling Engineering mathematics enhancing problem solving skills	19th ISTET (N&P) Section Annual Convention	-	Dr.N.G.P.Instit ute of Technology,Co imbatore



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<b>建设有限工业 维拉</b> 拉	at the Intern	ational Conference on	
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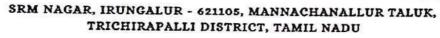
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Author

SUNDHARAM .R , Assistant Professor / Civil Engineering

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Mr. S. Manimaran

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Title of the paper: COMPARATIVE STUDY ON CONVENTIONAL FINE AGGREGATE VERSUS CRUSHED

OYSTER SHELL FOR FINE AGGREGATE IN SELF COMPACTING CONCRETE

Author

: Mr. ARUN K, Assistant Professor / Civil Engineering

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# BIIoT: Provenance of Industrial IoT Data with Blockchain Technology

J. Chandra Priya1, S. Puvaneswari, Shibani Raju1

Assistant Professor, Department of Computer Science and Engineering, Kings College of Engineering, Pudukkottai, India PG Scholar, Department of Computer Technology, Anna University MIT Campus, Chennai, India

Abstract - The Internet of Things (IoT) is the collection of internets connected devices that are embedded with electronics, sensors, and hardware that can be observed and controlled. IoT appears to be a double-edged sword: it has a range of pescabilities for ultra-low-power communications and makes such communication vulnerable to mulicious attacks because all loT devices are wireless. To improve security in loT devices, blockchain technology is utilized here. Hybrid industrial architecture is used for various branches of an organization and is located in more than one country. Although IoT devices are used in several organizations, they reduce their product prices along with improving quality. Various threats can occur in IoT devices perpetrated by different intruders. Attackers compromise IoT devices by performing malicious activities. For example, a company's workers can steal some product. Blackchain technology is used to provide privacy and protect the control system in real-time conditions to prevent such problems. In this paper, the researcher has discussed using a Blockchain mechanism to extract data from IoT devices and keep the blockchain records to maintain transparency among different users located at different places.

Keywords - Internet of Things, Industrial Internet of Things, Blockchain, Data Provenance

### 1. INTRODUCTION

An Internet of Things (IoT) network is formed with the networking of internet-connected devices that are embedded with electronics, sensor devices, and other hardware that can be remotely observed and controlled. Things on the Internet can be associated with an automobile with sensors imparted to notify the driver when tire pressure is reduced, or any natural or human-made item dispensed an IP can move information over a system. Differently, enterprises utilize IoT to work all the more productively, better comprehend clients to convey upgraded client assistance, improve essential leadership, and increment the business's estimation. loT is not a Internet-associated buyer gadget. IoT is the innovation that manufactures frameworks fit for detected by its own and reacting to upgrades from this present reality without human intercession. To build up a strategy stream for a distinct structure over which an IoT arrangement is assembled.

Actuators are a thing regarding the Internet of Things, ought to be outfitted with sensors and actuators in this manner enabling to produce, acknowledge, and procedure signals. Data Acquisition Systems is the sensors' information begins in simple structure and changed over into computerized streams for further examination. Information procurement frameworks play out these information agglomeration and

transformation techniques. Edge Analytics is the IoT information that has been digitalized, collected, and might require further handling before it enters the server farm. Cloud Analytics is the information that needs extra top to bottom procedure gets sent to physical server farms or cloud-based frameworks.

### II. RELATED WORKS

Yigit et al (2019) proposed a system the Internet of Things (loT) contains a different gathering of sensors, actuators, and alternative Internet-connected devices communicating, processing information, and performing a different technique. Attack graphs give analytical support to stop multi-step network attacks by showing all potential sequences of Attack graphs vulnerabilities and their collaborations. generally consist of a vast number of nodes, and it is computationally challenging to analyze them for network hardening-greedy algorithm using compact attack graphs to search for a cost-effective solution to secure IoT frameworks. The algorithm scales almost linearly with the network size, and it tends to be applied to enormous-scale graphs with an incredibly massive number of IoT nodes. In addition to network-hardening, the proposal measures the network's security level in each progression to exhibit the framework's vulnerability grade.

Huh et al (2017) proposed a technique Blockchain technology emerged as the next revolutionary technology. IoT gadgets need to impart and synchronize with each other. The current model of server-client may have some limitations and issues while in synchronization. They were using blockchain to build IoT systems. Ethereum is our blockchain platform because using its smart contract, using Ethereum, blockchain computing platform. To save data coming from meter and smartphone. Using an Ethereum account, the meter continually sends power. Technology does not need to worry about synchronization and denial of service attacks while serving them productively and quickly.

Lundqvist et al (2017) proposed a system of thing-to-thing payments is a critical empowering influence in the Internet of Things (IoT) era, to ubiquitously allow for gadgets to pay each other for services with no human interaction. Blockchain technology is Bitcoin, with its decentralized structure and simplicity of record creation. A crucial drawback is the exchange expenses in the Bitcoin network when doing microtransactions. The proof-of-concept shows that trustless, self-ruling, and ubiquitous thing-to-thing micropayments is no longer a future innovation. One severe

# Covid-19 Facemask Detection with Deep Learning and Computer Vision

Ms. R. Suganthalakshmi, A. Hafeeza, P. Abinaya, A.Ganga Devi AP/Department of CSE Kings College of Engineering Punalkulam,Gandarvakkottai Taluk, Pudukottai Dist, Pin-613 303

Abstract - The corona virus COVID-19 pandemic is causing a global health crisis so the effective protection methods is wearing a face mask in public areas according to the World Health Organization (WHO). The COVID-19 pandemic forced governments across the world to impose lockdowns to prevent virus transmissions. Reports indicate that wearing facemasks while at work clearly reduces the risk of transmission. We will use the dataset to build a COVID-19 face mask detector with computer vision using Python, OpenCV, and Tensor Flow and Keras. In our proposed system we will use live video stream and finally in output it gives alert sound(buzzer) when someone not wearing mask.Our goal is to identify whether the person on image/video stream is wearing a face mask or not with the help of computer vision and deep learning.

Keywords: DeepLearning, Computer Vision, OpenCV, Tensorflow, Keras.

### I. INTRODUCTION

The trend of wearing face masks in public is rising due to the COVID- 19 corona virus epidemic all over the world. Before Covid-19, People used to wear masks to protect their health from air pollution. While other people are self-conscious about their looks, they hide their emotions in the public to hide their faces.

More than five million cases were infected by COVID-19 in less than 6 months across 188 countries. The virus spreads through close contact and in crowded and overcrowded areas.

We can tackle and predict new diseases by the help of new Technologies such as artificial intelligence, lot, Big data, and Machine learning. In order to better understand infection rates might be decrease through our technique. People are forced by laws to wear face masks in public in many countries. These rules and laws were developed as an action to the exponential growth in cases and deaths in many areas. However, the process of monitoring large groups of people is becoming more difficult in public areas. So we will create a automation process for detecting the faces.

Here we introduce a facemask detection model that is based on computer vision and deep learning. The proposed model can be integrated with Surveillance Cameras to impede the COVID-19 transmission by allowing the detection of people who are wearing masks not wearing face masks. The model is integration between deep learning and classical machine learning techniques with Open cv, Tensor flow and Keras. We will achieve the highest accuracy and consume the least time in the process of training and detection.

### II. LITERATURE REVIEW

1.TITLE: "Face Mask Detector"

Single Shot Detector architecture is used for the object detection purpose. In this system face mask detector can be deployed in many areas like shopping malls, airports and other heavy traffic places to monitor the public and to avoid the spread of the disease by checking who is following basic rules and who is not. It takes excessive time for data loading in Google Colab Notebook. It did not allow the access of webcam which posed a hurdle in testing images and video stream. We have modeled a facemask detector using Deep learning. We are processed a system computationally efficient using MobileNetV2 which makes it easier to Extract the data sets. We use CNN architecture for better performance. We can fix it in any kind of cameras

2.TITLE: "Face detection techniques: a review," Artificial

# A Novel Approach to Solve Class Imbalance by using Ensemble Classifier

Dr. D. Sivakumar<sup>1</sup>, Dr. S. M. Uma<sup>2</sup>, Kings College of Engineering, Punalkulam, Thanjavur, Tamil Nadu

Abstract - Security is a key controversy to both computer and computer networks. An Intrusion Detection System is a software that superintend a single or a network of a computers for denmastry activities which are pursued at purloining or inspecting information or deprave network protocols. IDS can be grouped into Signature based Detection (SBD) and Anomaly based Detection (ABD). Machine Learning Techniques have been scrutinized and emulated in label of their detection potentiality for identifying the different groups of attacks. In this Paper, we Proposed a comprehensive evaluation of diverse machine learning techniques for locating the root of complications in recognizing Intrusion Activities. Controversies that are analogous to discerning low-frequency attacks utilizing network attack datasets are also explored and effective methods are recommended for betterment. Numerous Data Mining tools for Machine Learning have also been incorporated in this paper. By using Sampling Technique, the efficiency and scalability was improved better compared to formal approaches.

Keywords: Intrusion Detection System, Machine Learning, Precision, ROC, True Positive, False Negative

### INTRODUCTION

A lay of skill used for perception of anomalous etiquette of networks. Based on the speculation that the etiquette of intruder is contradictory from that a usual user. As the elegant attack intensifies, the skillful Intrusion Detection approach is essential to overcome the annoying activities. In Common ,the potency of IDS is a survey of its proficiency to identify intrusion, to the least those that could possibly cause detrimental destruction. Few common parameters for estimates are detection rate, false positive, false negative, true positive ,false alarm. Much of the Existing strategy focused on upgrading the detection rate and therefore to some extent, the field has been massively well researched. In this Paper, we inspect an aggregate of ABD methodologies that has been developed for IDS. Each Method was tested using various available datasets targeting a number of attacks. Our main review is to find the key advantages of each technique as well as their drawbacks. In Succeeding period, this paper can benefit as a reference point and furnish scope to improve the existing approach for further research.

### Intrusion Detection System

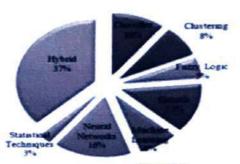


Figure 1.1

Machine Learning based IDS contributes a Learning based system to find category of attacks based on the learned normal and attack performance. The ultimate aim of machine learning based IDS is to imitate a common representation of known attack. Anomaly based IDS are depends on the speculation that attacker behavior differs from normal users' behavior which helps in identifying the enlarging attacks.

### Single classifier

Single machine learning classifier can be used to address the problem of intrusion detection. Several Techniques such as Support Vector Machine (SVM), Self-Organizing Maps (SOM) and K-Nearest Neighbor (KNN) have been used to resolve the problem and the results have shown some significant achievements. The data sets are preprocessed to be used by SVM classifier. SVM is trained over the training dataset and as a result, decision model is generated.

# Strategies in Machine Learning a) Artificial Neural Network

Neural Network Learning methods impart a powerful approach for approximating real valued, discrete-valued and vector-valued target functions. Neural Networks are suitable for the problems where a) Instances are represented by many attribute-value pairs. b) Training sample may contain errors. c) The learned function is typically difficult to understand by humans and this ability to understand the learned target function is not important by human.

b) Fuzzy Logic

# Industrial Internet of Things (HoT) with Cloud Teleophthalmology-Based Age- Check for Updates Related Macular Degeneration (AMD) **Disease Prediction Model**



R. J. Kavitha, T. Avudaiyappan, T. Jayasankar, and J. Arputha Vijaya Selvi

Abstract Industrial Internet of things (IIoT) utilizes smart sensors and actuators for enhancing manufacturing and industrial processes. Due to the advanced technological developments in healthcare industry, it has been proved that the primary detection of chronic diseases, namely, diabetic retinopathy (DR) as well as agerelated macular degeneration (AMD), is capable of preventing loss of vision. In this study, a scalable cloud-oriented teleophthalmology structure by an Internet of medical things (IoMT) to detect AMD is projected. In the presented system, patient's wearable camera for transmitting the retinal fundus photographs for a secured cloud drive storage for diagnosing the severity of disease as well as predictive progression examination. A projected optimal generative adversarial network (OGAN) helps to investigate the images to find as well as to compute AMD disease severity. The GAN would be optimized with the application of a bat method. The performance of the proposed OGAN model has been validated using a set of benchmark images. A set of three measures used to examine the results are sensitivity, specificity, and accuracy. The experimental outcome showed the superior performance of the proposed model over the compared methods by attaining a maximum accuracy of 98.03%.

Keywords Age-related macular degeneration · Cloud teleophthalmology · IIoT · Deep learning

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D. Gupta et al. (eds.), Smart Sensors for Industrial Internet of Things, Internet of Things, https://doi.org/10.1007/978-3-030-52624-5\_11

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### 1 Introduction

Industrial Internet of things (HoT) influences the power of smart machines and realtime analytics for taking the benefits of the data which dumb machines have produced in industrial settings for years. The driving viewpoint behind HoT is that smart machines are not only better than humans at capturing and investigating data in real time, but they are improved at communicating essential data which could be employed for driving business decisions faster and more precisely. Age-related macular degeneration (AMD) is said to be an typical eye state which leads to loss of vision mostly for old peoples [1], along with a blinding prevalence all over the world that causes vision impairment such as uncorrected refractive faults, unoperated cataracts, as well as DR. Recently, the existence of AMD is around 1.1%. AMD is not capable of self-simulating which does not provide blindness, but vision loss occurred by AMD could interfere with elegant activities, like potential to observe faces, drive, read, and so on. Hence, it can be vital to many patients for vitreoretinal centers at the initial phase of AMD to conserve the visual applications. Several advancements in studies, medicine, awareness, as well as communications result in a major reduction of dangerous eye diseases like trachoma and onchocerciasis for the past decades. Therefore, in maximum countries, the minimization of vision impairment in people has become small as the absence of hospitals, physicians, geographical position, and so on. As the analysis of vision-impairing diseases has to be carried out at the initial stage, accurate and effective rates must be obtained to report the diseases. Recently, models and related works like cloud computing and Internet of thing (IoT) components have led to modify the type of communication. exchange, use, and save data from devices.

Telemedicine and telescreening have become more possible models of health-care delivery, with respect to avoidance and organization. Telemedicine is a conversion of different medical information, namely, electronic health records (EHR), higher-definition images as well as videos of patients, and the remote locations, to alternate geographical position by accessing the professional physicians and clinics [2]. It is described in a brief manner as the application of telecommunication as well as processing models to offer medicinal data, remote facilities, and medical events like analysis, remedy, elimination of disease, etc. The current research of teleophthalmology activated maximum emergency diagnosis and recovery options for patients lagging in sufficient medical facilities. Hence, many numbers of doctors are in need to process teleophthalmology solution effectively and accurately which produces several barriers for doctors. It has been considered to be a portion as many cases have been recovered by doctors regularly. Also, many numbers of benign cases are treated by physicians. So the proper robust screening models to precede the function of doctors and to stimulate the teleophthalmology pipeline.

By applied the extended models like Artificial Intelligence (AI). In addition, by the applications of big data as well as the structure of maximum computation, different issues are handled with the help of AI spanning healthcare, academics,

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Mr. R. Sathyaraj, AP/ECE

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WITH SMART BINS

in the TNSCST Sponsored 7<sup>th</sup> International E - Conference on Latest Trends in Science, Engineering and Technology (ICLTSET'21) organized by Karpagam Institute of Technology, Coimbatore held on 26<sup>th</sup> & 27<sup>th</sup> of March 2021.

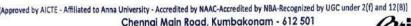
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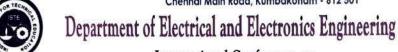
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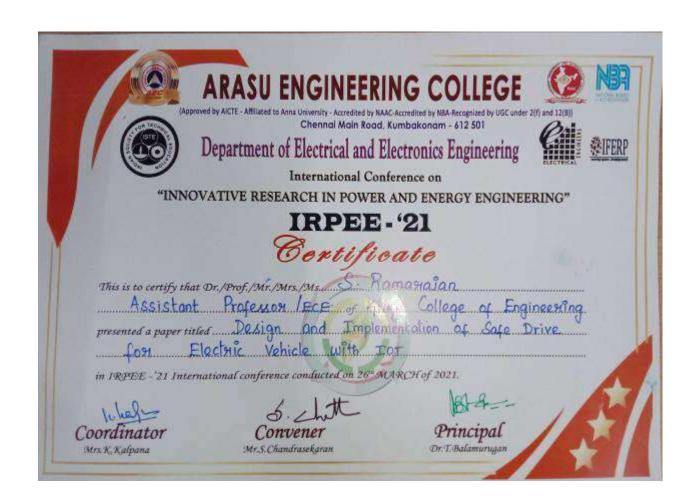
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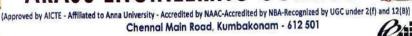
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Coordinator Mrs. K. Kalpana

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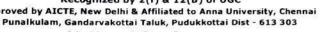
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We are pleased to inform you that your full paper has been accepted for e-proceeding on 6th INTERNATIONAL CONFERENCE ON INFORMATION TECHNOLOGY & SOCIETY 2020 (ICITS 2020). ICITS 2020 was held on 11th November 2020 as an online presentation (Google meet) and video presentation. The details of your full paper are as follows:

Paper Id : ITS 040-1

Paper Title EARLY PREDICTION OF BREAST CANCER THROUGH MACHINE LEARNING WITH

MINIMAL FEATURES

: DEEPAK, R.U1, N. HEMAVATHI2\*, R. SRIRANJANI2, A. PARVATHY2 AND Author(s)

M.MEENALOCHANI3

Should you need any further information or assistance, please do not hesitate to email us at icits@kuis.edu.my. Kindly mention your paper ID as the reference. Thank you for joining ICITS 2020.

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# Machine Learning Based Vehicle Health Monitoring System

N.Hemavathi<sup>1</sup> M.Meenalochani<sup>2</sup>,R.Janani<sup>3</sup>, Sunkavalli Sai Chandana<sup>3</sup>, Amrita sona P.R<sup>3</sup>

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Abstract. This paper presents the design and implementation of a machine learning based prediction system for monitoring and maintenance of vehicle's health. The proposal aims to examine the normal operation of the vehicle and if any abnormal condition or variation from regular routine is observed, the user will be informed. These predictions can reduce the rate of road accidents that occur due to defects in the parts of the vehicle. Such deviation can be predicted by implementing Machine learning using software like Matlab, Python etc. Machine learning algorithms such as Fine tree, linear regression and linear SVM are chosen and the prediction is carried out using these algorithms. Results obtained using these algorithms are compared. It is found that Linear SVM is capable of obtaining better results due to its precise prediction within less training time.

Keywords: Vehicle health, Prediction, Machine learning.

### INTRODUCTION

Now-a-days, one of the issues that need to be focused is road accidents due to poor vehicle maintenance. A computing system to predict vehicle maintenance needs can be designed. The system may be internal or external (mobile device) to the vehicle. Prediction is done using machine learning model which is implemented in the computing system. Maintenance can be of three types which include corrective, preventive and predictive maintenance [1]. Corrective maintenance is carried out when a fault is detected. It is suggested for faults that occur rarely and also the repair cost is high. Preventive maintenance is used commonly in the automotive industry, in which the vehicle components are replaced periodically.

On the other hand, predictive maintenance aims to predict the condition of the vehicle and indicates which part will probable to fail and when it will occur [2]. Sensor data may be noise data from different parts within the vehicle, data from maintenance records etc. and/or other suitable vehicle data. Machine Learning is used in order to predict these changes beforehand. The data set developed from the changes in parts like steering, tyres

International Conference on Research and Developments in Science, Engineering and Technology ICRDSET - 2021

PV Based Switched Capacitor Converter for NPC Inverter in Grid Connected Applications

M. Meenalochani<sup>1</sup>

A. Albert Martin Ruban<sup>2</sup>

R. Santhiya3

<sup>1</sup>Assistant Professor <sup>2</sup>Associate Professor

3---

<sup>3</sup>PG student

Kings College of Engineering, Punalkulam, Pudukkottai.

Abstract

This paper proposes a grid connected solar Photovoltaic (PV) Systems with a new voltage

balancing converter suitable for Neutral-Point-Clamped (NPC) Multilevel Inverter (MLI). The

switched capacitors used in the proposed converter are able to balance the DC link capacitor

voltage effectively by using proper switching states. The proposed balancing converter can be

extended to any higher levels and it can boost the DC input voltage to a higher voltage levels

without using any magnetic components. This feature allows the converter to operate with the

boosting capability of the input voltage to the desired output voltage while ensuring the self-

balancing. In this paper, the proposed converter is used for a grid connected solar PV system

with NPC multilevel inverter, which is controlled using vector control scheme. The proposed

grid connected solar PV system with associated controllers and maximum power point tracking

(MPPT) is implemented in MATLAB /Sims Power System and experimentally validated using

d SPACE system and designed converters. The simulation and experimental results show that

the proposed topology can effectively balance the DC link voltage extract maximum power

from PV module and inject power to the grid under varying solar irradiances with very good

steady state and dynamic performances.

Keywords: Solar photovoltaics, NPC multilevel inverter, balancing circuit, dc-link voltage

balancing, grid connected PV system

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# IoT Based Monitoring and Control of Distribution Transformer & Transmission Lines

S.R. Karthikeyan<sup>1</sup> J. Arokiaraj<sup>2</sup> R. Divyabharath<sup>3</sup> E. Ganesan<sup>4</sup> P. Gopinath<sup>5</sup> R. Hariharan<sup>6</sup>

<sup>12</sup> Assistant Professor,

<sup>3456</sup> UG Student

Kings College of Engineering, Punalkulam.

### Abstract

To maintain the reliability in grid operation it is important to monitor real time transformer health and faults in the transmission lines. We know the importance of transformers in electricity distribution and transmission. They are the main components and constitute the large portion of capital investment of the distribution grid. Real time transformer health and transmission line fault detection systems help to replace the equipment before failure and continuity of the power will not be disturbed and also reducing the potential dangers that are caused due to any unforeseen circumstances. So, we need a system that can monitor the health of the transformer as well as the faults in the transmission line in real-time. So, that we can easily identify the faults and ensure the safety and reliability of the overall power grid.



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National Conference on "Flourishing Areas in Electrical and Electronics Engineering" (NACOFEE'21) on 12.04.2021

# Monitoring and control of covid-19 in organaization using auto temperature detector and arduino based auto cleaner

M.Janakiraman, S.Jesvin, G.S.Jawaher, R.Manoj Department of Electrical & Electronics Engineering, Anjalai Ammal Mahalingam Engineering College, Kovilvenni sjesvin07@gmail.com

Abstract - Covid-19 is worldwide threatening to life of human being. It affect overall growth of the nation in every sector. At present social distancing is the most important precaution that prevents from Covid-19. Very first symptom of covid-19 patients are identified from their body temperature (TEMP: 100.4F). Presently are operating thermal scanner manually at the entrance of every organization to measure body temperature. But our proposed temperature detector fixed at the entrance of the organization to measure body temperature automatically and make caution if it exceed the permissible level. Also, we can control the spread from that particular place using auto cleaner .To achieve this, Arduino uno and MLX90614 sensor.

**Keywords:** Control of covid-19, measure body temperature automatically, using non contact temperature sensor

# **Touch Free Smart Gadget**

Mr.J.Arokiaraj , Mr.S.R.Karthikeyan Assistant Professor Department of Electrical & Electronics Engineering Kings College of Engineering , Punalkulam N.Ishwarya ,M.Nandhini ,S.Sindhu,R.Priyadharshini

Priyadharshiniramadoss05@gmail.com

Abstract - In today's world carrying a number of plastic smartcard to establish our identity has become an integral segment of our routine lives. BIO-METRIC fingerprint systems have a major problem of viral spread among the people. To overcome this problem we come with some new innovative idea that is touch free smart gadget. Wi-Fi Modem is used for tracking and identification purpose. In this paper, the principle aim is to discuss the viability of Touch free smart gadget technology. Our Touch free smart gadget consist of Wi-Fi module for tracking, fingerprint sensor for identification, MEMS sensor to recognize abnormal moment like EPILEPSY, vibration sensor as a reminder and an emergency switch to give alter signal. The additional aim of our system is to propose a viable technological solution for a single multipurpose touch free smart gadget to avoid malfunction or fraud in large companies.

Keywords: Acceleration sensor, Wi-Fi module, MEMS sensor

Department of EEE, Kings College of Engineering

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### IoT Based Monitoring and Control of Distribution Transformer and Transmission Lines

Mr.J.Arokiaraj , Mr.S.R.Karthikeyan Assistant Professor Department of Electrical & Electronics Engineering Kings College of Engineering , Punalkulam R.Divyabharath, E.Ganesan, P.Gopinath, R.Hariharan

rdivyabharath2000@gmail.com

Abstract - Transformer is one of the important electrical equipment that is used everywhere. Monitoring the transformer's health had become a fiery task. Since incase of any damage in the internal properties of the transformer will result in huge drawback. So it is mandatory to regularly keep an eye on the transformer. The main objective of this proposal is to acquire live data of transformer health remotely over the internet using Internet of Things (IOT) technology. We are going to monitor the transformer parameter such as Transformer Temperature Oil Level Oil Quality Current level Voltage level Humidity KVA and Power Factor Incipient fault monitoring. These data will be sent over the internet using MQTT protocol. It also has a unique feature of detecting the phase failure. If any phase gets defects then it will be indicated in the development board by an LED. These parameters will be displayed in an Android Application. By this process we can get to know the health of the transformer regularly and necessary steps can be taken to maintain it in a proper way.

Keywords: IoT, Monitoring, Distribution Transformer, Transmission Lines

### Implementation of Smart Vehicles with Auto Rules Following System

Sudharsan.S, Adhavan.S, Raghul.P
Department of Electrical & Electronics Engineering
Kings College of Engineering, Punalkulam
adhavansivakumar7@gmail.com

**Abstract** - Traffic sign recognition is important to transport system on the high way or road. This paper presents an overview the traffic sign detection and recognition, we develop and implemented the procedure to extract the road sign. The main objective of this paper is to design and construct system which can automatically detect the road sign and display the image on dash board of vehicle. This paper is based upon a major approach to detect road sign and extract it. This system will play an important role for the detection purpose of specific domains like island, schools, etc.

Keywords: No horn, Speed control

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# STEP - 2021

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Paper ID: STEP 21073

### **Touch Free Smart Gadget**

J.Arokiaraj<sup>1</sup>, S.R.Karthikeyan<sup>2</sup>, N.Ishwarya<sup>3</sup>, M.Nandhini<sup>4</sup>, R.Priyadharshini<sup>5</sup> and S Sindhu<sup>6</sup>

<sup>1,2</sup>Assistant Professor and <sup>3,4,5,6</sup> UG Student Department of EEE, Kings College of Engineering

### Abstract:

In today's world carrying a number of plastic smartcard to establish our identity has become an integral segment of our routine lives. BIO-METRIC fingerprint systems have a major problem of viral spread among the people. To overcome this problem we come with some new innovative idea that is touch free smart gadget. Wi-Fi Modem is used for tracking and identification purpose. In this paper, the principle aim is to discuss the viability of Touch free smart gadget technology. Our Touch free smart gadget consist of Wi-Fi module for tracking, fingerprint sensor for identification, MEMS sensor to recognize abnormal moment like EPILEPSY, vibration sensor as a reminder and an emergency switch to give alter signal. The additional aim of our system is to propose a viable technological solution for a single multipurpose touch free smart gadget to avoid malfunction or fraud in large companies.

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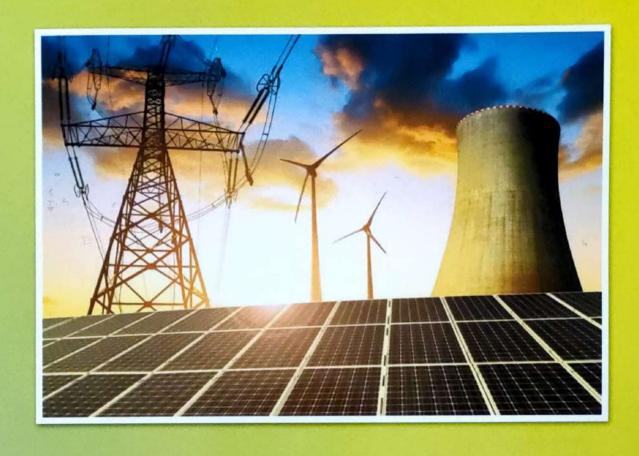
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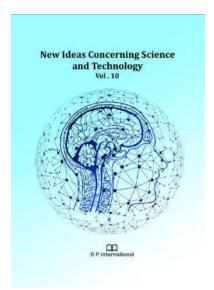
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#### **Abstract**

Vegetable oils are a potential alternative to partial or total substitution of diesel fuels. In this study, we used Acetone as an additive to investigate the possible use of increased percentages of bio-oil in diesel engine without any retrofitting. Bio-oil was made by pyrolysis process. Cashew nut shell liquid (CNSL) was feed stroke for bio oil. Number 2 diesel fuel containing 20% bio oil and 80% diesel fuel, is called here as B20. The effects of Acetone, blended with B20 in 4, 8, 12% by volume were used in a single cylinder, four strokes direct injection diesel engine. The effect of test fuels on engine torque, power, brake specific fuel consumption, brake thermal efficiency, exhaust gas temperature, were ascertained by performance tests. The influence of blends on CO, HC, NO and smoke opacity were evaluated by emission tests. HC emission was reduced by 34%, smoke density reduced by 16% and the NO emission is reduced remarkably by 49.4% while the engine was operated by 12% Acetone with B20 when comparing neat diesel operation. CNSL can be alternately used as fuel for diesel engine. Consequently 20% CNSL bio oil and 12% Acetone as additive was the better alternate fuel blend for diesel engines without any engine modification.

Keywords: Biodiesel; Cashew Nut Shell Liquid (CNSL); emission; acetone; pyrolysis



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	Prasath C, Rahulkumar K, Ragavan R, Pugazhendhi K, Vetrivel S
NCEMS 25	Reinforcement of Aluminium Matrix Composite With E-Glass Fiber
	Abinash S, Sankarganesh V, Vasanth V, Vasanthakumar K, Veerapandian K
NCEMS 26	Conventional heat transfer design of a steam condenser for once through Super Critical Boiler, by two shell pass and multiple tube pass
	Dr.S.Kamatchi Sankaran, K.Gunaseelan, P.Iniyan, T.Ferose Khan, R.Lakshmanan
NCEMS 27	Influence of a Non-Patterned and patterned insert on Characterization of 410 Stainless Steel in a hard turning process
	T.Prabakaran
NCEMS 28	Quality improvement by parameter optimization in laser cutting of Aluminium Alloy
	T.Prabakaran

	<del>,</del>
NCEMS 29	Investigation of laser surface treated, texturing effects on nodular cast iron
	T.Prabakaran
NCEMS 30	Workability and metal forming analysis on hybrid metal Matrix Composites of Mg-Sn-Tic.
NCEMB 30	Dr.S.Kamatchisankaran, MI. Suhail Ahamed jinna,F. Sunder Raj, J.Suriya Prakash, M.Syed Mubarak Ali
NCEMS 31	The effect of fiber length on tensile properties of Epoxy Resin
TICENTE C =	Boobalan.A, Bharathraj.B, Balraj.G, Kingslin.A, Pradeep.M
NCEMS 32	Extraction and testing of blended bio fuel (Diesel) from natural oils, such as mustered oil and derris indica oil from their seeds
	Dr.S.Kamatchisankaran, M.Sathiyaraj, P.Sakthivel, V.Sakthivel, C.Yoganathan
NCEMS 33	Influence of nose radius tool on AA8011 in turning
NCEAVID 55	Muzammil Hussain.A.R, Mohan Raj.M.G,Mohamed Irfan.N, Peermohamed.S, Dr.T.Prabakaran
NORMO 24	Analysis and modeling of an Nd:YAG laser microdrilling on SMSS
NCEMS 34	Mohamed Riyas.K,Noordeen.S,Nihal Ahamed.F,Mohamed Ismail.P, Dr.T.Prabakaran
NCEMS 35	Structural Characterization on Stainless Steel (SS316) with Inconal 625 Coating by HVOF
NCERIO 55	S.Sabanayagam, S.Abbas Mohamed, S.Abishek, A.Jerome Nicholas, D.Madesh
NCEME 26	Performance and Emission Characteristics on Biofuel in CI Engines
NCEMS 36	Agilan.H, Ajith Kumar.K, Rajarajeshwaran.B, K. VSasi Kumar, Vignesh Kumar.J
NCEMS 37	Experimental Investigation on Di Diesel Engine Powered by orange peel oil as fuel
NCEMS 37	Kalimuthu N, Barath I, Shajith R, Muthukaruppan M, Velappan R
NCEMS 38	Design and Fabrication of Motorized Sheet Metal Rolling Machine
	R. Shankar, S. Muthu, K. Keerthivasan, Sudarsan, K. Kannan
NCEMS 39	Pumpkin and Maize Biodiesel with Elaeocarpus Ganitrus Additive Performance Emission Analysis in CI Engine
TICEMINE 2.	N.Magesh, A.Murugesan, B.Prakash, P.Kaviyarasu, R.Pragadeesh



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National Conference on
Multidisciplinary Research in Science and Humanities
(NCMRSH-2021)
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This is to certify that Mr/Ms/Dr. P.Saravanan of Department of Chemistry, Kings College of Engineering, Punalkulam, Thanjavur has presented a paper entitled "Dyeing of Polyester with Eco - Friendly Natural dye obtained from flowers of Lantana Camara Linn" in the National Conference on Multidisciplinary Research in Science and Humanities (NCMRSH -2021) held at Arasu Engineering College, Kumbakonam on 24-03-2021.

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ON

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> Dr.S.Sridevi Convener

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Humanities, Kings College of E.	ngineering, Punalkulam, Pudukkottai. Tamilnadu, India		
on 13th July 2020.			
Tille of the Isomorphic Neu	trosophic Fuzzy Graphs and their Complements		
Paper:			
A second	2. Comment		
Dr.V.Sureshkumar, Ph.D.,	Dr.L.Arputha Vijaya Selvi, Ph.D. Principal		

Conference Chair

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in the National Conference on "Red (NCRTTC'20) organized by the De	cent Trends and Te	er Science and	Engineering
on 12th March, 2020.			
V. Coordinator	Convener	Marie	Patrons





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CSE DEPARTMENT OF KINGS COLLEGE OF ENGINEERING.
Presented a paper titled . A DATA SHARING PROTOCOL TO MINIMIZE SECURITY
AND PRIVACY RISKS IN CLOUD STORAGE: in the International
conference on Advanced Technologies in Power and Robotics Engineering conducted at Arasu Engineering College,
Kumbakonam during 20th and 21st February 2020.

Convener /HoD-EEE

Dr.T.Balamurugan

Principal

#### **UAV BASED RICE CORP MONITORING SYSTEM**

**ETCCCT-EC51** 

#### Abstract:

The increasing of population in the world lead the Malaysia government to intensification the food supply for the future in efficient way. Sustainable agriculture plays a main role for maintain the food production and preserve the environment from any excessive chemical by usage of technology for the better management. The Economic Transformation Program (ETP) emphasizes on the use of technology to finest aid crop production. Drone applications in crop monitoring are increasing globally and get place among end-users. The objective of this paper is to monitor rice crop by using multirotor Unmanned Aerial Vehicle (UAV) as known as drone and RGB digital camera in Kelantan, Malaysia. This paper will present the spatial analysis using RGB imagery in paddy plot at early stage to improve the management system. Results show that the uneven ground surface is a key element in achievement the higher yield production and improving the irrigation system in the paddy field. The ground management need to take action to make sure the paddy development can be growth in a healthy condition to increase the yield.

## DISEASE PREDICTION IN RETINAL IMAGES USING MACHINE LEARING TECHNIQUES

ETCCCT-EC52

PL.Ramesh<sup>[1]</sup>·M.Kasthuri<sup>[2]</sup>,U.Maheshwari<sup>[3]</sup>,M.Tamilarasi<sup>[4]</sup>

[1] Assistant professor, <sup>[2,3,4,]</sup>UG Scholar,

Department of Electronics and Communication Engineering

Mother Terasa college of engineering and technology

#### Abstract:

Retina of human eye can provide valuable information about human health. The state of the retinal vessels has been shown to reflect the health condition of the body so implement deep neural network algorithm to predict cardiovascular diseases and other diseases.

#### SMART AID FOR VISUALLY IMPAIRED PEOPLE

ETCCCT-EC53

C.Manivannan<sup>[1]</sup>, A.Aishwarya<sup>[2]</sup>, G.Gayathri<sup>[3]</sup>, M.Nithiya<sup>[4]</sup>,

<sup>[1]</sup>Assistant professor, <sup>[2,3,4,]</sup>UG Scholar,

Department of Electronics and Communication Engineering

Mother Terasa college of engineering and technology

#### Abstract:

For the blind or visually impaired (BVI) person, it is a very difficult job to acquire information from the world. One feasible way in order to perform that job is that someone will help him to read aloud the context. Another way to get the information is by giving a feeling of the information. The later technique is built through a representation of the information on a paper or a substantial surface so that a blind person can feel and recognize the information.

#### IMPLEMENTATION OF SMART AGRICULTURE USING IOT

ETCCCT-EC05

Mr.R.Sathiyaraj<sup>[1]</sup>, P.Abrana<sup>[2]</sup>, K.Dhurka<sup>[3]</sup>, A.Elakiyakowshika<sup>[4]</sup>, M.Sudha<sup>[5]</sup>

[1] Assistant professor, <sup>[2,3,4,5]</sup> UG scholar,

Department of Electronics and Communication Engineering,

Kings college of Engineering, Punalkulam.

#### Abstract:

Agriculture is a basic source of livelihood for People in India. It plays a major role in the economy of our country. But nowadays due to migration of people from rural to urban, there is a hindrance to agriculture. Monitoring the environmental factor is not the complete solution to increase the yield of crops. There are no factors that decrease productivity to a great extent. Hence Automation must be implemented in agriculture to overcome these problems. An automatic irrigation system thereby saving time, money and power of farmer. Traditional Farmland irrigation techniques require manual intervention. With the automated technology of irrigation, human intervention can be minimized. Continuous sensing monitoring of crops by the convergence of sensors with the Internet of things (IoT) and making farmers to aware about crops growth, harvest time periodically and in turn making high productivity of crops and also ensuring correct delivery of products to end, consumers at the right place and right time. So to overcome this problem we go for smart agriculture techniques using IoT. This Project includes sensors such as temperature, humidity, soil moisture and rain detector for collecting the field data and processed. These sensors are combined with well-established web technology in the form of a wireless sensor network to remotely control and monitor data from the sensors. IOT modernization helps in assembly informence on circumstances like climate, level of water, temperature, humidity, soil moisture, rain detector for collection the field data and pressure sensor are processed.

#### SMART AND SAFE CHILD RESCUE SYSTEM FROM BOREWELL

ETCCCT-EC06

$$\begin{split} \text{Mr.V.Venkata subbu}^{[1]}, \text{K.Pavithra}^{[2]}, \text{V.Santhiya}^{[3]}, \text{M.Thenmozhi}^{[4]} \\ \text{Scholar}, \\ \text{Department of Electronics and Communication Engineering,} \\ \text{St. Joseph's College of Engineering and Technology, Thanjavur.} \end{split}$$

#### **ABSTRACT:**

In India, for the past few days, people are facing a distressed cruel situation like a child has felled in the bore well and struck in the hole which is uncovered and getting trapped. Rescue of a trapped child from bore well is a very risky and difficult process when compared to the other accidents. It takes more than a day to save the child. Here, in this paper, the child who is stuck inside the hole is to be saved by the clipper which picks and places the child with the help of a remote controller. The clipper is left manually by the rope tied up and its hands. In this alternative scenario, there will not be any requirements digging hole parallel to the bore well. The child can be saved within a short period without any difficulties.



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"Design and Analysis of	Antenna for Underwater Comm	nunication"	in ICEET 2020, Org	anized by
Parisutham Institute of	Technology and Science, Thanj	avur in asso	ciation with ISTE.	
- 4				
Cocordinator	Chief Co - ordinator	-	Dean Acade	emics

#### WOMEN SECURITY AND SELF DEFENCE SYSTEM

ETCCCT-C15

U.Jeyamalar <sup>[1]</sup>,R.Hinduja<sup>[2]</sup>

<sup>[1]</sup>Assistant professor, <sup>[2]</sup>PG Scholar,

Department of Electronics and communication engineering,

Kings college of engineering, Thanjavur.

#### Abstract:

Women protection performs a tough mission in our society. Since from couple of years while we used to read newspapers we frequently examine about the growing price of violence in opposition to women. We planned to make a device with Low value, Wearable, Fast and efficient. This paper describes about safe and secured electronic machine for women. The violence towards the girls may be added to an stop with the help of our product "FILLE". This tool is a protection gadget particularly designed for ladies in distress. We can document video for in addition research and may provide an alert message to pre-set contacts with instantaneous place for each 2 minutes. It incorporates of Arduino, wrist band, Microphone, Motion sensor, Webcam, Buzzer, Tear gas mechanism, LCD, GSM and GPS are used on this venture. Here Tear fuel mechanism is imposed for self - defense motive. This movement permits us to get assist straight away from the Police as well as Public in the near radius who can reach the sufferer with super accuracy.

#### DESIGN AND IMPLEMENTATION OF SMART GESTURE WATCH

ETCCCT-EC16

J.Sofiya Jenifer<sup>[1]</sup>, Vidhyaganesh.M<sup>[2]</sup>, Balamohan.J<sup>[3]</sup>, Princebossco.J<sup>[4]</sup>

<sup>[1]</sup>Assistant Professor, <sup>[2,3,4]</sup>Students

Department of Electronics and Communication Engineering,

Parisutham Institute of Technology and Science.

#### Abstract:

To develop a Bluetooth based home automation system with Arduino Using gyro sensor and Lilypad Board .Remote controlled home automation system provides a simpler solution with Hand GESTURE WATCH technology. According to the hand gestures the signal is send .In the receiver side we are receiving the signal to control the corresponding load such as light and door open and close and direction of DC Motor. Gyro sensor is used to detect the position of hand. OLED is used to show the display in the watch. Then the robotic arm can be thought to learn those positions and run along them. To run the load arm with the hand movement by the help of gyro sensor.

#### GREEN LEAF DISEASE DETECTION USING RASPBERRY PI

ETCCCT-EC23

P.Thirumagal<sup>[1]</sup>, Abinayakarthika.T<sup>[2]</sup>, Poovizhi.A<sup>[3]</sup>, Sripriya.M<sup>[4]</sup>, Tamilazhagi. T<sup>[5]</sup>

[1] Assistant Professor, <sup>[2,3,4,5]</sup> UG scholar,

Department of Electronics and Communication Engineering,

Kings College of Engineering, Thanjavur.

#### Abstract:

This paper talked about a framework utilizing raspberry PI to detect and prevent plant disease from spreading. The k means clustering algorithm was used for image analysis. It has numerous focal points for use in vast harvest ranches and in this way distinguishes indications of sickness naturally at whatever point they show up on plant leaves. In pharmaceutical research, the recognition of leaf ailment is essential and a critical theme for research, because it has the advantages of monitoring crops in the field in the form and thus automatically detects symptoms of disease by image processing using an algorithm clustering k - means. The term disease refers to the type of plant damage. This paper gives the best strategy to recognizing plant infections utilizing picture preparing and alarming the ailment brought about by email, SMS and showing the malady name on the framework proprietor's screen display. Automatic detection of symptoms of disease is useful for upgrading agricultural products. Completely automatic design and implementation of these technologies will make a significant contribution to the chemical application. The cost of pesticides and other products will be reduced. This will lead to an increase in farm productivity.

## COMPARATIVE ANALYSIS OF VOIP APPLICATION WITH DIFFERENT QUEUING SCHEMES IN WIMAX USING OPNET

ETCCCT-EC24

Mrs. P. Pavithra<sup>[1]</sup>,T.Udhaya kumar<sup>[2]</sup>,G.Pragadish soumyan<sup>[3]</sup>
Asisstant Professor, <sup>[2,3]</sup> UG Scholar,
Department of Electronics and Communication Engineering,
Anjalai Ammal Mahalingam Engineering College, Thiruvarur.

#### Abstract:

The objective of our idea will attempt to study the effects &performance of three queuing techniques (First in First outQueuing, Priority Queuing, Weighted Fair Queuing) with VOIP application in WiMAX through OPNET 17.5 simulator. In recent years VOIP (Voice over Internet Protocol) is one of the most modern and interesting technology. This work inspects the execution of VOIP traffic characteristics over WiMAX (Worldwide Interoperability for Microwave Access). Applications like web browsing (HTTP), email and FTP are very careless or insensitive towards any kind of delay in transmission of information while VOIP technology is very delicate and sensitive towards delay, packet losses and jitter. For this reason three different queuing methods are put into operation to manage, regulate, arrange and also to prioritizing the packets in buffers before their transmission. Here FIFO, PQ and WFQ queuing are implemented with the help of OPNET simulator and various parameters like jitter, mean opinion score, packet delay variation and packet end to end delay are studied. After this analysis and evaluation we can pick the best and right queuing scheme. In this document we are also investigating that how performance of various queuing schemes are affected with different numbers of nodes. We can also analyze the network path of the transmitted data or information



ISBN: 978-81-944813-4-8

Proceedings of International Conference on "Advanced Technologies in Power and Robotics Engineering" Iconpowrobo 20

#### ECONOMIC AND ENVIRONMENTAL DISPATCH OF A MICROGRID WITH PENETRATION OF PV AND FUEL CELL USING GREY WOLF ALGORITHM

#### P. Keerthana and Dr. R. Ashok Bakkiyaraj2

PG Scholar<sup>1</sup>, Department of Electrical Engineering, Annamalai University Associate Professor<sup>2</sup>, Department of Electrical Engineering Annamalai University

#### ABSTRACT

Micro grid (MG) is aimed to integrate the distributed generations and thereby improving the energy efficiency. Economic dispatch is an important tool to obtain the economic operation in MG, which deals with the power in efficient ways while meeting the constraints of total load demand as well as the generator constraints. Most studies of such networks addresses the operational and investment costs, however neglect the environmental impact. Based on these two criteria, an optimization model is established in this work, in order to determine the viability and the environmental contribution of micro grid. This model includes high penetration of fuel cell units and renewable energy sources. In order to accomplice this; a recently developed grey wolf optimization algorithm is used in order to perform hourly optimizations on the Micro grid.

Keyword: Micro grid, Photovoltaic, Micro turbine, Distributed generation

#### OPTIMISED DOMESTIC LOAD SCHEDULING FOR POWER MANAGEMENT IN SMART GRID

#### A. Albert Martin Ruban<sup>1</sup>, N. Rajeswari<sup>2</sup> and K. Nithya<sup>3</sup>

<sup>1</sup>Head of the Department Department of EEE, Kings College of Engineering

<sup>2</sup>Assistant Professor, Department of EEE, Kings College of Engineering

<sup>3</sup>Department of EEE, M.E Power Electronics and Drives, Kings College of Engineering

#### ABSTRACT

In the future era, revolution of smart grid in electric power sector plays a predominant role. The combination of new technologies and communication infrastructure in the electric power system makes the grid smarter. The vision of smarter markets, a key feature of smart grid is effectively achieved by Demand Side Response. Customer participation by actively reducing or shifting the loads from peak hours to non-peak hours with respect to the available power is done by DR schemes. Thus to obtain automatic scheduling of appliances artificial intelligence technique namely Genetic Algorithm is proposed in order to reduce the excessive wastage of power thus by using it efficiently in a smarter way in residential consumers.

Keywords: Demand Response, genetic algorithm, Smart grid, Optimization

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Proceedings of International Conference on "Advanced Technologies in Power and Robotics Engineering" Iconpowrobo-'20

#### AN INTELLIGENT TECHNIQUE FOR FAULT DETECTION IN SMART GRID

#### A. Albert Martin Ruban<sup>1</sup>, M. Meenalochani<sup>2</sup> and R. Sindhu<sup>3</sup>

<sup>1</sup>Head of the Department EEE, Kings College of Engineering

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<sup>3</sup>Department of EEE M.E Power Electronics and Drives Kings college of Engineering

#### ABSTRACT

A smart grid has a complex topology which includes multiple diversity of components. Power interruption due to faulty components has become a major issue in smart grid. It is difficult to obtain warning for faults that occur in each component. Also, the security of smart grid is under threat due to these unnoticeable faults. To improve the security of smart grid, it is essential to develop an efficient fault detec

tion technique. Hence, an attempt is made to determine the transmission line faults that occur in smart grids using Artificial Neural Networks. The proposal is simulated using MATLAB SIMULINK and the results confirm the supremacy of the proposal over other approaches.

Keywords: Smart grid, Transmission line faults, Artificial Neural Network, Classification.

### COMPARISON OF LP-GROWTH AND FP-GROWTH ALGORITHMS USING MULTIPLE MINIMUM SUPPORT THRESHOLD

#### M. Sinthuja and D. Devikanniga

Department of Computer Science and Engineering, Presidency University, Bangalore

#### ABSTRACT

Data mining is the process of discovering interesting patterns from the transactional database. Previously, many algorithms have been proposed by fixing a single minimum support threshold for all items from the database. It results in "rare item problem" where while fixing high minsup, frequent patterns with rare item are missed and at low minsup, it results in too many frequent patterns which is said to be combinatorial explosion. To confront the rare item problem, an effort has been made in the literature to find frequent patterns with "multiple minimum supports thresholds". In this concept, each item is given minimum item support (MIS) for finding frequent patterns. In this paper, comparison is made between MISFP-Growth and MISLP-Growth algorithm for mining frequent patterns using multiple minimum support threshold. Experimental evaluation is made between MISFP-Growth and MISLP-Growth algorithms using different database. From the result, it is revealed that the MISLP-Growth algorithm is better than MISFP-Growth algorithm in the criteria of runtime and memory.

Keywords: Data Mining, Frequent Patterns, LP-Growth, Minimum support, Multiple Minimum Support

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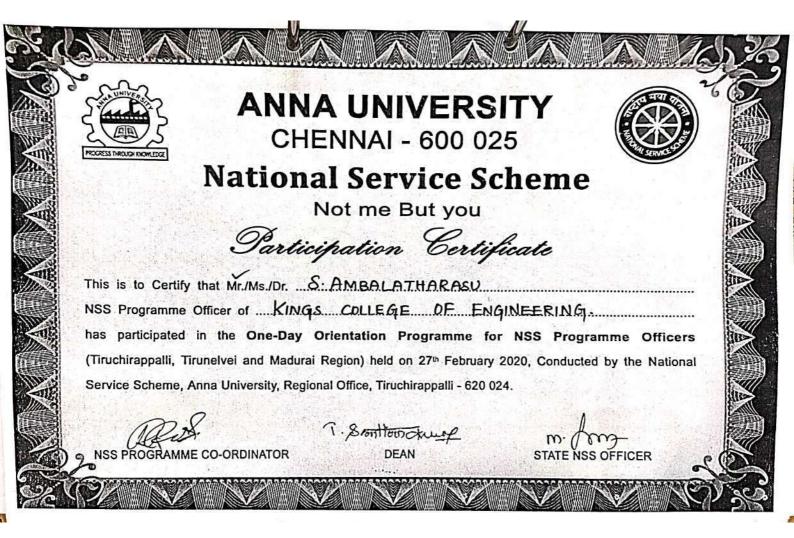
















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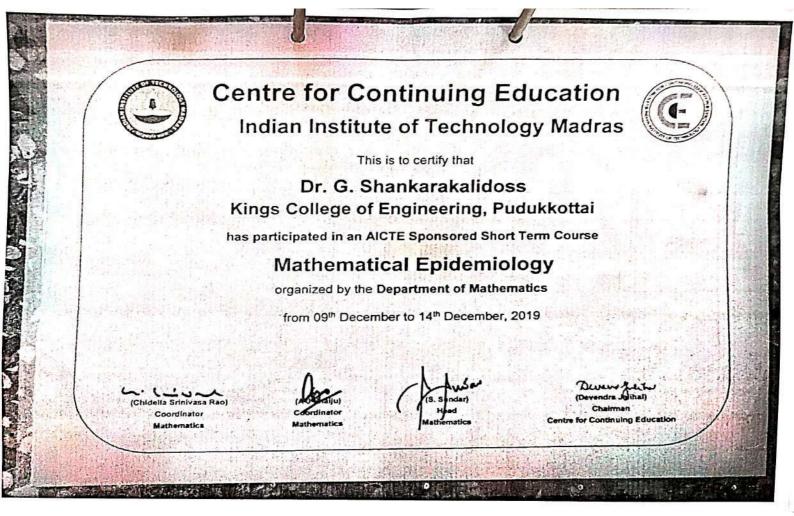
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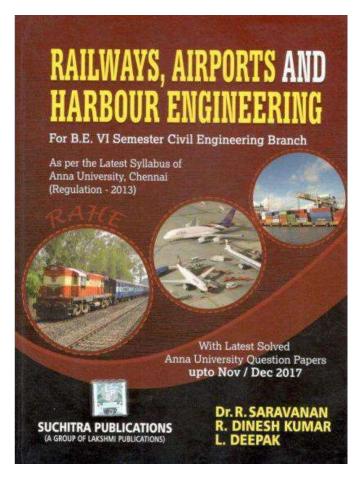


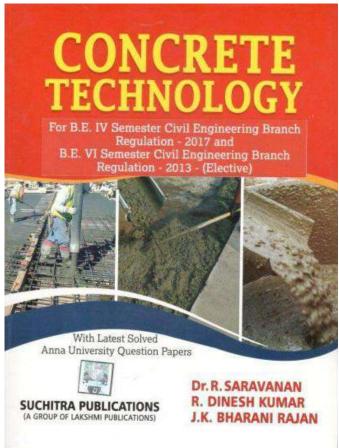




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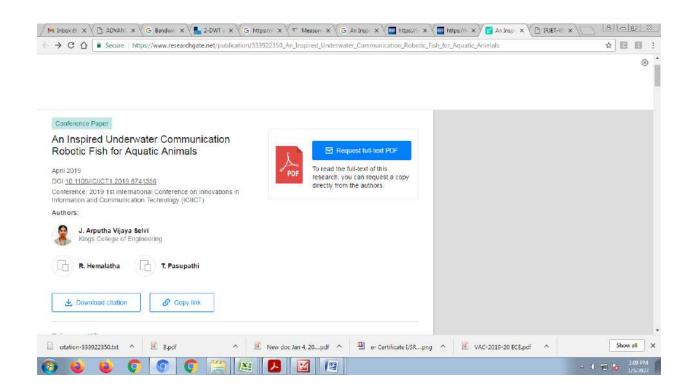
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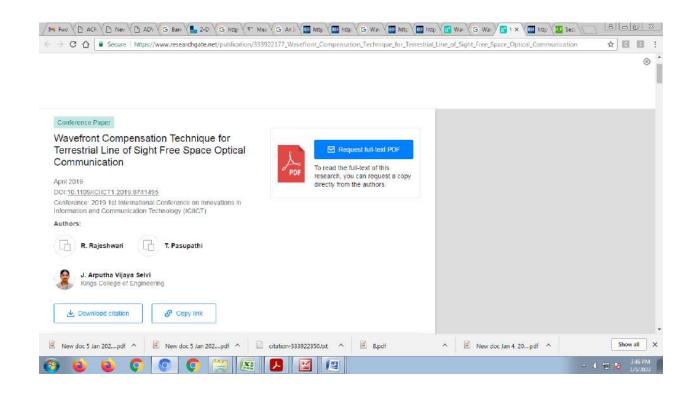
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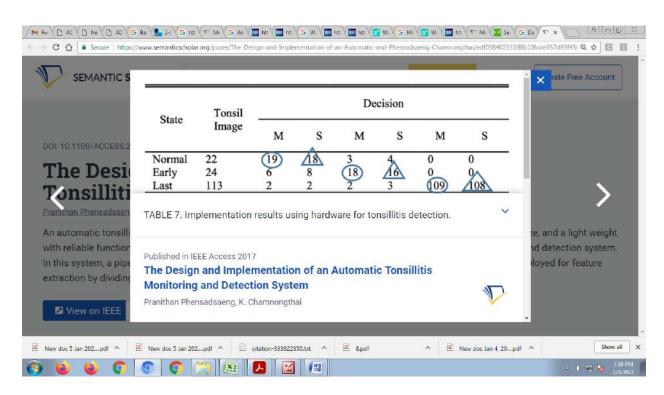












## A New Soft Switching Dual Input Converter for Renewable Energy Systems

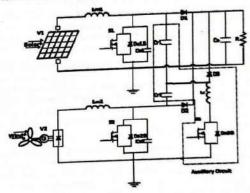
<sup>1</sup>C.Balaji, <sup>2</sup>K.Nithya, <sup>3</sup>S.Ponmani, <sup>4</sup>R.Preethi <sup>1</sup>Assistant Professor, <sup>2,3,4</sup>UG Students, <sup>1,2,3,4</sup>Kings College of Engineering, Thanjavur, Tamilnadu

Abstract-This paper proposes a new soft switching dual input converter for renewable energy systems. Multi-input converters on produced by combining discrete converters. These converters reduce the number of circuit elements, cost, volume and weight of the converter and provide a constant output power in different stather conditions. Furthermore, soft switching techniques can be applied to increase efficiency. In this paper, a Zero Voltage Transition (ZVT) dual input boost converter is presented. Only one auxiliary circuit is used to provide the soft switching condition for all of the semiconductor elements. The proposed converter, which is simulated by ORCAD software, is theoretically analyzed. To confirm the validity of the theoretical analysis, a prototype of proposed converter was constructed. Simulation and experimental results confirm the theoretical nalysis. An efficiency comparison shows a one percent improvement at nominal loads.

Keywords—Boost, Multi Input Converter (MIC), Renewable energy systems, Soft switching, ZVT

#### Introduction

In the last decade, the use of renewable energy sources has rapidly increased due to fossil fuel crisis, global warming and environmental pollution. Due to the Kyoto Protocol, clean energies including fuel cells, Photovoltaics, wind energy, etc. have been quickly promoted [1]-[7]. Photovoltaics and wind energy have the ability to supply the demand energy, even in remote or off grid places and in densely populated areas. Since obtaining power from renewable energy sources depends on environmental conditions such as different seasons and climate, the concurrent use of these resources is inevitable to ensure a continuous supply energy. Although the multi-input structure was first proposed in 1999, it has a scientifically traditional background. The count of passive elements and the cost semiconductor elements can be reduced by using a multiinput converter (MIC). For example, as a result of using a single output filter for several converters, the size and losses of these converters is decreased. The Possibility of easier control, higher flexibility and better management of energy sources are other advantages of MICs, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow. MICs fall in two categories including Electrically Coupled Converters (ECCs) and Magnetically Coupled Converters (MCCs). ECCs have both advantages and disadvantages. Some of the advantages are easier control in he presence of a variable input and high reliability when ompared to MCCs. The disadvantages include non-isolation etween the input and output and non-multilevel outputs. The main goal of researchers has been to improve the efficiency and reliability, and reduce the cost of systems. Therefore, different soft switching techniques have been proposed in the literature to improve the efficiency of switching converters. These soft switching techniques also reduce Electromagnetic Interference (EMI) by lowering dv/dt and di/dt; while decreasing the switching losses. The authors sought to provide the soft switching condition and enhance the efficiency of multi input converters by adding one auxiliary circuit. A major problem of these topologies is to provide the soft switching condition for main switches while the auxiliary switch is switched under the hard switching condition. In this paper, a soft switching dual input converter for the simultaneous or independent use of solar and wind energy is proposed. The proposed converter simultaneously provides soft switching for all of the semiconductor elements with only one auxiliary circuit. It also solves the above mentioned problems and provides soft switching condition for all forms.



Proposed ZVS system

#### I. PROPOSED SYSTEM

The proposed converter consists of two combined boost converters with one auxiliary cell that provides the ZVS condition for all of the semiconductor elements. The auxiliary circuit is illustrated in the dotted box. The presented converter can work with two input sources simultaneously or with one source independently. The following assumptions are considered to analyze the presented converter in the steady state operation and during a switching cycle. The input

epartment of EEE, Kings College of Engineering, Thanjavur

### Implementation of Zero-Voltage-Switching

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Abstract-A new zero-voltage-switching (ZVS) pushpull forward converter with a parallel resonant network is presented in this paper. The novel topology can provide a releasing loop for the energy storage in a leakage inductor for the duration of the power switching by the resonant capacitors paralleled with the primary windings of the transformer. Then the transformer leakage inductor is utilized to be resonant with the parallel capacitor, and the ZVS operation is achieved. This converter exhibits many advantages such as lower duty-cycle losses, limited peak voltage across the rectifier diodes and a higher efficiency. Furthermore, the operating principles and key problems of the converter design are analyzed in detail, and the ZVS conditions are derived. A 500W experimental converter prototype has been built to verify the effectiveness of the proposed converter, and its maximum efficiency reaches 94.8%.

Keywords—High efficiency, Parallel resonant, Push-pull forward, Zero voltage switching (ZVS)

#### I. INTRODUCTION

In applications where the input source exhibits a low voltage and a high current, such as photovoltaic energy and fuel cells, the push-pull converter is a desirable DC-DC converter topology. Compared with the conventional push-pull converter, the push-pull forward converter (PPFC) can solve the problems of high turn-off voltage spikes across switches and it can improve the efficiency of the magnetic core [1]. In order to further improve the efficiency and reduce the size, the technology of integrated magnetics is applied [2], [3]. All of the magnetic components including the input filter inductor. step-down transformer and output filter inductors are integrated into a single EE core. Moreover, the improved structure can make the converter more compact and less expensive. A novel PPFC has been proposed to achieve a high reliability and high input voltage applications in [4]. In this topology, the high utilization factor of the transformer is achieved by using two forward cells coupled via an integrated magnetizing core and operating the two cells in an interleaving fashion. In addition, the high reliability is guaranteed since no direct-short path exists in the proposed converter. A threelevel converter has been proposed to reduce the voltage stresses of the switches, the size of the input filter and the output filter [5]. A novel three-level PPFC has been proposed

to reduce both the input current ripple and the output filter inductor current ripple in [6], [7]. Moreover, the voltage stress of the rectifier diode can be reduced by this control strategy and an appropriate external paralleled capacitor. However, in three-level topologies, the circuit topology needs more active devices and the drive circuit is complicated. In order to increase the power density and to reduce the size and weight of the magnetic element, the switching frequency needs to be increased. Then, the turn-off voltage spikes of the transistors cannot be eliminated in the hard switching mode for the conventional PPFC, resulting in severe EMI and a high switching loss. In the dc-dc converter family, soft-switching technology is proposed to solve the above mentioned problems [8], [9]. An LCL resonant Push-Pull dc/dc converter was presented in [10], [11], with C-L resonant components located behind the output stage rectifiers. The MOSFET switches in the primary side operate under the zero-voltage switching (ZVS) conditions due to the commutation of the transformer magnetizing current and the snubbing effect of the inherent drain-source capacitance. A pair of auxiliary circuits was added to the primary side of the transformer to clamp the voltage spike and to recycle the energy trapped in the leakage inductors in [12]. As a result, the main switches can be turned on with ZVS. In isolated bidirectional applications, the symmetric structure with the phase-shift control enables the ZVS operation for all of the power switches in [13]. The magnetizing inductance should be sufficiently small. Therefore, the transformer must be designed with the appropriate air-gap. However, a small magnetizing inductance causes a large magnetizing current. As a result, all the no-load loss, the reactive current and current stress increases. As shown in Fig.1, a novel zero voltage switching push-pull forward converter with a parallel resonant network is proposed. The converter is analyzed and designed. Due to the presence of parallel capacitors and transformer leakage inductors, the resonance makes the switches maintain zero voltage switching even under light loads. The proposed converter operates with soft-switching, which reduces the switches losses and rectifier diodes turn-off voltage. The efficiency can be significantly enhanced. This paper is organized as follows. The steady-state operation and different intervals of operation in the proposed converter are analyzed in Section II. The design issue of the converter is described in detail in section III.

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#### ENERGY MANAGEMENT SYSTEM FOR INTEGRATED POWER SYSTEM

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Abstract-This system deals with the Energy Management System (EMS) for the smart-micro grid applications. This system obtains power from the PV panels, wind turbine, and diesel generation systems. The EMS relies on fuzzy control for the purpose of the optimization. The RS 485 zigbee network,a communication protocol employed for the purpose of communication to know about the generation status of the power generating systems. The EMS commands this system when to operate, as per the power availability, and load demand migration. Keywords-Energy Management System, Smart micro grid, fuzzy logic control.

#### F2WF SYSTEM USING AUTOMATION TECHNOLOGY

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Abstract - Vermicomposting is the process of breaking down biodegradable matter by earthworms to convert the contained nutrients in the organic matter to vermicast. In this paper, the proponents introduced the development of an automated production of vermicast. Four subsystems were designed namely: irrigation, sensor network, worm, and communication subsystem to minimize human intervention. The communication system involved the use of 2.4 Ghz. The study uses Arduino uno and Arduino mega microcontrollers, an android phone and liquid crystal display (LCD) for monitoring. The automated project improved the manual process of vermicomposting by eliminating 4 processes from the manual system.

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# AUTOMATION IN PRECISION FARMLING USING ENCAPSULATED SEED AND MONITOR THROUGH IOT USING INTELLIGENCE SYSTEM WITH AN ARRAY OF SENSORS

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Abstract— (1)To make a complete Organic farming.(2)To monitor the field and reduce Drudgery to the farmers.(3)To reduce the initial cost.(4)Our efforts is to take the traditional system of agriculture to the next level.(5)To reduce the usage of water in field.(6)we can monitor the sensor values and automate the pump in land.

## DEVELOPMENT OF SOLAR BASED AGRIBOT USING WIRELESS TECHNOLOGY.

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Abstract--The paper aims on the design, development and the fabrication of the robot which can plough and dispense the seeds. More than 40% of the population in the world chooses agriculture as the primary occupation, in recent years the development of the autonomous vehicles in the agriculture has experienced increased interest. The real power required for machine equipment depends on the resistance to the movement of it. Even now, in our country 98% of the contemporary machines use the power by burning of fossil fuels to run IC engines or external combustion engines. This evident has led to widespread air, water and noise pollution and most importantly has led to a realistic energy crisis in the near future. Now the approach of this project is to develop the machine to minimize the working cost and also to reduce the time for digging and seed sowing operation by utilizing solar energy to run the robotic machine. A concept is been developed to investigate if multiple small autonomous machine could be more efficient than traditional large tractors and human forces.

Keywords: Direct Current Motor; Infrared Sensors; Internal Combustion Engines; Special Purpose Vehicle.

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## RECOGNITION OF VEHICLE AND CONTROL USING RASPBERRYPI AND IMAGE PROCESSING

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Abstract - Image processing is widely used in various fields such as organ imaging, imaging technology, development of instrumentation, computer aided study of geological areas, planet exploration etc,. The main objective of the paper is to demonstrate the use of image segmentation in traffic sign recognition using small computing environments such as Raspberry Pi and ARM processors. The objective of the proposed work is to implement the available technique to detect the stop board and red traffic signal for an autonomous car that takes action according to traffic signal with the help of raspberry pi3 board. Ultrasonic sensor at the back of the car will also reduce the problem of parking accidents because of unaware of the distance of the obstacles at the back of the car since system will get the distance of the obstacles without seeing it.

Keywords: Raspberry pi3, traffic signal detection, obstacle detection, python

## WIRELESS POWER TRANSMISSION USING LPT TECHNOLOGY

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Abstract — Laser Power Transmission (LPT) is one of the most promising technologies in the long-range wireless power transfer field. LPT research has been driven by the desire to remotely power unmanned aerial vehicles (UAVs), satellites and other mobile electric facilities. However, the low overall efficiency is the main issue that limits the implement of high intensity laser power beam (HILPB) system. As seen from the contemporary understanding of efficiency of laser power transmission channel, the efficiencies of laser and PV array are the main limiting factors to the HILPB system from the perspective of power conversion. Thus, a comprehensive overview of LPT technology is presented from the point of efficiency optimization view in this paper. First, the basic principles of laser power transmission are briefly summarized. Then, a survey of the efficiency optimization methods for HILPB system with regard to the laser and PV technologies is provided in detail. Additionally, the open issues and challenges in implementing the LPT technology are discussed.

Index Terms—Laser, photovoltaic (PV), Gaussian beam, Optical propagation, Efficiency, Wireless Power Transmission.

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## A SOLUTION FOR CUSTOMER SECURITY IN INDIAN CABS WITH ARDUINO MICROCONTROLLER

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Abstract— This Paper deals with the development of an interactive app which functions as a Cab Booking System for customers to smoothly book cabs for travel with some advanced features that are namely accident avoidance and detection system, customer and driver feedback system. This proposed system designed with android and hardware interfaced as user friendly in briefly it explains about hardware which contains obstacle detection and accident detection sensors. This application contain some latest cab booking features like, customers can view available cabs, booking the cabs after verifying cost, driver experience, last travelling time of driver with previous customer feedback etc.,. This Application based management system is designed to handle the entire primary Information required to manage the whole data. Separate database is maintained to handle all the details required for the correct statement calculation and generations. This Paper intends to introduce more user-friendly approach in the various activities such as record updating, maintenance and searching.

#### IMPLEMENTATION OF SYSTEM FOR MINIMIZINNG USAGE OF GROUND WATER IN IRRIGATION BY USING SOLAR POWER&MICROCONTROLLER

Mr.S.R.Karthikeyan<sup>1</sup>, Mr.M.Veeramani<sup>2</sup>, Mr.B.Rohinth<sup>3</sup>, Mr.S.Mohanraj<sup>4</sup>

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Abstract— Now a days, renewable energy sources are used for generating electric power. Among all the renewable energy sources, solar energy is easily available in most of the tropical region and it can be converted into electrical energy with the use of photovoltaic panels. In certain rural areas, where the electric power is not available from electricity board, solar energy can be used effectively for many purpose. In most of the remote places, majority of the people involve in cultivation. For cultivation, they need water which can be sucked out from the earth with the use of electric motor. So that they need electric power to run the motor but electricity is not available from electricity board. If possible, electricity is available, there is a frequent stoppages in that. So the farmer can't water their fields properly which reduces the cultivation of plants. Our solar based inverter less automatic irrigation and lighting system helps in watering the plant or whole field automatically and effectively with the use of microcontroller.

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### HIGH STEP UP INTERLEAVED BOOST CONVERTER FOR DISTRIBUTED GENERATION USING RENEWABLE AND ALTERNATIVE POWER SOURCES

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Abstract - This paper proposes a novel high step-up interleaved boost converter suitable for distributed generation using renewable and alternative power sources. The proposed interleaved boost converter not only lengthens the lifetime of the renewable power source by reducing the input-current ripple but also achieves high step-up conversion. Hence, large voltage spikes across the main switches are alleviated and the efficiency is improved. Finally, a prototype circuit with an input voltage of 48 V, an output voltage of 380 V and an output rated power of 3.5 kW is implemented and tested to demonstrate the functionality of the proposed converter. Moreover, satisfying experimental results are obtained and discussed in this paper; the measured full-load efficiency is 94.7%, and the highest measured efficiency of the proposed converter is 97.3%.

## BORDER DEFENCE SYSTEM BY USING INVISIBLE TANKER IN BATTLE FIELD

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Abstract-As the potential for disastrous consequences from threats increases in prevalence, the speed which such cyber threats can occur presents new challenges to understandings of self-defense. This paper first examines the prevention of threats nations could face. It next looks at existing concepts of self-defense with particular focus on anticipatory and pre-emptive self-defense, and then moves to a review of the underlying criteria which govern the right to resort to such actions. Highly sophisticated electronic sensors attached to the tank's hull will project images of the surrounding environment back onto the outside of the vehicle enabling it to merge into the landscape and evade attack. The electronic camouflage will enable the vehicle to blend into the surrounding countryside in much the same way that a squid uses ink to help as a disguise. Unlike conventional forms of camouflage, the images on the hull would change in concert with the changing environment always insuring that the vehicle remains disguised.

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### MEDICAL MONITORING USING LI-FI TECHNOLOGY

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Abstract - Constant monitoring of patient's health condition in hospital is either manual or wireless fidelity (Wi-Fi)-based system. Wi-Fi-based system becomes slow in speed due to exponentially increased scalability. In this scenario, light fidelity (Li-Fi) finds the places wherever Wi-Fi is applicable with additional features of high speed data network. Apart from the speed factor, Li-Fi is more suitable in hospital application for monitoring the patient's conditions without frequency interference with human body. This paper proposes an application of Li-Fi network in the hospital for monitoring the patient's conditions such as temperature, pressure, heartbeat, glucose level, and respiratory conditions using respective sensors. The collected data from the sensors is transmitted to the sink, and further these data are processed using microcontroller and sent to display unit in the form of graphs or charts. Based on the concept of visible light communication, a prototype model is built with the PIC microcontroller and basic sensors as peripherals and tested it's working. Thus, the application of Li-Fi as a health monitoring system demonstrated experimentally.

#### WIRELESS POWER TRANSMISSION

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Abstract - The transmission of electrical energy from source to load for a distance without any conducting wire or cables is called Wireless Power Transmission. The concept of wireless power transfer was realized by Nikola Tesla. Wireless power transfer can make a remarkable change in the field of the electrical engineering which eliminates the use conventional copper cables and current carrying wires. Day by day new technologies are making our life simpler. Wireless charging through resonance could be one of the next technologies that bring the future nearer. In this project it has been shown that it is possible to charge low power devices wirelessly via inductive coupling. It minimizes the complexity that arises for the use of conventional wire system. In addition, the project also opens up new possibilities of wireless systems in our other daily life uses.

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#### A TWENTY ONE LEVEL INVERTER WITH REDUCED NUMBER OF SWITCHES USING PV RENEWABLE ENERGY SOURCES

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Abstract — A new model multilevel inverter for generating 21 voltage levels has been proposed in this paper. A multilevel inverter topology with PWM techniques and each cell of conventional PV voltage added with multilevel inverter structure by additional switch and voltage source to obtain high voltage level. The objective of this project is to enhance the voltage level at the output with reduced number of switches. To improve the output voltage level and the pulse width modulation (PWM) techniques. The advantage of proposed topology is to reduce the circuit complexity and also reduced numbers of switches, gate driver circuits, lower EMI and less Harmonic distortion in the inverter output voltage. The converter topology uses the midpoint voltage of the dc link to provide two more output voltage levels, decreasing switching power losses and EMI. The results of proposed 21-Level multilevel Inverter are shown using MATLAB/SIMULINK software. The conventional control methods are mainly restricted to the direct and indirect control of the inverter.

#### IMPLEMENTATION OF DC-DC CONVERTER WITH HIGH FREQUENCY TRANSFORMER (DHFT) IN AC/DC MICROGRID

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Abstract-In this paper, DC/DC converter with High Frequency Transformer (DHFT) is proposed to replace the conventional bulky transformer for bus voltage matching and galvanic isolation. Various DHFT topologies have been compared and CLLCtype has been recommended due to its capabilities of bidirectional power flow, seamless transition and low switching loss. DHFT are designed in order to maximize the conversion efficiency and minimize output voltage variations in different loading condition. This paper presents a series-connected high frequency DC/DC converter connected to a DC micro-grid system to provide auxiliary power for lighting, control and communication in a DC light. Three converters with low voltage and current stresses of power devices are series-connected with single transformers to convert a high voltage input to a low voltage output for a DC light. Thus, Metal-Oxide-Semiconductor Field-Effect Transistors (MOSFETs) with a low voltage rating and a turn-on resistance are adopted in the proposed circuit topology in order to decrease power losses on power switches and copper losses on transformer windings. Lab-scale prototypes of the DHFT and hybrid AC/DC micro-grid have been developed for experimental verifications. A small hybrid grid will be modeled and simulated using MATLAB.

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#### IMPLEMENTATION OF DC-DC CONVERTER FOR ENERGY MANAGEMENT SYSTEM USING WIRELESS SENSOR NETWORK

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Abstract-This paper proposes a dc-dc converter for energy management system using WSN (Wireless sensor network). This proposed converter has the ability to controlling the electrical power of loads. The WSN is used for cost efficient monitoring and controlling over the geo location. The main aim is to provide low cost and flexible operation. Increasing power consumption is becoming a huge problem. This research helps to users and power distribution centre to manage the power in an efficient manner. For controlling the parameters, it sends intimation to the user when the parameter exceeds their predefined values. To provide a high degree of security user or authenticator ID is given by server to consumers. Due to ID users only access their corresponding loads. In this paper, microcontroller is employed to interface a digital signal with WSN.

#### LANDSLIDE WARNING AND MONITORING SYSTEM THROUGH SMARTPHONE BY USING OPTIMIZED SOLAR POWERED WIRELESS SENSOR NETWORK

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Abstract -Landslides cause significant damages to civil infrastructure. Over the years, methods and technologies have been proposed to determine the risk of landslides and to detect hazardous slope movements. There have been increasing interests in developing and landslide monitoring systems to observe movements using sensors installed on the slope. Although providing accurate data, many landslide monitoring systems are not operating in an automated fashion and lack the ability to analyze the collected data in a timely manner. This paper presents an autonomous landslide monitoring system based on wireless sensor networks by using IOT. Self-contained. autonomous software programs ("software agents") are embedded into the wireless sensor nodes. In cooperation with each other, the software agents are continuously collecting and analyzing sensor data, such as recorded ground acceleration and the orientations of the sensor nodes along the slope. If movements are observed, the collected data sets are automatically transmitted to a connected server system for further diagnoses. Sensors are powered by solar energy. The landslide monitoring system presented in this paper is remotely accessible via Internet and provides realtime information about the current state of the monitored slope. Laboratory tests have been conducted to validate the reliability and the performance of the monitoring system.

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#### AVIATION ACCIDENT SAFETY SYSTEM USING ARTIFICIAL INTELLIGENCE

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Abstract - An escape crew capsule is an escape capsule that allows one or more occupants of an aircraft to escape from the craft while it is subjected to extreme conditions, such as mechanical error, firing etc. The contribution is dealing with the issue of air transportation safety in view of the potential causes resulting in air accidents and their prevention.

## POWER QUALITY IMPROVEMENT IN DISTRIBUTION SYSTEM USING UNIFIED POWER FLOW CONTROLLER

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Abstract: — The Unified Power Flow Controller (UPFC) is a typical FACTS (Flexible AC Transmission Systems) device that is the most sophisticated and complex power electronic equipment and has emerged for the control and optimization of power flow and also to regulate the voltage in electrical power transmission system. This project propose the real, reactive power and voltage control through a transmission line by placing UPFC at the sending end using computer simulation. The control scheme has the fast dynamic response and hence is adequate for improving transient behavior of power system after transient conditions. When no UPFC is installed, real and reactive power through the transmission line cannot be controlled. A control system which enables the UPFC to follow the changes in reference values like AC voltage, DC voltage and angle order of the series voltage source converter is simulated. In this control system, a generalized pulse width modulation technique is used to generate firing pulses for both the converters. Simulations will be carried out using MATLAB/PSCAD software to check the performance of UPFC.

Keywords: - UPFC, FACTS, Power Quality, Transient, Control.

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# EFFICIENT WIRELESS COMMUNICATION SYSTEM FOR SMART GRID MONITORING

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Abstract - Economy as well as power system, reliability and safety issues of power system have been more important. Development of distribution Transformer Health Monitoring System (THMS) has been done in that reason. Distribution transformer is the most vital asset in any electrical distribution network and therefore it needs special care and attention. This THMS can monitor the health status of the distribution transformer in real time aspect. As a large number of transformers are distributed over a wide area in present electric systems, it's difficult to monitor the condition manually of every single transformer. So automatic data acquisition and transformer condition monitoring has been an important issue. This project presents design and implementation of a mobile embedded system to monitor load currents, over voltage, transformer oil level and oil temperature. The implementation on-line monitoring system integrates Global Service Mobile (GSM) Modem, with single chip microcontroller and sensors. It is installed at the distribution transformer site. The output values of sensors are processed and recorded in the system memory. System programmed with some predefined instructions to check abnormal conditions. If there is any abnormality on the system, the GSM module will send SMS (Short Message Service) messages to designated mobile telephones containing information about the abnormality according to the aforesaid predefined instructions. This mobile system will help the utilities to optimally utilize transformers and identify problems before any catastrophic failure occurs. This system will be an advanced step to the automation by diminishing human dependency. As it is a wireless communicating system, there is no need of large cables which are of high cost. Thus THMS offers a more improved transformer monitoring.

Keywords—GSM; Transformer health monitoring; Microcontroller; Embedded System; Transformer.

#### DESIGN OF SOLAR TREE

D.George Nithish Raj, S.Hari Haran, A.Ganesh Kumar Arasu Engineering College

Abstract - This paper deals with design of solar tree is a new solar technology that emulates how trees convert sunlight into energy. Trees, shrubs and plants use an inherent structural design to expose their leaves, height dense to sunlight for photosynthesis. Flat or roof top mountings of PV systems require large area or land. Scarcity of land is greatest problem in cities and even in villages in India. Solar Power Tree provides better alternative to flat mounting of PV systems. For domestic lighting and other applications use of Solar Tree is more relevant when PV system is to be used. Demand for energy is increasing with each period, to fulfill the required demand we must have to concentrate on utilizing non conventional sources of energy. Energy from the Sun is the best alternatives among the renewable energy sources.

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# ENERGY MANAGEMENT SYSTEM FOR INTEL BUILDINGS USING GRID CONNECTED SYSTEMS

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Abstract—Buildings are the major factor of power demand because, they consumes 40% of total power in a systems. So, Demand Side Management (DSM) is a promising technology for power balancing in future energy systems. To avoid or delay large investments in grid infrastructures and storage facilities we have an idea i.e., Energy management using grid connected sources Smart buildings provide customers with information on various services and allow them to track the impact of their resource consumption on the overall sustainability of their buildings. Energy management is one of the most demanding issues within such urban centers owing to the complexity of the energy systems and their vital role. This project introduces a theoretical planning and operation models within the smart buildings by classifying roles demand side management (DSMs) into main intervention areas: parameters and temperature constraints, tracking human, energy prices, regulatory constraints and energy demand. More-complex building energy models integrating more than one intervention area are also reviewed, outlining their advantages and energy demand, existing trends and challenges, and some relevant applications. Finally, a methodology for developing an improved energy model in the smart buildings context is proposed, along with some additional final recommendations

Keywords: Intelligent building, load shedding, grid, PIR, Human detection, LDR, temperature sensor.

#### POLY HOUSE FOR OPTIMAL GROWTH OF PLANTS

S.Atchaya, S.Siva Ranjani, R.Jeevitha Arasu Engineering College

Abstract - The major concept of this project is to create a favorable atmosphere for the growth of the crop by providing control over the atmospheric parameters within a polyhouse farm with respect to the outer environment using automation. Polytunnel are basically naturally ventilated climate controlled. Polytunnel have a variety of applications the majority being ,growing of vegetables floriculture, and planting material acclimation, fruit crop growing for export market. Polytunnel are built of a pre-galvanized cum tubular structure where in crops are grown under a favorable controlled environment and other condition via temperature, humidity, light intensity, soilmedia, irrigation, fertilization, fustigation, and other agronomical practices through out the season irrespective of the natural conditions outside. The work will be benefical for rural areas. Polyhouse are available in different size and constructed as per customer requirement the size vary from as small as 100sq.m to 10,000sq.m and more.

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Techniques" h	ield at Er. Peri	umal Manime	kalai College of I	Engineering, Hos	ur on 25 <sup>th</sup> Februa	ıry, 2019.
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#### A STUDY ON SELF-MONITORING GLUCOSE SENSING WITH MULTI-PARAMETRIC SURFACE PLASMON RESONANCE

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#### Abstract:

Diabetes is a metabolic disease and in an ideal diabetic diet, a number of factors must be taken into consideration, including the amount and type of carbohydrates consumed as well as the amount of fiber, fat, and protein contained in foods. Glycemic index and glycemic load are further considerations. Foods with low glycemic index and load raise blood sugar more slowly than high glycemic index / load foods. In turn the glycemic index refers to a standardized measurement, while glycemic load takes a typical portion size into account. The total daily calories are evenly divided into three meals. By the Electrochemical Glucose Measurement electrically coupling glucose oxidase to nanoscale carbon structures modulates the electrical resistance of the structures. Many researches do their work on all add-on devices that could allow the smart phone to take pregnancy tests or monitor diabetes. A smart phone can be combined with a tiny sensor and wearable insulin pump, for pancreas to monitor the blood-sugar levels and to deliver insulin as needed. So this can be the future to monitor the diabetes foe evaluating the treatment. One among the technique is Multi-Parametric Surface plasmon resonance (MP-SPR) binding analysis methodology is used to study molecular interactions The Biosenser can determines the presence and concentration of a specific substance in any test solution. Biosensors can be incorporated with the add-on devices an it can be monitored according to the necessary period of time . With this usage we can have the better sensitivity, reproducibility, and easy maintenance as well as their low cost. Index Terms: Blood glucose, Diabetes mellitus,

Electrochemical Glucose Measurement, Self-

monitoring of blood glucose, MP-SPR Biosenser

#### I. INTRODUCTION

A biosensor is a device that combines a biological recognition element together with a transduction system for the detection of a specific analyte. The biological component can comprise species such as a redox protein or enzyme, an antibody, a whole cell or a DNA strand and serves the purpose of imparting specificity to the sensor. The first biosensor, for the measurement of glucose was developed by Clark in 1962 and subsequently developed commercially with the first product released in 1973. Later then there have been an enormous number of reports on biosensors [3].

Biosensors are analytical tools for the analysis of bio-material samples to gain an understanding of their bio-composition, structure and function by converting a biological response into an electrical signal. The biological response of the biosensor is determined by the biocatalytic membrane which accomplishes the conversion of reactant to product. Immobilized enzymes possess a number of advantageous features which makes them particularly applicable for use in such systems. They may be re-used, which ensures that the same catalytic activity is present for a series of analyses. In an electrochemical cell, the oxidation can take place at the surface of an electrode, releasing electrons into an electrical circuit, which can be measured as a current [1].

#### II. GLUCOSE DETECTION

The concentration of glucose can be determined easily using HPLC and is usually performed in this manner in fermentation systems etc. Such methods clearly do not lend

## IMPLEMENTATION OF HYBRID BI-DIRECTIONAL DC/DC CONVERTER IN MICROGRID

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#### Abstract:

High efficiency power is attained using hybrid bidirectional DC-DC converter in micro-grid system. Hybrid bidirectional dc/dc converter is based on photovoltaic (PV) and wind system that are driven by permanent magnet synchronous generator are fed to the grid through common single boost converter. A battery that connected to the bidirectional dc/dc converter charges from grid and discharges through grid to the load. Model of the proposed scheme in d-q axes reference frame is developed. Steady-state performance of the system and transient response of the controllers are also presented to demonstrate the successful operation of the new hybrid system. Simulation results are given to validate the simulation model.

**Keywords:** Bidirectional dc/dc converter, boost converter, micro grid, Photovoltaic, wind system.

#### I INTRODUCTION

The electricity requirements of the world including our nation are ever-increasing at frightening speed and the power demand has been running at the forefront of supply. It is also now widely known that the renewable and nonrenewable energy resources, presently being used for generation of electrical energy, are not sufficient to bare the demand of electrical energy of future needs. We need to solve this problem by developing a new kind of hybrid system to generate electricity which provides energy for 24X7 hours with power quality and pollution free. With increasing concern of global warming and the depletion of fossil fuel reserves, many are looking at sustainable energy solutions to preserve the earth for the future generations. Wind and photovoltaic energy holds the most

potential to meet our energy demands. Wind energy is capable of supplying large amounts of power but it is predictable by turbine only at 12m/sec. Similarly, solar energy radiation throughout the day vary due to sun intensity and unpredictable shadows cast by clouds, birds, trees, etc. As the wind and photo voltaic system depends on meteorological conditions, we cannot fully depend on them, because of their reliability. However, by combining these two intermittent energy sources and by incorporating Maximum Power Point Tracking (MPPT) algorithms, the systems power transfer efficiency and reliability can be improved significantly. The rest of the paper is organized as follows: section II describes the background and related works; section III describes about the proposed hybrid system.

### II BACKGROUND AND RELATED WORK

Corresponding to developing technology, demand of energy makes us seek new energy sources. Wind and solar energy have being popular ones due to its availability and convertibility to the electric energy. Prior work covers under a microcontroller to utilize the solar and wind power and implemented in accordance with available line-electricity. Batteries are charged by either wind power or solar power. The whole System control confide mainly on microcontroller. Separate boost converter is connected to solar and winds to step up the voltage. Large number of power converters is used to generate quality power.

Shuai Jiang et. Al, 2012 presented a novel boost-half-bridge micro inverter and its control implementations for single-phase grid-connected photovoltaic systems. Their systems consists of a

### Simulation of three phase five-level neutral clamped inverter (NPC) for Induction motor

<sup>1</sup>M.Mayapandi ,<sup>2</sup>R.Maimozhi, <sup>3</sup>K.Gayathiri

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#### Abstract:

This paper presents a control for a three phase five-level neutral clamped inverter (NPC) for induction motor connected. The maximum power point tracking (MPPT) is capable of extracting maximum power from the each DC link voltage level. The MPPT algorithm is solved by fuzzy logic controller. The fuzzy MPPT is integrated with the inverter so that a DC-DC converter is not needed and the output shows accurate and fast response. A digital PI current control algorithm is used to remain the current injected into the induction motor sinusoidal and to achieve high dynamic performance with low total harmonic distortion (THD). The validity of the system is verified through MATLAB/Simulink and the results are compared with three phase three-level grid connected NPC inverter in terms of THD.

Keywords: Three phase five-level neutral clamped inverter; Maximum power point tracking (MPPT); Total harmonic distortion (THD)

#### I. INTRODUCTION

In recent years, the use of direct current energy resources instead of pollutant fossil fuels and other forms has increased. Any generation is becoming increasingly important as a direct current resource since it does not cause in fuel costs, pollution, maintenance, and emitting noise compared with other alternatives used in power applications. Higher power equipments require higher voltages, which limit the maximum DC voltage level.

Therefore a new family of multilevel inverters has emerged as the solution for solar applications, as the DC is directly connected to each level of the DC link. Different types of topologies are presented in the literature (Rodriguez et al., 2002; Colak et al., 2011). This paper uses the NPC topology since. Capacitance (Hussein et al., 1995), constant voltage (Hsiao and Chen, 2002), neural network (Hiyama and Kitabayashi, 1997), it has the advantages such as: (i) DC-link capacitors are common to three phases. (ii) Switching frequency can be low and (iii) reactive current and negative phase sequence current can be controlled.

Several methods of modulation techniques such as selective harmonic elimination PWM, sinusoidal PWM, space vector modulation, sigma delta PWM, closed loop modulation techniques exist to control the inverter (Colak et al., 2011).

The amount of power generated by a PV generator depends on the operating voltage of the PV array. The maximum power operating point changes with insolation level and temperature. The PV system operates at its highest efficiency at the maximum power point (Villalva et al., 2009a). In order to increase the efficiency, MPPT controllers are used. Such controllers are becoming an essential element in PV systems.

Different tracking control strategies such as perturbation and observation (Hua et al., 1998), incremental conductance (Won et al., 1994), parasitic and fuzzy logic control (Senjyu and Uezato, 1994) have been proposed to extract maximum power from the PV array. In this paper, an intelligent control technique using fuzzy logic control (FLC) is associated to an MPPT in order to improve energy conversion efficiency under different environmental conditions (Won et al., 1994).

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## Implementation and Control of Multiple Input Single Converter Battery Charger for DC Nanogrid Applications

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#### Abstract:

In this paper a Multi input single converter battery charger is presented. Nowadays due to power failure, there is a great usage of UPS systems in our homes or in industries which leads to a great problem to the consumers. The amount of DC loads used in our buildings such as computers, televisions, mobile phones, induction based appliances and other electronics are increasing day by day. To meet out the concern renewable power and storage have made DC based distribution an attractive alternative solution. By using dc sources it is necessary to use converters. If using multiple sources it need separate converters for each stage. This multi input single converter reduce the system size and cost by reducing the number of components. In addition some other advantages are the system is reliable and its dynamic performance due to centralized control. The system is suitable for applications such as hybrid automobile charging and in residential buildings. The design circuit, performance of different operating modes, simulation results using Proteus software is presented here.

**Keywords:** Renewable energy sources, DC-DC converter and PI controller.

#### I. INTRODUCTION

Energy is a fundamental aspect to people's life, and is essential not only for individuals but also the fact for various sectors. It can be supplied from various resources which can be divided into two categories; renewable and non-renewable sources. Typical examples of non-renewable energy sources are petroleum, coal, and natural gas. As for renewable sources, these include energy generated from wind, solar, wave, fuel cell, geothermal, biomass and hydro. Both renewable and non-

renewable energy sources can be used to produce energy sources including electricity and hydrogen. Solar and wind energy which are non-pollution, free in their availability and renewable are considered as a promising power sources. In recent days, the number of applications which require more than one power source is increasing. Distributed generating systems or micro-grid systems normally use more than one power source or more than one kind of energy source. Also, to increase the utilization of renewable energy sources, diversified energy source combination is recommended. The combination of more power sources and diversified power sources make it possible to obtain higher availability in a power system. Nowadays power electronics is covering a wide range of industrial and commercial applications, including computers, mobiles, telecommunication, aircraft, and transportation, information processing and power utilities. Renewable energy usage has been increasing day by day scenario. And by the parallel connection of converters has been used to integrate more than one input energy source in a power system. However this converter can generally have the following advantages compare to a combination of several individual converters like cost reduction, compactness, more expandability and greater manageability. Consumption of electricity has been rising at fastest rates in the world owing to growing population and economic development. Our economy has been put forth to increasing challenges since energy supply is struggling to meet the demand and there are energy shortages almost

#### SMART TRACKING SYSTEMS FOR DOMESTIC CONSUMERS

<sup>1</sup>Dr.S.Sivakumar, Professor, <sup>2</sup>A. Prabha, Assistant Professor, <sup>3</sup>C. Balaji, Assistant Professor Kings College of Engineering, Thanjavur, Tamilnadu

#### Abstract:

The motivation to manage energy usage at residential home in India is influenced by economics environment condition and technical reasons. Economically, it offers reduction of government subsidies and electricity bill. The environment condition aspect enables reduction of CO<sub>2</sub> level. We can limit the power supply to the home by pre-default setting the value to be consumed, so that energy can be managed by limiting. The power management system is consists of Digital Power meters installed in every consumer unit and an Electricity e-Billing system at the energy provider side.

Wireless sensor network to send its power usage reading using information back to the energy provider wirelessly. At the power provider side, they have the control to change priority of the devices when power distributed in low range. Human operator billing or prone to reading error as sometime the houses electric power meter is place in a location where it is not easily accessible. The concept of dynamic assignment of priorities to interrupts is discussed which reduces the time delay for a lower priority task which under some circumstances becomes a higher priority task. Slicing of interrupt timings is also discussed which can be used to improve the performance.

The highest priority task is serviced more number of times and with lesser time period. Hence it need not wait for the slack time of other previously higher priority interrupts. If power will be less in grid, automatically power will be manage.

Our proposed system when low power generation automatically goes to power management. All the devices controlled depends upon the priority based and timing based control the devices when low power generation.

#### LOVERVIEW OF EMBEDDED SYSTEMS

An embedded system is a special-purpose computer system designed to perform one or a few dedicated functions, often with real-time computing constraints. It is usually embedded as part of a complete device including hardware and mechanical parts. In contrast, a general-purpose computer, such as a personal computer, can do many different tasks depending on programming.

Embedded systems have become very important today as they control many of the common devices we use. Since the embedded system is dedicated to specific tasks, design engineers can optimize it, reducing the size and cost of the product, or increasing the reliability and performance. Some embedded systems are mass-produced, benefiting from economies of scale. Embedded systems range from portable devices such as digital watches and MP3 players, to large stationary installations like traffic lights, factory controllers, or the systems controlling nuclear power plants. Complexity varies from low, with a single microcontroller chip, to very high with multiple units, peripherals and networks mounted inside a large chassis or enclosure.

In general, "embedded system" is not an exactly defined term, as many systems have some element of programmability. For example, Handheld computers share some elements with embedded systems such as the operating systems and microprocessors which power them but are not truly embedded systems, because they allow different applications to be loaded and peripherals to be connected.

#### II. BLOCK DIAGRAM OF AN EMBEDDED SYSTEM

An embedded system usually contains an embedded processor. Many appliances that have a digital interface microwaves, VCRs, cars utilize

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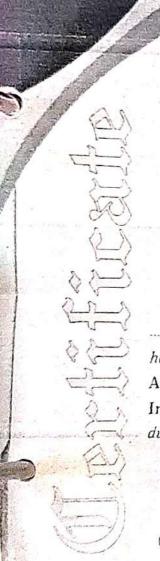
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### EMERGING TRENDS & INNOVATIONS IN CHEMISTRY (ETIC - 2019)

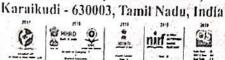
### Certificate

Organizing Secretary
(Dr. U.Gayathri)

Principal (Dr. S.Amudha) Correspondent (Dr. V.Dhivaharan)







SCHOOL OF CHEMICAL SCIENCES
DEPARTMENT OF INDUSTRIAL CHEMISTRY

(DST-FIST, PURSE & UGC-SAP Assisted Department)

FRONTIER AREAS IN CHEMICAL TECHNOLOGIES – 2019

(FACTs - 2019)

Sponsored under RUSA Phase 2.0 Scheme

This is to certify that Prof./Dr./Mr./Ms AL KAVITHA

Kings College of Engineering , Punalkulam,
has participated / presented a research paper in the "International Conference on Frontier
Areas in Chemical Technologies - 2019" (FACTs - 2019) organized by the Department of
Industrial Chemistry, School of Chemical Sciences, Alagappa University, Karaikudi
during 25th & 26th July 2019.

Dr. T. Stalin

Organizing Secretary - FACTs - 2019

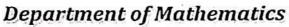
Dr. G. Paruthimal Kalaignan Convener - FACTs - 2019

Prof. H. Gurumallesh Prabu Registrar

Brzesse 310







## International Conference on

Graph Theory and its Applications

This is to Certify that Prof. /Dr. /Mr. /Ms. Gnanajeya .T, has participated in the International Conference on Graph Theory and its Applications held in Amrita School of Engineering, Coimbatore, during January 04 – 06, 2019 and presented a paper entitled "Isomorphism On Neutrosohic Fuzzy Graphs".

Date: 06.01.2019



Dr. K. Somesunderem Organizing Secretary



No.: ICT/2019 - 20/0761

# *Certificate*

Awarded to

#### S.Udayakumar

for having successfully completed the Short Term Training Programme through ICT Mode on

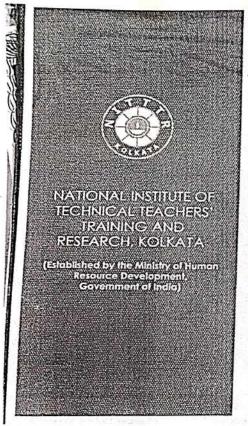
#### **NBA** Accreditation

organized by this Institute
from 22.04.2019 to 26.04.2019 [duration: 1 Week]

R. Subba Rac Programme Coordinator(s) Academic Coordinator

Payle





No.: ICT/2019 - 20/0761

# Certificate

Awarded to

#### S.Udayakumar

for having successfully completed the Short Term Training Programme through ICT Mode on

#### **NBA** Accreditation

organized by this Institute
from 22.04.2019 to 26.04.2019 [duration: 1 Week]

R-Subba Ras
Programme Coordinator(s)

Academic Coordinator

Parple

No. : ECT/2019 - 20/0759



Awarded to

T.Gnanajeya

for having successfully completed the Short Term Training Programme through ICT Mode on

**NBA Accreditation** 

organized by this Institute
from 22.04.2019 to 26.04.2019 [duration: 1 Week]

R-Subba Rao Programme Coordinator(s)

NATIONAL INSTITUTE OF

TECHNICAL TEACHERS'
TRAINING AND

RESEARCH, KOLKATA

(Established by the Ministry of Human Resource Development, Government of India)

Academic Coordinator

Director



THANJAVUR LOCAL CENTRE



## E.G.S PILLAY ENGINEERING COLLEGE

(AUTONOMOUS)

NAGAPATTINAM - 611002

Accredited by NAAC with 'A' Grade | Recognized by DSIR | Accredited by NBA (Mechanical, EEE, CSE)

Approved by AICTE - New Delhi and Affiliated to Anna University - Chennai

One day Seminar on

### SOLAR FUEL SOURCE FOR CARBONDIOXIDE EMISSION FREE ENVIRONMENT

Organized by

Department of Science and Humanities

### CERTIFICATE

This is to certify that Dr. / Mr. / Ms. / Mrs. V. SURESH KUMAR. ASSO . Prof

of KINGS COLLEGE OF ENGY has attended one day seminar on "SOLAR FUEL SOURCE FOR CARBONDIOXIDE EMISSION FREE ENVIRONMENT" on 21st January 2019.

Stant

CONVENER

PRINCIPAL



THANJAYUR LOCAL CENTRE



#### E.G.S PILLAY ENGINEERING COLLEGE

(AUTONOMOUS)

NAGAPATTINAM - 611002

Accordingle by NAAC with 'A' Grade. Recognized by DSIR. Accredited by NBA (Mechanical, EEE, CSE) Approved by ARCTE - New Delbs and Affiliated to Anna University - Chemnas

One day Semmar on

SOLAR FUEL SOURCE FOR CARBONDIOXIDE EMISSION FREE ENVIRONMENT

Organized by

Department of Science and Humanities

CERTIFICATE

This is to certify that Dr. / Mr. / Ms. / Mrs. S. UDHAYA KUMAR . ASST PROF.

of kiniges Councies of Ecopy has attended one day seminar on "SOLAR FUEL SOURCE FOR

CARBONDIOXIDE EMISSION FREE ENVIRONMENT" on 21st January 2019.

CONVENER



THANJAVUR LOCAL CENTRE



#### E.G.S PILLAY ENGINEERING COLLEGE

(AUTONOMOUS)

NAGAPATTINAM - 611002

Accredited by NAAC with 'A' Grade | Recognized by DSIR | Accredited by NBA (Mechanical, EEE, CSE)

Approved by AICTE - New Delhi and Affiliated to Anna University - Chennai

One day Seminar on

#### SOLAR FUEL SOURCE FOR CARBONDIOXIDE EMISSION FREE ENVIRONMENT

Organized by

Department of Science and Humanities

#### CERTIFICATE

This is to certify that Dr. / Mr. / Ms. / Mrs. S. UDHAYA KUMAR - ASST PROF

of KINGS COLLEGE OF ENGY has attended one day seminar on "SOLAR FUEL SOURCE FOR

CARBONDIOXIDE EMISSION FREE ENVIRONMENT" on 21st January 2019.

CO-ORDINATOR

CONVENER

PRINCIPAL

### E.G.S PILLAY ENGINEERING COLLEGE (AUTONOMOUS)

LOUISIA CLASSIA

NAGAPATTINAM - 611002

Accredited by NAAC with 'A' Grade | Recognized by DSIR | Accredited by NBA (Mechanical, EEE, CSE) Approved by AICTE - New Delhi and Affiliated to Anna University - Chennai One day Seminar on

SOLAR FUEL SOURCE FOR CARBONDIOXIDE EMISSION FREE ENVIRONMENT

Organized by

Department of Science and Humanities

### CERTIFICATE

This is to certify that Dr. / Mr. / Ms. / Mrs. P. SARAVANAN , ASSISTANT PROFESSOR of Kings Colvege of Enga has attended one day seminar on "SOLAR FUEL SOURCE FOR CARBONDIOXIDE EMISSION FREE ENVIRONMENT" on 21st January 2019.



THANJAVUR LOCAL CENTRE



#### E.G.S PILLAY ENGINEERING COLLEGE

(AUTONOMOUS)

NAGAPATTINAM - 611002

Accredited by NAAC with 'A' Grade | Recognized by DSIR | Accredited by NBA (Mechanical, EEE, CSE)

Approved by AICTE - New Delhi and Affiliated to Anna University - Chennai

One day Seminar on

SOLAR FUEL SOURCE FOR CARBONDIOXIDE EMISSION FREE ENVIRONMENT

Organized by

Department of Science and Humanities

#### CERTIFICATE

This is to certify that Dr. / Mr. / Ms. / Mrs. V. SURESH KUMAR. ASSO. PROF

of Kings College Of English as attended one day seminar on "SOLAR FUEL SOURCE FOR

CARBONDIOXIDE EMISSION FREE ENVIRONMENT" on 21" January 2019.

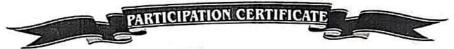
COGEDINATOR

CONVENER

DRINGIPAL P



Anna University
REGIONAL CAMPUS TIRUCHIRAPPALLI - 620 024



REGIONAL PROGRAM DEAN
CO-ORDINATOR

PROGRAM CO-ORDINATOR

REGIONAL DIRECTOR

NOT ME BUT YOU



# Centre for Continuing Education Indian Institute of Technology Madras

This is to certify that

#### Dr. V.Suresh Kumar

Kings College of Engineering, Punalkulam, Pudukottai District Tamilnadu has participated in an AICTE Sponsored Short Term Course

"Introduction to Smart Materials with Energy Harvesting Application" organized by the Department of Applied Mechanics

From 02<sup>nd</sup> September to 07<sup>th</sup> September, 2018

(Shaikh Faruque All)

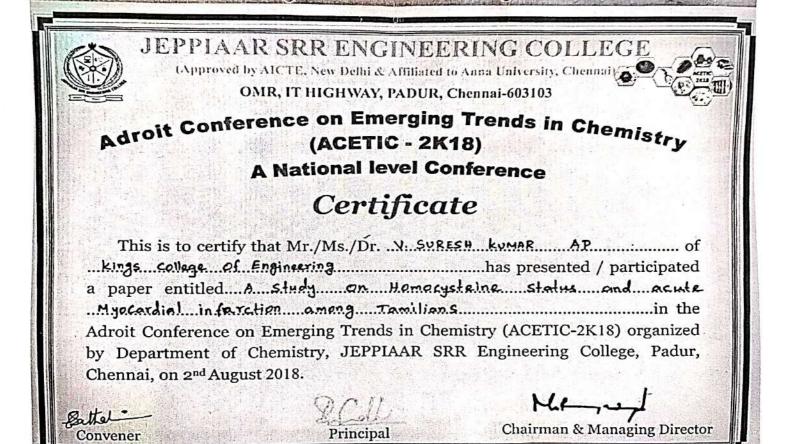
Coordinators

rockiarajan)

Head Applied Mechanic A-RL

(A. Ramesh)

Chairman





#### JEPPIAAR SRR ENGINEERING COLLEGE

(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennal)

OMR, IT HIGHWAY, PADUR, Chennai-603103

# Adroit Conference on Emerging Trends in Chemistry (ACETIC - 2K18)

A National level Conference

### Certificate

This is to c	ertify that Mr./N	/Is./Dr\$บ	DAYA.	KUMAR A	P	of
kings call	ege of Engin	eering	• • • • • • • • • • • • • • • • • • • •	has presente	d / partic	ipated
a paper entitl	edThermal	Studies 0	nTxo	ositianmetizon	I ian	daped.
troganan.On.Z.	cles by Sim	plechemic	al	precipitation.	method	in the
Adroit Conferen	nce on Emergin	g Trends in (	Chemis	stry (ACETIC-	2K18) org	ganized
by Department	t of Chemistry	, JEPPIAAR	SRR	Engineering	College,	Padur,
Chennai, on 2nd	August 2018.					
	Jane Control			M		1
a						/

Eattal --

Principal

Chairman & Managing Director



OMR, IT HIGHWAY, PADUR, Chennai-603103

# Adroit Conference on Emerging Trends in Chemistry (ACETIC - 2K18) **A National level Conference**

# Certificate

This is to certify that Mr./Ms./Dr	P. SARAVANAN D.S.T. PROF of
KINGS COLLEGE OF ENGINEERING	has presented / participated
a paper entitled. EFFELT OF CHITOLON	
FABBLE WITH MATURAL THE FROM BA	in the
Adroit Conference on Emerging Trends	in Chemistry (ACETIC-2K18) organized
by Department of Chemistry, JEPPIA	AAR SRR Engineering College, Padur,
Chennai, on 2 <sup>nd</sup> August 2018.	

Chairman & Managing Director





POST GRADUATE DEPARTMENT OF CHEMISTRY NSS HINDU COLLEGE, CHANGANACHERRY (Accredited with 'A' Grade by NAAC)

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

# Certificate

This is to certify that Prof./Dr./Mr./Ms A.L. Kavitha, Assistant Professor, King's College of Engineering, Punal Kulam.

delivered an invited talk/presented a paper (oral/poster)/participated in the National Seminar on Recent Advances in Materials Science (RAMS 2018), organised by Post Graduate Department of Chemistry, NSS Hindu College Changanacherry (Accredited with 'A' Grade by NAAC), in collaboration with Mahatma Gandhi University, Kottayam on September 6 & 7, 2018, at NSS Hindu College Changanacherry.

Title of the Presentation

Low Cost of Colonred Emulsion Paints with IR Resistant Coatings over Aspectos sheets

SUSHAMA.G.HAIR H.O.D. Chemistry N.S.S. Hindu College KUTTAYAM

N.S.S. Hindy College Changanacherry

www.nsshinducollege.org



#### JAMAL MOHAMED COLLEGE

(Autonomous)
College with Potential for Excellence
Re-accredited (3<sup>rd</sup> Cycle) with 'A' Grade by NAAC
(Affiliated to Bharathidasan University)
Tiruchirappalli-620 020, Tamilnadu, India





#### 4th International Conference on Chemical and Environmental Research (ICCER-2018)

(Under UGC Autonomous Grant)





This to certify that Mr./Ms./Dr. Dr. A L. Kavitha, Assistant Professor of Chemistry, Kings College of Engineering, Punalkulam - 613303. has presented a paper entitled "Synthesis and Characterization of Antiscalants for Cooling Water Applications" in the 4th International Conference on Chemical and Environmental Research (ICCER-2018), organized by PG and Research Department of Chemistry, Jamal Mohamed College (Autonomous), Tiruchirappalli - 620 020, Tamiluadu, India, on 19th December 2018.

Dr. N. Mujalarkani Co-Convener

Dr. K. Loganathan

Dr. M. Mohamed Sihabudeen Coordingtor

Dr. S. Ismail Mohideen Principal



# **T**CHOWN

# CERTIFICATE

# International Conference on Modern Global Research in Engineering and Technology

Perambalur 10th March 2018

This is to certify that R. REVATHI [ASST. PROFESSOR] of

KINGS COLLEGIE OF ENGINEERING has done

his/her excellence is presenting research paper titled

EXPERIMENTAL STUDY ON CONCRETE BY PARTIAL REPLACEMENT OF FINE

AGIGIREGIATE BY USING QUARRY DUSTE SAM DUST at Perambalur 10th March 2018

SECRETARY.







### CERTIFICATE

# International Conference on Modern Global Research in Engineering and Technology

Perambalur 10th March 2018

This is to certify that R.Revathi of

Kings college of Engineering, Thanjavur has done

his/her excellence is presenting research paper titled

" Experimental Study On Strength Characteristics Of Steel Fiber Reinforced Concrete "

at Perambalur 10th March 2018

Jan Hol.

SECRETARY



V. Lam



# **T**CHOWN

### **CERTIFICATE**

# International Conference on Modern Global Research in Engineering and Technology

Perambalur 10th March 2018

This is to certify that R. REVATHI [ASST: PROF] of KINGS COLLEGE OF ENGINEERING has done

his/her excellence is presenting research paper titled

EXPERIMENTAL INVESTIGATION ON CONCRETE BY PARTIAL REPLACEMENT OF COMENT

By USING GGBFS AND FIDDED WITH HUMAN HAIR at Perambalur 10th March 2018

SECRETARY.







# **CERTIFICATE**

# International Conference on Modern Global Research in Engineering and Technology

Perambalur 10th March 2018

This is to certify that R.Revathi of Kings College of Engineering, Thanjavur has done

his/her excellence is presenting research paper titled

" Experimental Study On Partial Replacement Of Coarse Aggregate By Coconut Shell And

With Addition Of Chicken Feather In Concrete "at Perambalur 10th March 2018

SECRETARY.





# PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE



Approved by AICTE New Delhi & Affiliated to Anna University, Chennai.

(An ISO 9001 : 2008 Certified Institution)

Arasanoor, Sivagangai - 630 561.

# Certificate

This is to certify that Mr/Ms T. BHUVANESWARI.
of kings college of Shainsering, Thantavur.
has participated & presented a paper entitled COMPARITIVE STUDY ON
PARTIAL REPLACEMENT OF WOOD ASH WITH CEMENT.
in International Conference on Emerging Trends in Engineering and
Technology (ICETET'18) held on 9th & 10th March, 2018.

Dr.R.RAJA Convenor Principal
201

Er.S.P.VARADHARAJAN

Managing Director



#### international conference on innovations

000

Science, engineering, technology and Management



This is to certify that Mr. R. Sundharam, AP-CIVIL of Kings College of Engineering, Punalkulam has Presented a paper titled EXPERIMENTAL INVESTIGATION BY INCORPORATION OF FLY ASH, STP SLUDGE, LIME, GYPSUM AND QUARRY DUST IN BRICK MAKING in International Conference on Innovations in Science, Engineering, Technology and Management "ICISETM 2018" Organized by Annapoorana Engineering College, Salem on 9th & 10th March, 2018.

Conference Chair

Patron



A NAAC Accredited Institution
(Approved by AICTE New Delhi, Affiliated to Anna University - Chennai)
PUNALKULAM ,PUDUKKOTTAI- 613303

#### DEPARTMENT OF CIVIL ENGINEERING

This is to certify that Dr./Mr. AND R. SUNDHARAM. of KINGS COLLEGE OF ENGINEERING has presented a	
KINGS COLLEGE OF ENGINEERING has presented a	
paper entitled Experimental Investigation of Construction Properties	
USING FREE LONGRETE in	
"National conference on Advanced Techniques in Concrete, Environmental and Geotechnical Engineer	ing
NC-ATCEGE 18" Organized by Department of Civil Engineering, Kings College of Engineering, Punalkulam	),
pudukkottai on 21 <sup>st</sup> March 2018	

ORGANIZER

THOD

PRINCIPAL

# Annapoorana Engineering College

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennal) NH-47, Sankari Main Road, Periyaseeragapadi, Salem - 636 308, Tamilnadu, India.

### international conference on innovations M

Science, engineering, technology and management

# CERTIFICATE

This is to certify that Mr. K. Arun, ASST.PROF-CIVIL of Kings College of Engineering, Punalkulam has Presented a paper titled EXPERIMENTAL INVESTIGATION ON UTILISATION OF E-WASTE AS PARTIAL REPLACEMENT OF FINE AGGREGATES IN CONCRETE in International Conference on Innovations in Science, Engineering, Technology and Management "ICISETM 2018" Organized by Annapoorana Engineering College, Salem on 9th & 10th March, 2018.

Conference Chair

# Annapoorana Engineering College

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennal)
NH-47, Sankari Main Road, Perlyaseeragapadi, Salem - 636 308, Tamilnadu, India.

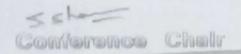


### international conference on innovations in

Science, engineering, technology and management

# CERTIFICATE

This is to certify that Mr. K. Arun, AP-CIVIL of Kings College of Engineering, Punalkulam has Presented a paper titled COMPARITIVE STUDY OF STEEL SLAG WITH COARSE AGGREGATE AND TESTING ITS BINDING PROPERTIES WITH BITUMEN in International Conference on Innovations in Science, Engineering, Technology and Management "ICISETM 2018" Organized by Annapoorana Engineering College, Salem on 9th & 10th March, 2018.



William Partiron



A NAAC Accredited Institution
(Approved by AICTE New Delhi, Affiliated to Anna University - Chennai)
PUNALKULAM ,PUDUKKOTTAI- 613303

#### DEPARTMENT OF CIVIL ENGINEERING

# CERTIFICATE

This is to certif	y that Dr./M	r./ <del>Ms</del>	E. /	ARUN		of
	KINGS	COLLEG	E	OF ENGIN	EERING	has presented a
paper entitled	E-WA	SIE AS	AN	ALTERNATE	TO MINIMIZE	SCARUTY OF
FINE	AMORE	C) ATE	FOR	CONCRETE		in

"National conference on Advanced Techniques in Concrete, Environmental and Geotechnical Engineering NC-ATCEGE'18" Organized by Department of Civil Engineering, Kings College of Engineering, Punalkulam, pudukkottai on 21 st March 2018

Se UNIT

THOD W

PRINCIPAL



A NAAC Accredited Institution
(Approved by AICTE New Delhi, Affiliated to Anna University - Chennai)
PUNALKULAM ,PUDUKKOTTAI- 613303

#### DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

This is to certify that Dr./Mr./Ms. K. ARUN / AP.
KINGS COLLEGE OF ENGINEERING has presented a
paper entitled Experimental Investigation On Influence of Steel Slag with
Coarse Aggregate In Bitumen And Its Binding Properties in
"National conference on Advanced Techniques in Concrete, Environmental and Geotechnical Engineeri
NC-ATCEGE'18" Organized by Department of Civil Engineering, Kings College of Engineering, Punalkulam
pudukkottai on 21 st March 2018

PORGANIZER

2 Hop

J. Pormteni PRINCIPAL



# PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE



Approved by AICTE New Delh. & Affiliated to Anna University, Chennal

(An ISO 9001 2008 Certified Institution)

Arasanoor, Sivagangai - 630 561.

# Certificate

This is to certify that Mr/Ms D. SHARMILA.	
OF WALLS COLUMN OF ENGINEERING THANTAVUR.	
has participated & presented a paper entitled ASSESSMENT AND IMPACT	
COLOR CTUDY OF THANJAYUR REGION.	_
Leternational Conference on Emerging Henry in Linguistics	u
Technology (ICETET'18) held on 9th & 10th March, 2018.	



Dr.S.NAGARAJAN
Principal
208

Ers P.VARADHARAJAN Managing Director



# TCHOWN

## CERTIFICATE

International Conference on Modern Global Research in Engineering and Technology

Perambalur 10th March 2018

This is to entity that S.R. ELWIN GURU CHANTH.

KINGS COLLEGE OF ENGINEERING, has done

his/her excellence is presenting research paper titled

EXPERIMENTAL INVESTIGATION ON CONCRETE BLOCKS USING FLYASHE RECYCLED

PLASTIC MASTE AS RAW MATERIALS WITH TINTERLOCKING Perambalur 10th March 2018

Sur - 1

SECRETARY

y lan.



SECRETARY

# CHOWN

PROGRAM CHAIR

## CERTIFICATE

# International Conference on Modern Global Research in Engineering and Technology

Perambalur 10th March 2018

V Daniith

	This is to certify that
	Kings College Of Engineering has done
	his/her excellence is presenting research paper titled
6.6	Experimental Study On Partial Replacement Of Cement With Egg Shell Powder "
	at Perambalur 10th March 2018
	of I all the state of the state

TECHOWN

## CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY



(Approved by AICTE, New Delhi, Affiliated to Anna University Chennai)

ODDANCHATRAM, DINDIGUL DISTRICT - 624619, TAMILNADU.

# Third International Conference on Recent Trends in Mechanical and Civil Engineering ( ICRTMCE'18 )

#### CERTIFICATE

articipated / presented	has par			NGINEERING	OF	DLLEGIE	kings c
CONCRETE WITH	WEIGHT	MITCHIT	OF	INVESTIGATION	MENTAL	EXPER	a paper, titled
NE	E STON	PUMIC	USING	AGGREGIATE BY	COARSE	NT OF	REPLACEME
(ICRTMCE'18) held a	gineering (I	Civil Eng	anical and	ecent Trends in Mecha	rence on l	nal Confe	hird Internatio
by the Departments	rganized by	2018, 01	9th March	hnology, from 07th-0	g and To	Engineerin	College of
					g.	ngineering	cal and Civil E
							ors:

Mr. R. Ganesh Kumar HoD / Civil Dr. P.L. Ramesh Kumar HoD / Mechanical

Dr.[Mrs].C. Kezi Selva Vijila Principal



# **T**CHOWN

# CERTIFICATE

# International Conference on Modern Global Research in Engineering and Technology

Perambalur 10th March 2018

This is to certify that M. Mohamed Ilyas of Kings College of Engineering, Thanjavur has done

his/her excellence is presenting research paper titled

Experimental Investigation Of Partial Replacement Of Coarse Aggregate By

Demolished concrete" at Perambalur 10th March 2018

Can 1 . 1 .

SECRETARY



VIDA



# **E**CHOWN

# CERTIFICATE

# International Conference on Modern Global Research in Engineering and Technology

Perambalur 10" March 2018

This is to certify that .....

M.Mohamed Ilyas

Kings College of Engineering, Thanjavur

nas done

his/her excellence is presenting research paper titled

Experimental Investigation Of Partial Replacement Of Fine Aggregate

With Steel Slag " at Perambalur 10" March 2018

Jul-1

SECRETARY



DBOCDAM CHAIR



# ECHOWN

# CERTIFICATE

25年长年55年至年5年5年天本子年75年天年至年十年

# International Conference on Modern Global Research in Engineering and Technology

Perambalur 10th March 2018

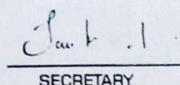
This is to certify that M. Mohamed Ilyas		
Kings Co	ollege of Engineering, Thanjavur	

his/her excellence is presenting research paper titled

Experimental Investigation And Analysis Of Agriculture waste as Partially

Replacement of Cement "

at Perambalur 10th March 2018





# ST. JOSEPH'S

COLLEGE OF ENGINEERING AND TECHNOLOGY

A DMI Group of Institution

Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai. Elupatti, Thanjavur - 613403



NATIONAL CONFERENCE ON ADVANCED COMMUNICATION.
COMPUTING AND POWER SYSTEMS

organized by

DEPARTMENTS OF CSE, ECE & EEE

# CERTIFICATE

This is to certify that

Dr. / Mr. / Ms. R. SRIRAM KUMAR, AP of KINGS

COLLEGE OF ENGINEERING has presented a paper entitled SECURE G.

ANONYMOUS NETWORKING COMMUNICATION USING ONION ROUTING

in the National Conference on Advanced Communication, Computing

and Power Systems (NCACCPS 2K18)

held on 23rd March 2018.

ACADEMIC ADMINISTRATOR

CONVENOR

VICEPRINCIPAL

215

AMMINISTRATOR

PRINCIPAL

# ST. JOSEPH'S

COLLEGE OF ENGINEERING AND TECHNOLOGY

A DMI Group of Institution

Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai. Elupatti, Thanjavur - 613403



NATIONAL CONFERENCE ON ADVANCED COMMUNICATION, COMPUTING AND POWER SYSTEMS

organized by

DEPARTMENTS OF CSE, ECE & EEE

### CERTIFICATE

This is to certify that

Or. / Mr. / Ms. R. SUGANTHA LAKSHMI OF KINGS

COLLEGE OF ENGINEERINGAS presented a paper entitled FLECTRONICS

VOTING USING FINGERPRINE SENSOR & ADDRAR CARD

in the National Conference on Advanced Communication, Computing

and Power Systems (NCACCPS 2K18)

held on 23rd March 2018.

ACADEMIC MONISTRATOR

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AMMINISTRATOR

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### O 1. JUOLL 11 O

COLLEGE OF ENGINEERING AND TECHNOLOGY

A DMI Group of Institution

Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai. Elupatti, Thanjavur - 613403



NATIONAL CONFERENCE ON ADVANCED COMMUNICATION, COMPUTING AND POWER SYSTEMS

organized by

DEPARTMENTS OF CSE, ECE & EEE

## CERTIFICATE

This is to certify that

Dr. / Mr. / Ms. B. Sangeetha, MP of Kings
College of Sugineeringhas presented a paper entitled privacy
Dreserving user review Veritication Using Fuzzy
preserving user review Verification Using Fuzzy and paeficte Swarm Optimization I in the National Conference on Advanced Communication, Computing
in the National Conference on Advanced Communication, Computing

and Power Systems (NCACCPS 2K18)

held on 23rd March 2018.

ACADEMICADMINISTRATOR

AUMINISTRATOR

CONVENDR

VICEPRINCIPAL



## PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE



Approved by AICTE, New Delhi & Affiliated to Anna University, Chennal.

(An ISO 9001: 2008 Certified Institution)

Arasanoor, Sivagangai - 630 561.

## Certificate

This is to certify that Mr/Ms R. SATHYARAJ
of kings college of Engineering
has participated & presented a paper entitled petersion of leukemia
in human blood samples.
in International Conference on Emerging Trends in Engineering and
Technology (ICETET'18) held on 9th & 10th March, 2018.

Dr.R.RAJA Convenor

Dr.S.NAGARAJAN Principal

Er.S.P. VARADHARAJAN
Managing Director

## ST. JOSEPI

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### Multilevel Inverter Based Single Phase AC-DC-AC Converter

P. Narasimman<sup>1\*</sup>, N. Priya <sup>1\*</sup>, Dr. E. Lathamercy<sup>2</sup> and KR. Dheivarayan<sup>3</sup>

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#### ABSTRACT

Background: Single-Phase AC-DC-AC converters are employed in vast of applications such as UPS Systems, Motor Drives, Yaw Drives, Traction and Micro Grids. Materials and Methods: This paper introduces an incipient topology for multilevel inverter based Single-Phase AC-DC-AC converter for different types of loads. The proposed converter consists of two stages; a full bridge rectifier converting AC supply to DC supply and a multilevel inverter converting DC supply to AC supply cascaded to the rectifier. Results: Multilevel inverter is preferred for the proposed system, since it increments the number of output voltage level and hence the Total Harmonic Distortion (THD) is diminished. Thus, the loads are fed with less harmonic AC voltage, which will increases the overall efficiency of the system. Conclusion: The converter proposed here reduces the harmonics in the output voltage effectively and decrease THD in AC-DC-AC converter by utilizing Multilevel Inverter. The simulation results are obtained from MATLAB® Simulink platform and a hardware prototype of the inverter is done.

Key words: Multilevel Inverter, AC-DC-AC converter, Filter design, Total Harmonic Distortion.

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Dr.S.VIJAYALAKSHMI Organising Secretary Dr.C.KRISHNAKUMAR Professor & Head/EEE Convener Dr.D.VALAVAN Principal

## SOLAR BASED INVERTERLESS AUTOMATIC IRRIGATION AND LIGHTING SYSTEM USING MICROCONTROLLER

Mr.S.R.Karthikeyan1, Mr.J.Arokiaraj2, Ms.S.Sowmiya3, Ms.S.Krithika4
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Abstract — Nowadays, renewable energy sources are used for generating electric power. Among all the renewable energy sources, solar energy is easily available in most of the tropical region and it can be converted into electrical energy with the use of photovoltaic panels. In certain rural areas, where the electric power is not available from electricity board, solar energy can be used effectively for many purpose. In most of the remote places, majority of the people involve in cultivation. For cultivation, they need water which can be sucked out from the earth with the use of electric motor. So that they need electric power to run the motor but electricity is not available from electricity board. If possible, electricity is available, there is a frequent stoppages in that. So the farmer can't water there fields properly which reduces the cultivation of plants. Our solar based inverter less automatic irrigation and lighting system helps in watering the plant or whole field automatically and effectively with the use of microcontroller. There is no need of electricity from electricity board because solar acts as a source of energy. This system is an automated one and the actions taken by the controller is send to the farmer's mobile with the use of GSM modem.

### ELECTRONIC ASSISTANCE FOR VISUALLY CHALLENGED

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Dr.S.VIJAYALAKSHMI Organising Secretary	Dr.C.KRISHNAKUMAR Professor & Head/EEE Convener	Dr.D.VALAVAN Principal

### INTELLIGENT SAFETY SYSTEM FOR MOBIKES

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### **ABSTRACT**

Intelligent safety system for mobikes is used for improving the safety and performance of bikes by adding the following parameters - fuel theft protection system, bike theft protection, tire pressure monitoring system, GPS/GSM tracking system, accident alert & protection system. This system will help the rider with the improved safety measures using above added parameters. The project consists of a microcontroller which is interfaced with the GPS module, GSM modem and a vibration sensor. Location data of the bike is fetched from the GPS module. Once the microcontroller senses a strong vibration, it assumes as an accident. The controller assumes it as an emergency and starts the GSM modem by sending the latitude and longitude information to the specified mobile numbers, by fetching the information from the GPS. It also consists of an ultrasonic sensor which was placed at the lid of the fuel tank. This sensor senses the level of the fuel input at the time of fuel filling at fuel stations. The sensed value is displayed at the display interfaced with the controller. This system will be helpful in finding the fuel theft at the fuel stations. Tire pressure, Side stand position are also monitored and cautioned for the rider's safety.

### Introduction

The main aim of this system is to provide security for all the vehicle. This system enables the user to observe and track particular vehicle and find out vehicle movement and its past activities. When the vehicle is stolen, the location data from tracking system can be used to find the theft and to inform the police for the further action.

In GPS/GSM system is one of the important system of the project. GPS track the location of vehicle and GSM module send the message to the server. (GPS)Global Positioning system modem requires minimum 3 satellites to calculate the exact location this modem communicates in unidirectional way with microcontroller. Which means it can only transmit data to microcontroller.

GPS modem cannot receive any data from microcontroller. In the same way GPS modem does not send data to satellite, it only receive signal from satellite.

When the conditions are satisfied then ignition will start. The main issue is accident and late medical help. If the rider met accident with him he cannot receive medical help instantly, its big reason for deaths. Around every second people die due to late medical help or the accident place is unmanned. In fall detection, we place accelerometer at the bike unit. Due to these mechanism we detect the accident occurs or not.

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## Implementation of Zero-Voltage-Switching

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Abstract-A new zero-voltage-switching (ZVS) pushpull forward converter with a parallel resonant network is presented in this paper. The novel topology can provide a releasing loop for the energy storage in a leakage inductor for the duration of the power switching by the resonant capacitors paralleled with the primary windings of the transformer. Then the transformer leakage inductor is utilized to be resonant with the parallel capacitor, and the ZVS operation is achieved. This converter exhibits many advantages such as lower duty-cycle losses, limited peak voltage across the rectifier diodes and a higher efficiency. Furthermore, the operating principles and key problems of the converter design are analyzed in detail, and the ZVS conditions are derived. A 500W experimental converter prototype has been built to verify the effectiveness of the proposed converter, and its maximum efficiency reaches

Keywords—High efficiency, Parallel resonant, Push-pull forward, Zero voltage switching (ZVS)

#### I. INTRODUCTION

In applications where the input source exhibits a low voltage and a high current, such as photovoltaic energy and fuel cells, the push-pull converter is a desirable DC-DC converter topology. Compared with the conventional push-pull converter, the push-pull forward converter (PPFC) can solve the problems of high turn-off voltage spikes across switches and it can improve the efficiency of the magnetic core [1]. In order to further improve the efficiency and reduce the size, the technology of integrated magnetics is applied [2], [3]. All of the magnetic components including the input filter inductor, step-down transformer and output filter inductors are integrated into a single EE core. Moreover, the improved structure can make the converter more compact and less expensive. A novel PPFC has been proposed to achieve a high reliability and high input voltage applications in [4]. In this topology, the high utilization factor of the transformer is achieved by using two forward cells coupled via an integrated magnetizing core and operating the two cells in an interleaving fashion. In addition, the high reliability is guaranteed since no direct-short path exists in the proposed converter. A threelevel converter has been proposed to reduce the voltage stresses of the switches, the size of the input filter and the output filter [5]. A novel three-level PPFC has been proposed

to reduce both the input current ripple and the output filter inductor current ripple in [6], [7]. Moreover, the voltage stress of the rectifier diode can be reduced by this control strategy and an appropriate external paralleled capacitor. However, in three-level topologies, the circuit topology needs more active devices and the drive circuit is complicated. In order to increase the power density and to reduce the size and weight of the magnetic element, the switching frequency needs to be increased. Then, the turn-off voltage spikes of the transistors cannot be eliminated in the hard switching mode for the conventional PPFC, resulting in severe EMI and a high switching loss. In the dc-dc converter family, soft-switching technology is proposed to solve the above mentioned problems [8], [9]. An LCL resonant Push-Pull dc/dc converter was presented in [10], [11], with C-L resonant components located behind the output stage rectifiers. The MOSFET switches in the primary side operate under the zero-voltage switching (ZVS) conditions due to the commutation of the transformer magnetizing current and the snubbing effect of the inherent drain-source capacitance. A pair of auxiliary circuits was added to the primary side of the transformer to clamp the voltage spike and to recycle the energy trapped in the leakage inductors in [12]. As a result, the main switches can be turned on with ZVS. In isolated bidirectional applications, the symmetric structure with the phase-shift control enables the ZVS operation for all of the power switches in [13]. The magnetizing inductance should be sufficiently small. Therefore, the transformer must be designed with the appropriate air-gap. However, a small magnetizing inductance causes a large magnetizing current. As a result, all the no-load loss, the reactive current and current stress increases. As shown in Fig.1, a novel zero voltage switching push-pull forward converter with a parallel resonant network is proposed. The converter is analyzed and designed. Due to the presence of parallel capacitors and transformer leakage inductors, the resonance makes the switches maintain zero voltage switching even under light loads. The proposed converter operates with soft-switching, which reduces the switches losses and rectifier diodes turn-off voltage. The efficiency can be significantly enhanced. This paper is organized as follows. The steady-state operation and different intervals of operation in the proposed converter are analyzed in Section II. The design issue of the converter is described in detail in section III.

## EG Chair: Eye and Gesture Based Wheelchair Control for Physically Challenged Person

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### ABSTRACT

Physically challenged persons are suffering a lot in moving from one place to another. This paper is to develop a wheel chair control which is useful to the physically challenged person and the control is through their hand movement or hand gesture recognition using technology. It is a wheelchair which can be controlled by simple hand gestures. It employs a sensor which controls the wheelchair hand gestures made by the user and interprets the motion intended by user and moves accordingly. MEMS sensors are used during acceleration. When the direction is changed, the sensor registers values are changed and that values are given to microcontroller. Depending on the direction of the Acceleration, microcontroller controls the wheel chair directions like LEFT, RIGHT, FRONT and BACK. Eye blink sensor attached to the person which senses whether the person is active or not. Further, the wheelchair is designed to climb easily on the stair case without any others help.

**Keywords:** Wheelchair control; Physically challenged; MEMS sensor; Eye blink sensor:

Arduino controller.

#### I. INTRODUCTION

Now a days the physically challenged people suffers many problems.

Even though there is the presence of a wheelchair, it cannot be satisfied by them. There will be the necessary of an external person to handle them for the daily work. In the case the automation is involved in the wheelchair of the physically challenged person so as they can lead them independently. In this system we used the MEMS based technology to rectify the traditional one. The eye blink sensors are used in this system to overcome the traditional one. It can be used on both normal and the staircase areas. This system moved depends the user opinion. existing computer input devices without finger, voice, and gesture can be divided into five categories;

- (1) Bio-potential based method which utilizes potential from user's body actions acquired by using special instrument. Instrument such Electrooculograph (EOG), Electromyography (EMG) [1], and Electroencephalograph (EEG) [2], Search coil can be used for measuring bio-potential. The search coil output can be used as sources of computer input for handicap person. EOG method [7], [16] uses voltage differences between fore and aft surface of eyes.
- (2) Voice Based method [3], which use user's voice as source input. Voice analysis is used to analyze user's voice and convert into digital data. The

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## A New Soft Switching Dual Input Converter for Renewable Energy Systems

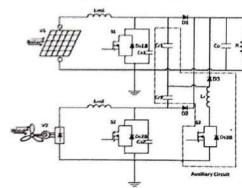
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Abstract—This paper proposes a new soft switching dual input converter for renewable energy systems. Multi-input converters are produced by combining discrete converters. These converters reduce the number of circuit elements, cost, volume and weight of the converter and provide a constant output power in different weather conditions. Furthermore, soft switching techniques can be applied to increase efficiency. In this paper, a Zero Voltage Transition (ZVT) dual input boost converter in presented. Only one auxiliary circuit is used to provide the soft switching condition for all of the semiconductor elements. The proposed converter, which is simulated by ORCAD software, is theoretically analyzed. To confirm the validity of the theoretical analysis, a prototype of proposed converter was constructed. Simulation and experimental results confirm the theoretical analysis. An efficiency comparison shows a one percent improvement at nominal loads.

Keywords—Boost, Multi Input Converter (MIC), Renewable energy systems, Soft switching, ZVT

#### Introduction

In the last decade, the use of renewable energy sources has rapidly increased due to fossil fuel crisis, global warming and environmental pollution. Due to the Kyoto Protocol, clean energies including fuel cells, Photovoltaics, wind energy, etc. have been quickly promoted [1]-[7]. Photovoltaics and wind energy have the ability to supply the demand energy, even in remote or off grid places and in densely populated areas. Since obtaining power from renewable energy sources depends on environmental conditions such as different seasons and climate, the concurrent use of these resources is inevitable to ensure a continuous supply energy. Although the multi-input structure was first proposed in 1999, it has a scientifically traditional background. The count of passive elements and the cost semiconductor elements can be reduced by using a multiinput converter (MIC). For example, as a result of using a single output filter for several converters, the size and losses of these converters is decreased. The Possibility of easier control, higher flexibility and better management of energy sources are other advantages of MICs. although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow. MICs fall in two categories including Electrically Coupled Converters (ECCs) and Magnetically Coupled Converters (MCCs). ECCs have both advantages and disadvantages. Some of the advantages are easier control in the presence of a variable input and high reliability when compared to MCCs. The disadvantages include non-isolation between the input and output and non-multilevel outputs. The main goal of researchers has been to improve the efficiency and reliability, and reduce the cost of systems. Therefore, different soft switching techniques have been proposed in the literature to improve the efficiency of switching converters. These soft switching techniques also reduce Electromagnetic Interference (EMI) by lowering dv/dt and di/dt; while decreasing the switching losses. The authors sought to provide the soft switching condition and enhance the efficiency of multi input converters by adding one auxiliary circuit. A major problem of these topologies is to provide the soft switching condition for main switches while the auxiliary switch is switched under the hard switching condition. In this paper, a soft switching dual input converter for the simultaneous or independent use of solar and wind energy is proposed. The proposed converter simultaneously provides soft switching for all of the semiconductor elements with only one auxiliary circuit. It also solves the above mentioned problems and provides soft switching condition for all forms.



Proposed ZVS system

#### I. PROPOSED SYSTEM

The proposed converter consists of two combined boost converters with one auxiliary cell that provides the ZVS condition for all of the semiconductor elements. The auxiliary circuit is illustrated in the dotted box. The presented converter can work with two input sources simultaneously or with one source independently. The following assumptions are considered to analyze the presented converter in the steady state operation and during a switching cycle. The input

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### A MICROCONTROLLER BASED MONITORING AND CONTROLLING OF PV PANEL BY ZIGBEE MODULE

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Abstract—The main aim of this paper is to maintain the solar photovoltaic panels which improve the system efficiency. Here Zigbee module is used which ensures wireless data transfer. The voltage is monitored and the data are stored and the panel direction is controlled. The maintenance system involves cleaning a row of PV panels in an automated manner and a tracking system which tracks the position of the sun and keeps the PV panel focusing on the sun in order to produce maximum output voltage. PIC microcontroller is used for making the system an automated one. The microcontroller controls the DC motor and the gear box.

### Keywords - Zigbee, PIC Microcontroller, Solar PV panel.

#### I. INTRODUCTION

Nowadays, solar is used as an alternative energy source as it is harmless to the environment. Solar panel also known as photovoltaic module is a most effective way to produce electricity. The to main objective of this paper is to extract maximum voltage by keeping the PV module to always perpendicular to the sun and to provide a automated cleaning system which keeps the PV panel surface free from dust in order to accumulate as much light from the sun, this system design is mainly based on controlling and monitoring of PV panels. The pic microcontroller IC (PIC16F874A/8774A) is connected to the power supply battery. The panel is also connected to the battery the microcontroller controls the LDR and water tank the microcontroller also controls buzzer relay circuit higher module the circuits are connected to the gear motor and the pumping motor Wireless technology plays a vital role in all engineer application. It provides greater flexibility reliable communication and more economical in nature. In this paper Zigbee module is used which provides security and a network and topology which enhances and effective communication between the control board and water pump. In this paper, a novel system which enables monitoring of each panel is proposed here rugged wireless communication technique is used instead of cabling.

#### II. EXISTING SYSTEM

For monitoring the PV plants, various solutions have been identified. The I-V curves of the PV plant are evaluated, combining DC-DC converter with MPPT in PV panels are used. But all these methods lead to complexity, needs large number of cables for transmission of data, requires boost converter for every panel. This leads to reduced performance of the system. Satellite based monitoring systems have also been developed to identify power outages. But their application is unavoidably limited to satellite observed PV plants. All the above methods allow only monitoring not controlling. The major drawback includes high installation cost, needs maintenance, require manual monitoring and cleaning.

### III. PROPOSED SYSTEM

The fig.1 shows the complete block diagram of proposed system. The battery supplies the power to the microcontroller which controls the relay circuit, buzzers, Zigbee, LDR and the water tank. In this system, the design is mainly based on controlling & monitoring of pv panels .It consists of pic microcontroller IC(PIC16F874A/877A).It is connected to the power supply battery. The solar panel is connected with the battery. Light depending resistor(LDR) and water tank is controlled by the microcontroller . Further the buzzer, zigbee module and the relay circuits are controlled by the microcontroller. The relay circuits are connected to the gear motor and pumping motor.

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## IoT Based Monitoring and Controlling of Home Appliances by using Zigbee Technology

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Abstract: The main objective of this paper is to monitoring and controlling the home appliances from remote area by using Wi-Fi. The status of the appliances also updated to concern user through SMS by using GSM modem whenever required. The GSM modem provides the communication mechanism between the user and the microcontroller system by means of SMS. User can monitor the status and also control multiple home appliances by sending suitably formatted SMS microcontroller based control system. These commands are construing by microcontroller system and are authenticate. Once received SMS command is suitable that means if password is matched then it takes the necessary action against appliances and also it always monitors the home, if any one crosses the fencing then alerts will be sent to user mobile in the form of SMS.

Introduction: IoT is a world, where real, virtual and digital environments combine to

create a smart environment which makes life easy. It is a new era of computing technology in which machines interact and communicate with other machines, objects and environment. This new technology has unlimited potential to improve our lives by using a "command-and-control" strategy. It

is a revolution of the Internet in which objects make themselves recognizable.

Objects can communicate information among them and can take necessary decisions whenever required.

Communication has been extended via internet to all things around us. When objects can communicate with each other, via the internet, we need to take complete advantage of remote access. The ultimate goal of IoT applications is to automate systems rather than using manual systems, to improve the quality of living. In today's world, Internet serves to be a popular means of communication. From the end user's point of view, Internet based Home Automation System is very convenient, easy flexible and cheap. Many devices now have Wifi and can connect to Smartphones or home computers. But these devices cannot communicate with each other or else need additional devices to do so. Thus, these devices need to be unified, such that they can be monitored and controlled using one single program or device, e.g. controlling lights. fans, air-conditioners. refrigerator, TV etc. by using an application on the Smartphone. This gives the user more control of their home and can simplify many manual actions.

### Importance of Smart Home:

The Smart home means home automation, with the use of new technology, to make the

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## SMART GRID MONITORING SYSTEM BASED ON PHASOR MEASUREMENT UNIT

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Abstract- The growing demand for electricity makes the power grid ever expanding day by day and more and more complex. There is a potential requirement to continuously monitor the power grid and thus making it smarter and reliable. Traditional measurement systems are getting replaced by PMUs, which enables the online monitoring of the power system. With the aid of GPS, PMUs can measure the phasor values of voltages at the bus, where it is placed and the current through the branches connected to that bus. The Current measurement enables us to estimate the voltages at the neighbouring buses. Because of this, placing PMUs at all buses for the complete monitoring of the power system is redundant. Finding the optimal locations of PMUs to make the power system completely observable is of great research interest. This paper proposes the optimal locations of PMU in Tamil Nadu state of Indian power grid using ILP. PMU placement problem has been formulated and optimization has been carried out. Results showing the various optimal locations are tabulated.

### I. INTRODUCTION

Stable operation of power system requires accurate and online monitoring of various operating conditions. Traditional method of power system monitoring is accomplished by state estimators and Remote Terminal Units (RTU). RTUs are the microprocessor controlled electronic devices which can measure real and reactive power flows, magnitude of bus voltages and currents. RTUs are placed at various substations and they send the measured values to the state estimator which is placed inside the central control center. From the received measurement values and the knowledge about the network topology, state estimator can estimate various electrical quantities related to the power system stability. These estimated values are used for the online power flow control and management. But one of the drawbacks of the RTUs is that it cannot directly measure the phase angles of the voltages and currents at any bus. If we can measure phasor values of bus voltages and currents, better state estimation and thereby better power system control can be achieved.

With the aid of Global Positioning System (GPS), a new era of measurement technique was developed in mid-1980s called Phasor Measurement Units (PMU). PMUs utilize the synchronization signals from the GPS to provide the phasor

values of voltages and currents at the bus or substation wherever it is connected [1]. These types of phasor measurements can improve the monitoring of power system.

PMUs can measure the phase angle and amplitude of voltages at the installed bus and current through all branches connected to that bus. So it is redundant and not economical to place PMUs at all buses for making the power system completely observable. Finding the optimal locations for PMU is of great interest so that with minimum number of PMUs the power system under consideration will be fully observable [2], [3], [5]. This paper proposes the optimal places for PMUs in the Southern Region Indian power grid, taking Tamilnadu state power grid, so that it will be completely observable

#### II. PHASOR MEASUREMENT UNITS

Fig. 1 shows the functional block diagram of a PMU [1]. Analog inputs from potential transformers and current transformers are fed to an anti-aliasing. This will restrict the bandwidth of the signal to approximately satisfy the sampling theorem. The signals from the output of anti-aliasing filter are converted to digital using A/D converters. Phase locked loop ensures the synchronization of sampling with reference signal from GPS.

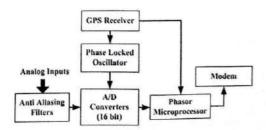


Fig. 1. Functional block diagram of PMU

Sampled signals are then fed to the phasor microprocessor, where phasors of phase voltages and currents are computed using recursive Discrete Fourier Transform (DFT) algorithms. The computed of phasor values are assembled in a message stream and are then sent via the communication network to the wide area monitoring system (WAMS).

Department of EEE, Kings College of Engineering, Thanjavur



## KINGS COLLEGE OF ENGINEERING PHORIENTERING P



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

### NACOPER'18

4th Noutionail Conference

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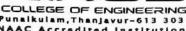
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

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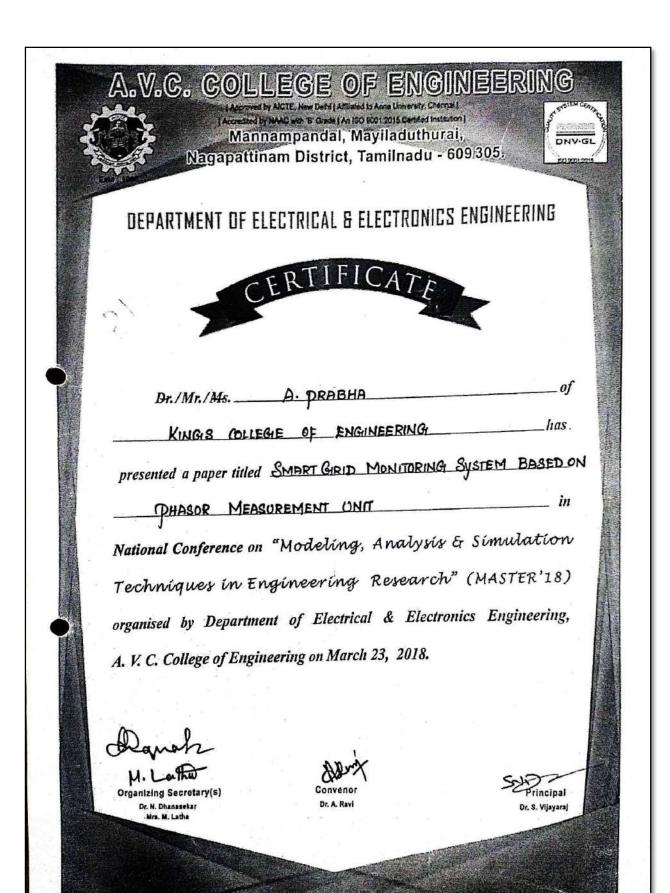
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Organizing secretary

Convener

Principal



## Monitoring And Implementation of Spy Cam Vehicle Using Seashores And Navy Application

Mr.M.Mayapandi M.Tech,(Ph.D),
Dept of Electrical and Electronics Engineering,
Kings college of engineering,
Punalkulam.

1.S.Ajith kumar(821114105001)
2.S.Amarnath(821114105002)
3. V.Vivek(821114105026)
Dept of EEE
Kings college of Engineering
Punalkulam.

bstract.— The main objective behind developing this rubot is for its surveillance of human activities in the war fleid or burder iglous in order to reduce infiltrations from the enemy side. The bot consists of night vision wireless camera which can transant deos of the war field in order to prevent any damage and loos human life. Navy people have a huge risk on their lives while itering an unknown territory. The robot will serve as appropriate machine for the defense sector to reduce the loss human life and will also prevent illegal activities. It will help I the navy people and armed forces to know the condition of the territory before entering it.

Keywords — Robot, Night Vision, Bluetooth Module, Android, GSM, wifi.

### I. INTRODUCTION

The advent of technology has brought a revolutionary change in the field of robotics and automation which ranges in all the sectors from household domestic works to the defense sector. Today in the global market, smart phones also have brought a revolution in changing people's lifestyle and providing numerous applications on different operating systems. Android operating system is one of these systems build on open source which has made

a bage impact providing many applications for robotics to help people in their day to day life. [1]

The main technology used here for serial communication with the robot is the bluetooth technology. Bluetooth technology can be used to share data between two devices considering the range between two devices. The bluetooth module HC-05 will be connected with the robot and the commands to the robot will be given through the android application. [1]

The war field robot consists of arduino uno board as a controller board. It has L293D motor driver IC's along with a HC-05 bluetooth module. Two DC motors are also used for the motion of the robot. The night vision wireless camera is attached with the robot in order to monitor the situation and the camera can be rotated 360 degrees via the android application through motor.

The sydney siege is considered one of the historic moment in the field of automation and robotics where a robot with a laser beam light and Bomb disposal Kit inbuilt was sent inside a dark room before the military commanders in order to reduce the risk of losing human life. It was so far considered as the best police operation carried out by New South Wales police department with the use of latest technology resulting is less loss of human life.

Department of EEE, Kings College of Engineering, Thanjavar

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ist.

Will

### DESIGN OF CHARGE CONTROLLER FOR SOLAR POWERED CHARGING STATION

R.Sundaramoorthi1, S.Karthick, 2V. Karthick3, P.Santhosh4

Assistant Professor/EEE, Kings College of Engineering, 2.3.4 UG Students (IV EEE)

### facultyeeekings@gmail.com,cathik@gmail.com

#### ABSTRACT

In this Paper, Design of Smart Charge controller for the solar Powered Charging station is proposed. The objective of this paper is to design and construct a solar charge controller using discrete components. The charge controller varies its output to a step of 12V; for a battery of 200Ah rating. The design consists of four stages which include current booster, battery level indicator, battery charge controller and power supply unit. The designed system is very functional, durable, economical, and realisable using locally sourced and affordable components. This work is a prototype of a commercial solar charge controller with protection systems that will prevent damages to the battery associated with unregulated charging and discharging mechanisms.

Keywords: booster, controller, discrete, indicator, protection,

#### 1 INTRODUCTION

In recent days Renewable Energy sources are the Integral part of Power Energy sectors.Photovoltaic solar systems can be divided into two basic categories - grid connected and off- grid (also called stand alone or isolated) solut systems. The grid connected systems feed the electricity produced by solar panels to the grid using an inverter. When the electricity is needed during night or periods with little sunlight, the energy is taken back from the grid. In isolated systems, the excess electricity is usually stored in batteries during the day and batteries are used to power the appliances in times when photovoltaic panels do not produce enough energy. Solar regulators (also known as charge controllers) play an important role in isolated solar systems .Their goal is to ensure the batteries are working optimally, mainly to prevent overcharging (by disconnecting solar panels, when batteries are full) and to prevent too deep discharge (by disconnecting the load when necessary)Battery lifetime reduces drastically due to overcharging and deep discharging. Battery is a very expensive component of a Solar Home System; hence it is necessary to protect batteries from being over charged or deeply discharged. In this regard, a charge controller plays a vital role to protect the battery. The system consists of photovoltaic panel, battery, and a solar charge controller. Solar energy is stored into batteries. A solar charge controller regulates the voltage and current that is coming from the solar panels and going to the battery. The charge controller is a switching device that controls the charging and discharging of the battery. This will protect the batteries from damage and hence prolong the lifespan of the Battery Photovoltaic System consists of a PV / Solar Panel (module), charge controller, batteries and power inverter. The PV / Solar Panel (module) or array converts the sunlight energy into DC electrical energy. The charge controller conditions the DC electrical voltage and current produced by the PV / Solar Panel (Module) or array to charge a battery. The battery stores the DC electrical energy so that it can be used when there is no solar energy available (night time, cloudy days etc.). DC loads can be powered directly from the PV / Solar Panel (Module) / Battery. The inverter converts the DC power produced by the PV / Solar Panel (Module) / stored in the battery into AC power to enable powering of AC loads.

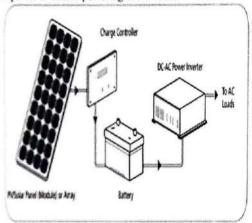


Figure 1:Solar Powered Charging station

### 2. SOLAR CHARGE CONTROLLER

A charge controller or alternatively a charge regulator is basically a voltage and/or current regulator, to keep batteries from overcharging. It regulates the voltage and current coming from the solar panels and going to the battery. Most "12 volt" panels produce about 16 to 20 volts, so if there is no regulation, the batteries will be damaged from overcharging The obvious question then comes up -"why aren't panels just made to put out 12 volts?" The reason is that if you do that, the panels will provide power only when cool, under perfect conditions and full sun. This is not something you can count on in most places. The panels need to provide some extra voltage so that when the sunlight is low in the sky, or you have heavy haze, cloud cover, or high temperatures, you still get some output from the panel, so the panel has to put out at least 12.7 volts under worst case conditions.

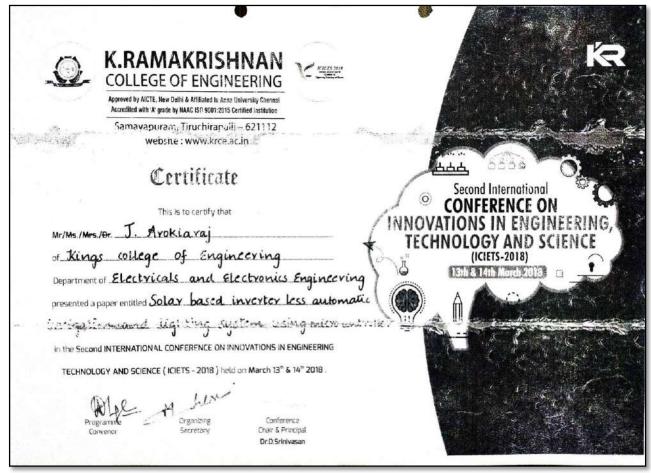
The primary function of a charge controller is to maintain the battery at highest possible state of charge. The charge controller protects the battery from overcharge and disconnects the load to prevent deep discharge. Ideally, charge controller directly controls the state of the battery. The controller checks the state of charge on the battery

Department of EEE, Kings College of Engineering, Thanjavur

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1.





## SOLAR BASED INVERTERLESS AUTOMATIC IRRIGATION AND LIGHTING SYSTEM USING MICROCONTROLLER

Mr.S.R.Karthikeyan1, Mr.J.Arokiaraj2, Ms.S.Sowmiya3, Ms.S.Krithika4 1, 2 Assistant Professor, Department of EEE, Kings College of Engineering. 3, 4 Students, Department of EEE, Kings College of Engineering.

Abstract — Nowadays, renewable energy sources are used for generating electric power. Among all the renewable energy sources, solar energy is easily available in most of the tropical region and it can be converted into electrical energy with the use of photovoltaic panels. In certain rural areas, where the electric power is not available from electricity board, solar energy can be used effectively for many purpose. In most of the remote places, majority of the people involve in cultivation. For cultivation, they need water which can be sucked out from the earth with the use of electric motor. So that they need electric power to run the motor but electricity is not available from electricity board. If possible, electricity is available, there is a frequent stoppages in that. So the farmer can't water there fields properly which reduces the cultivation of plants. Our solar based inverter less automatic irrigation and lighting system helps in watering the plant or whole field automatically and effectively with the use of microcontroller. There is no need of electricity from electricity board because solar acts as a source of energy. This system is an automated one and the actions taken by the controller is send to the farmer's mobile with the use of GSM modem.

### ELECTRONIC ASSISTANCE FOR VISUALLY CHALLENGED

Anly Abraham G.J.Sai Vignesh S.Siva Sudhan E.Swetha

Department of Electrical and Electronics, 1anlya\_e@yahoo.com 2vsaivignesh7@gmail.com

3sudansiva@gmail.com 4sweatha459@gmail.com

Second International Conference on Innovations in Engineering, Technology and Science (ICIETS-2018), March 13&14, 2018
K.Ramakrishnan College of Engineering, Tiruchirappalit, Tamilnadu, India 54





## International Conference on Innovative Research in Engineering and Science

(IRES 2017)

16-17 June, 2017

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entitled performance analysis of	linear fresnel reflector concentre	ting solar system in
International Conference on Innovative Research i	n Engineering and Science (IRES 2017) on June 16-17,	2017 organized by Foundation of Innovative

Research at Asian Institute of Technology Conference Center, Pathum Thani, Thailand.

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## National Conference on Emerging Trends in Mechanical Engineering – 2018

NCETME-18

20<sup>th</sup> March 2018

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TECHNICAL SESSION 1		
NCETME 01	Electromagnetic braking system for two wheeler	
	M. Shanmugaraja, S. Nanthagopal, P. Senthilkumar, R. Thamarai selvan, B. Vignesh	
NCETME 02	Design and analysis of obstacle climbing robot with chain drive	
NCETWIE 02	G.Vijay, M.Vijay, G.Vijay, R.Vignesh, A.Arun Kumar	
NCETME 03	Flow analysis in a convergent-divergent nozzle using CFD	
NCETWIE 03	Dr.K.Kannan, S.Shankar, R.Sathishmuthu	
NORTH	Design and analysis of solar powered automatic lawn mower	
NCETME 04	B.Vignesh, B.Nirmalraj, S.Santhosh, R.Vignesh, A.Arun kumar	
NCETME 05	Experimental analysis of enhanced performance of plated heat exchanger using in milk pasteuration process by using nano fluid	
TVCETIVIE 03	S.Manikandan, A.Mahabubadsha, K.Anandavelu	
NCETME 06	Experimental performance analysis of a modified single basin double slope solar still with pin and square fins absorber	
NCETWE 00	R. Arunkumar, K. Anandavelu	
NCETME 07	Performance analysis of drop wise condensation	
NCETWIE 07	V.Vignesh, C.Vembaiyan, K.Anandavelu	
NCETME 08	Performance analysis of PCM based thermal energy storage system containing nano particles.	
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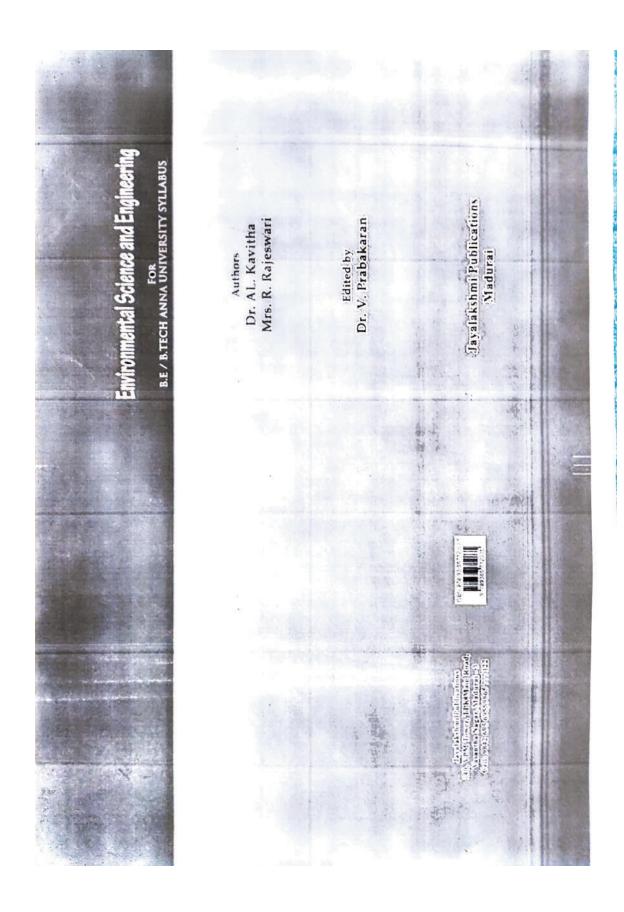
NORTHE 10	Modification of four stroke engine run with LPG & Petrol			
NCETME 10	D. Naveen raj, G. Anbazhagan, C.Manikandan, M. Manoj prabhakaran M. Prabakaran			
NCETME 11	Design and fabrication of motorized Speed breaker			
NCETWE II	M.Vidyasagar V.Rajashekar, Dr. N.Senthilvelan			
	Design and analysis of experimental investigation of Line follower robot			
NCETME 12	Mohan.R Prakash.P ,Sudhan kumar ,Venkatramanan.G , A.Arun kumar			
	TECHNICAL SESSION 2			
NCETME 13	Enhancement of performance of the intercooler used in two stage reciprocating air compressor			
	S.Venkatesan, Malarmannan, Dr. K. Anandavelu			
NCETME 14	Design and thermal analysis of an extended surface with various geometry by using finite element method			
	Manikandan.N,.E.Muthamizhselvan, K. Anandavelu			
NCETME 15	Performance and emission analysis test on di- diesel engine fueled with biodiesel and barium oxide nanoparticles blended			
	M. Priyanka , K. Thiruvasagamoorthy , Dr.K.Anandavelu			
NORTH	Thermal analysis of convex pin fin heatsink			
NCETME 16	Mohamed thoufick.K V. Keerthivi K. Anandavelu			
	Prediction of Optimal Machining Rate on Titanium in CNC-Wire Cut Electrical Discharge Machining Using Response Surface Methodology.			
NCETME 17	Discharge Waemining Osing Response Surface Wethodology.			
	S.Karikalan <sup>1</sup> , V.Vinoth Kannan <sup>3</sup> J.Prabakaran			
NOETNE 10	Performance study of machining on coated carbide tool using response surface methodology in CNC			
NCETME 18	S.Karikalan, V.Vijayakumar			
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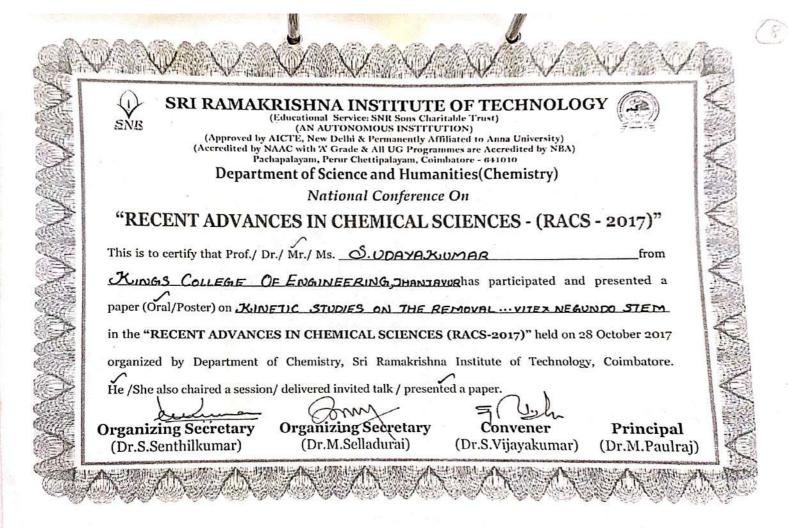
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NCETME 19	Manually operated eco-friendly floor cleaning machine
NCETWIE 19	Balaji R, Arivazhagan R, Dr.T.Pushparaj
NCETME 20	Extraction of hydrogen gas from water by using electrolysis method and using in s engine
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NCETME 21	High speed four way hacksaw machine
	R suriya, R. Thiruvarasan, M Veera, K. Balakarthi
	Experimental investigation on the performance and emission characteristics of a
NCETME 22	diesel engine fuelled with ethanol with additives, diesel and 1-pentanol, jatropha
	based biodiesel blends.
	H.Agilan, R.Shankar

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## 2<sup>nd</sup> International Conference on Advances in Materials Science and Technology



9-11, October 2017 Certificate of Participation

This is to certify that Mr./Ms. Dr. AL.	KAVITHA, AP. OF Kings
College of Endingering	has participated / Presented a paper in the
" 2 <sup>nd</sup> International Conference on Advances	in Materials Science and Technology (ICAMST 2017)"
held at VIT University during 9-11, October	- 2017.
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Allus and umo	Chairman Vice Chancellor

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Karaikudi - 630003, Tamil Nadu, India

National Seminar on

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Kings College of Engineering Punalkulan

has participated / presented a research paper in the "National Seminar on Frontier Areas in Chemical Technologies" (FACTs - 2018) organized by the Department of Industrial Chemistry, School of Chemical Sciences, Alagappa University, Karaikudi

held on 22nd & 23rd March 2018.

@relayfor Prof. G. PARUTHIMAL KALAIGNAN

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Participated / Presented a paper entitled Optical Studies on Transition Metal ion doped ZnO

None rods by simple precipitation method

in Department of Science and Technology - Science and Engineering Research Board sponsored International Conference on 'Innovations in Science, Engineering and Technology for Sustainable Development' (ISETSD-2018) held on 30<sup>th</sup> & 31<sup>th</sup> March 2018.

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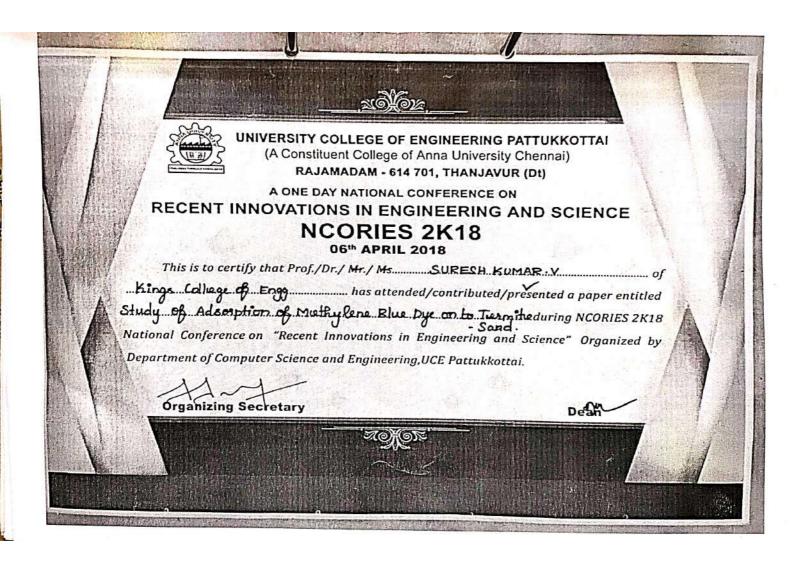
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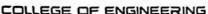
	of KINGS
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COLLEGE OF ENGINEERING	has participated in One
Day Workshop on "Essential Statistics for Data An	alysis" was conducted on 25th
April 2018 at College of Fisheries Engineering,	Tamil Nadu Dr.J.Jayalalithaa
Fisheries University, Nagapattinam.	
Dr. M. KAMALAKANNAN & Mr. R. PALANI	Expanian 234118
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Department of Science and Humanities

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## Recent Trends in Smart Materials

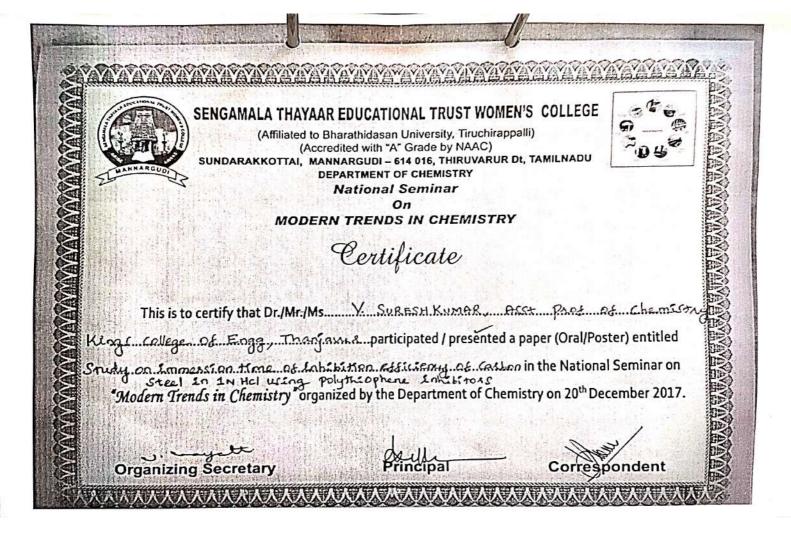
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KINGS COLLEGE OF ENGINEERING Punalkountias participated / presented a paper in 3rd National Seminar on Recent Trends in Smart Materials (NSSM-2018) at Kings College of Engineering, Punalkulam, Thanjavur on 17th February 2018. Co-Author(s) K. KAYITHA

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KINGS Callege of Engg. Thansavus participated / presented a paper (Oral/Poster) entitled

Kinesic Studies on The Removal of heavy metalionin the National Seminar on

By 100 Cost Carbon.

"Modern Trends in Chemistry" organized by the Department of Chemistry on 20th December 2017.

ن کسیدان Organizing Secretary Principal

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11th December 2017.



This is to certify that G SHANKARAKALIDOSS participated and presented a paper in the International Conference on Mathematical Methods and Computation (ICOMAC 2017) anized by the P.G. & Research Department of Mathematics, Jamal Mohamed College (Autonomous), Tiruchirappalli, Tamilnadu, India on 11th December 2017. Title: Hexagonal numbers and Pythagorean triangles

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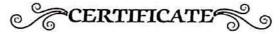
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School of Science and Humanities Department of Mathematics





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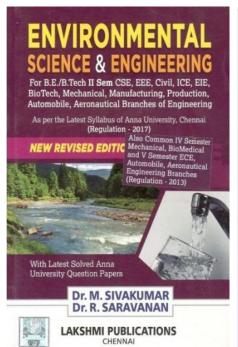


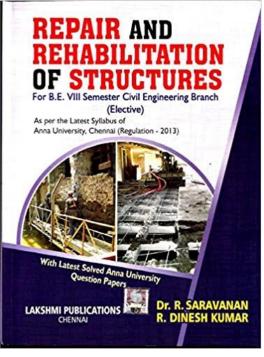


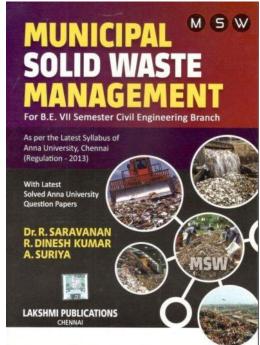


# DEPARTMENT OF CIVIL ENGINEERING ACADEMIC YEAR 2016-2017 BOOK PUBLICATION

Name of the staff	Title of the book/chapters published	ISBN number	Name of the publisher
Dr.R.Saravanan	Environmental science & Engineering	978-93-83103-10-2	Lakshmi Publications chennai
Dr.R.Saravanan	Repair and Rehabilitation of structures	978-93-83103-74-4	Lakshmi Publications chennai
Dr.R.Saravanan	Municipal Solid Waste Management	978-93-83103-65-2	Lakshmi Publications chennai









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This is to certify that SUNDHARAM. R (A.P.)  KINDS COLLEGE OF ENGINEERING  [presented a paper entitled "EXPERIMENTAL ANALYSIS	_has att	of ended
SELF - CONSOLIDATING CONCRETE		in the
2nd International Conference on Engineering Innovations and (2'ICEIS - 2017) on 7th April 2017.	Solution	1.5

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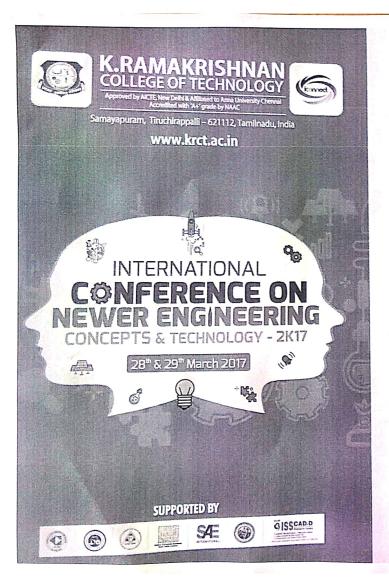
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KINGS COLLEGE OF ENGINEERING , PONDLKULDM.	has attended
presented a paper entitled "Experimental Investigation OF	
REPLACEMENT OF SAND BY M-SAND & ECO SAND AND R	REPLACEMENT
DE CEMENT USING FLY ASH IN CON CRETE	" in the
2nd International Conference on Engineering Innovations as	
(2'ICEIS - 2017) on 7th April 2017.	

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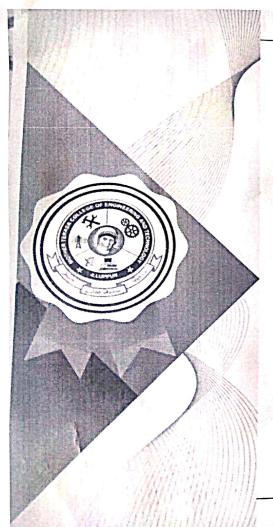
OF INFLUENCE OF MARBLE POWDER ON CONCRETE AS A
PARTIAL REPLACEMENT OF CEMENT
in two day International Conference (ICONNECT - 2K17) organized at

K.Ramakrishnan College of Technology, Trichy on 28th and 29th March, 2017.

CO - ORDINATOR

S. M. PRINCIPAL





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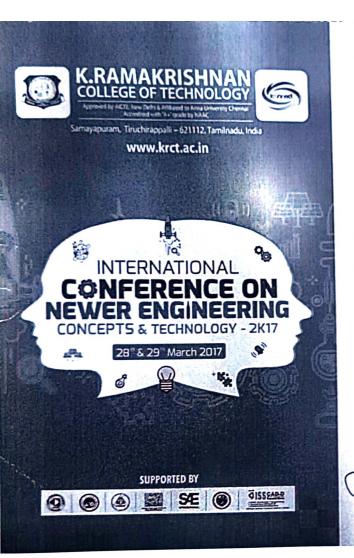


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of Computer Science and Engineeri	ng, on 22 <sup>nd</sup> March, 2017	





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Principal

## SFRDS – AN INSIGHT TO RESEARCH FOR UG STUDENTS

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#### Abstract

Research is a vital tool that measures the learning outcome of theoretical and practical skills the student has acquired during his four years of technical education. Promotion of research offers UG students to better understand published works and explore the area of research interest and research requirements. Promoting research culture among UG students significantly contribute the transformation of project based learning and research ideas into patents/products and hence extends employability and understanding of the research environment. The Student Faculty Research Development Scheme (SFRDS), instituted by Kings College of Engineering (KCE), Thungavan, Tamil Nadu, is a scheme to encourage students of all engineering disciplines to participate in research and research related activities such as participation in departurest and institutional level technical activities and publication in referred mountains international journals & conferences. An amount of Rs. 1.7 labbu per year is allowed for carrying our undergraduate research and development activation under this achieve. SFRIM promises untapped creativity of individual innerators in the department and supports to carry out socially edicional technical projects. that lead to IPK generation under their corrections. Financial assistance for publication encourages undergraduate students to publish their accentific and technological advas to reach entends world through journals / magazines. Grants provided under this scheme tooks the recaposons with the approximate to carry out that and the second second second second

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desired learning outcomes. The study conducted clearly establishes the need to explore the research opportunities for UG students and the need for financial support. The survey conducted based on effectiveness of students' participation in research related activities devices SFRDS which promotes research ambience at KCE.

Keywords: Promotion of research, financial assistance, SFRDS

#### 1. Introduction

Research is investigating new knowledge in a methodical way. Promoting research culture among UG students appreciably contribute the conversion of theoretical and practical skills to research ideas and hence to patents/products. The undergraduate research experience may be the epitoene of engaged loarning (Lepartic, 2006) The best burnan resented for today's research that abould be effectively utilized in UG andonts. The importance of UG research is acknowledged worldwide (E)-Dukhe, 1016) Promotion of squareh among UO students was first conceptualized by Umbergraduate Research Opportunity Program (UROF) drawed by Massachusetta featitude of Eschudogy (MIT) in the year 1909. The objective of LIKOP is he prevente "bands on" research superisons through providing formersal monoclature or acculanted attacks to accuse a progression that would recovered and support issues a fusion. methodical collaboration of Mil undergradience with known tours manners. The imperced Culturys Lambon, many limiting it were along the forming procedures the second in 1, 10 and 1 1974 in altrageliers (%) sensowsh in the (% softwarehold) minimum. This is it is for ance on providing and again time. remarch approximates for bounts and makeus in all

## PEAK – AN INNOVATIVE PRACTICE TO ENGINEERING STUDENTS

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#### Abstract

Engineering deals with solving of society's problems in a sustainable way and these problems to be solved are defined by the society, which also defines the acceptability of any prescribed solution. Programme to Enrich Attitude and Knowledge (PEAK) is an Integrated Skill Enhancement programme introduced by Kings College of Engineering, Punalkulam, Tamil Nadu, for the undergraduate engineering students at the entry level. This program is meticulously aiming at overall grooming of the students and instill attitude required for becoming a successful engineer. Being a special course uniquely offered beyond the curriculum, it focuses on learners' career development that is enhanced through various activities which stimulate and strengthen their curriculum progression. Planned with structured modules in a self paced method it gives the young minds with the essential skills like Social Skills, Management Skills, Mathematical Skills, Department Orientation and Physical Grooming, required to endeavor into engineering study and feel comfortable with technical learning. The activities are focused to catalyze the ability of a student to manage a team, solving quantitative, logical, analytical, puzzle kind of problems. In order to inspire the learner to undertake the degree with involvement and research insight the program is also concentrated in guiding students in goal setting, by creating enough awareness about the scope of discipline, courses, challenges and opportunities. In order to validate the effectiveness of the programme, a survey is also conducted after the completion of the programme, based on factors like learning outcomes, usefulness and recommendation for next batch of students. It is found that the impact created by this programme among the learners has proven to have concern over reforming engineering

education.

Key words: Attitude, Integrated skill, Engineering, Innovative practice.

#### 1. INTRODUCTION

"GurukulaKalvi", the ancient Indian Educational Systemis recognized to be a successful system of learningwhich practices andtrains the learners with multiple skills gained during the stipulated duration. In modern world, students excels in their career not only with the theoretical knowledge they gain during their study period but it is essential that they must gain skills to expose their knowledge for the benefits of others. Analogous to the Gurukula system of training the students, the institution focuses in transforming a student into multitalented and marketable engineers. To achieve this, it is essential to integrate more than one skill into a student, relevant to his discipline of study in addition to other practices adopted by the institution and other professional societies. PEAK is an innovative programme initiated to enhance the integrated skills and hence enrich both attitude and knowledge of a student to adapt to the fast growing technology. Further being employed as professionals in nation building organizations and industries, it becomes the prominent role of institutions to impart professional ethics and social management skills. Pertaining to this, PEAK is conducted in regular working hours sparing 30 minutes during the last session of the day not only to shape the character but also to update their knowledge so as to enhance their research insight. Senior Faculty members of the department handles session as per the course plan framed at the beginning of the course. If necessary, experts are invited from external sources to catalyze the programme. A special team functions in the institution to



## SEGMENTATION AND VOLUME ESTIMATION OF THYROID NODULES USING ULTRA SOUND IMAGE

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Abstract: Thyroid is an endocrine gland, which produces hormones that helps to control body metabolism. Hyperthyroidism, Hypothyroidism, goiter, and thyroid nodules (benign/malignant) are the different thyroid disorders. When radiologists and physicians manually draw a complete shape of nodule, extracting heterogeneous features is a difficult task and it is difficult to distinguish what type of nodule is exists. This paper provides a concise overview about segmentation and volume estimation of thyroid nodules. Segmentation separates the affected region or region of interest from the other tissues. The PNN classifier is used to classify Thyroid data. The parameters for evaluating the thyroid volume are estimated using a particle swarm optimization algorithm. Ultrasoundsystems have accomplished an excellent tradeoff between image qualities, low-cost, portability and fortune of any form of radiation. Simulation thyroid shows that results of the segmentation can be automatically achieved and the volume of thyroid nodule can be precisely estimated.

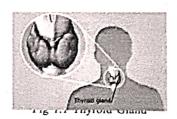
Key words: Thyroid nodules, Ultrasound imaging, Segmentation, PNN classifier

#### 1. INTRODUCTION

In this paper, we present aneasy guide ofconclude the thyroid nodules in the thyroid with its quantityevaluation by using ultrasound image Thyroid nodules larger than 1cm may be detected clinically by palpation. Thyroid nodules less than 1 cm in diameter not clinically measurableif notto be found on the outside of the gland are much more frequent. The advantages of using ultrasonic imaging comprise its mobility and low cost as well asthe facility to evaluate the measurement of the gland verify for the attendance of masses or cysts and calculate the arrangement. A thyroid ultrasound examination provides an intention and accurate method for detection of a modify in the size of the nodule, used to estimate the US features, which include size, and composition, as well as presence or absence of coarse or, a halo and unbalanced margins. The improvementimage is used for more processing of segmentation the thyroid and estimates its capacity.

#### 1.1 Thyroid

The thyroid is a small gland, created something like a butterfly. It is situated in the lesser front part of the neck, just lowerthe voice box and environment trachea. The thyroid produces hormones that are accepted in the blood to every tissue in thebody. It helps normalize metabolism, or how the body turns food into energy. It participates in these processes by producing thyroid hormones. But extremely less or excessive amount of these hormones causes a variety of thyroid disorders. The thyroid gland is shown in the figure 1.1.



People in the age collection of 20 to 40 are typically exaggerated by thyroid disorders. Women are having more danger than men in increasing thyroid disorders. They can expand thyroid disorders for the period of their pregnancy also. Thyroid sickness is caused by the following factors which can be classified as convenient and contributing factors. 1. Age 2. Sex 3. T3-Serum triiodothronine4. T4-Serum thyroxine 5. TSH-Thyroid Stimulating Harmone 6. lodine Intake 7. Medication for thyroid problems

#### 1.2 Different thyroid disorders and theirsymptoms

The thyroid diseases can be classified into two groups: First group affects the function of the thyroid and the second group consist neoplasms, or tumors of the thyroid. General population is affected by both the types of disorders. Abnormalities of thyroid function are caused by the abnormal production of thyroid hormones. There are

## Improvement of Speaker Identification System Using MFCC and Pitch Based MFCC in Noise Environment

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Abstract-This paper presents design and development of speaker identification system that is insensitive to noise. This paper deals with a combination of modified MFCC and Pitch based MFCC for feature extraction. Nowadays, the Melfrequency cepstral coefficient (MFCC) is the most widely used feature in speech recognition, speech synthesis and speaker identification. However, the performance of identification systems significantly degrade in noise environment because of MFCC is very sensitive to noise. To improve the noise sensitivity in speaker identification systems by applying combined piecewise function in the standard MFCC analysis. In this work uses the Pitch based MFCC, which is modeled on human auditory system and it integrates the change in speaker specific pitch information to improve the act of speaker identification. The simulation results of the system shows very good identification rate in 91 % comparison with using only MFCC with Pitch based MFCC in noisy environment.

Keywords— Mel Frequency Cepstrum Coefficients; Pitch based MFCC; feature extraction; combined piecewise function.

#### I. INTRODUCTION

Speech is the most natural form of human communication. It is an immensely information-rich signal exploiting frequency-modulated, amplitude-modulated and time-modulated carriers to convey information about words, speaker identity, accent, expression, style of speech, emotion and the state of health of the speaker. The speech signal is produced from the vocal tract system by varying its dimension with the help of articulators and exciting with a time varying source of excitation. The physical structure and dimension of the vocal tract, as well as of the excitation source, are unique for each speaker. So the voice information available in the speech signal can be used for speaker recognition. The two basic methods for speaker recognition are speaker verification

and speaker identification. Speaker identification (SI) refers to the process of identifying an individual by extracting and processing information from his/her speech it is a task of finding the best-matching speaker for unknown speaker from a database of known speakers. It is mainly a part of the speech processing [2]. The SI system enables people to have secure information and property access. In case of speaker identification the similarity is computed between the input utterance and the closest reference stored pattern of speakers.

A speaker identification system has many applications including in telephone, banking, reservation services, and so on. In speech identification system, the main goal of acoustic module to extract the features of speakers. The LPC parameters most preferred speaker/speech recognition [9, 11] because of their simplicity and effectiveness. Other mostly preferred feature parameters in identification system namely, the mel-scale frequency cepstral coefficients (MFCC) [3, 4].

The modeling technique is to generate models for each speaker using specific feature vector extracted from each speaker using GMM classifier. GMM training is relatively fast and the models can be scaled and updated to add new speakers with relative ease [1, 5].

#### II. SPEAKER IDENTIFICATION SYSTEM

The functioning of the Speaker identification system is portrayed in Fig.1. This study depicts the functional process.

- Front-end processing
- Speaker modelling
- Speaker database
- Decision logic

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## MITIGATION OF LOW-ORDER ATMOSPHERIC TURBULENT EFFECTS USING SENSORLESS ADAPTIVE OPTICS IN TERRESTRIAL FREE SPACE OPTICAL COMMUNICATION

Pasupathi T<sup>1</sup>, Arputha Vijaya Selvi J<sup>2</sup>, Niranjan Samuel J<sup>3</sup>
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Abstract- Tip-Tilt and wavefront distortion in the Free Space Optical Communication (FSOC) can be mitigated with Conventional Adaptive Optics (AO) which is widely used in many optical systems to improve the quality of an optical system by manipulating the optical wavefronts using suitable techniques thereby improving BER. This paper describes Sensorless Adaptive optics (SLAO) technique which replaces the high cost wavefront sensor and corrects aberrated optical wavefront by comparing a test wavefront to a perfect, reference wavefront, and then modifying the test wavefront in order to reach the reference wavefront. Artificial Neural Networks (ANN) based reconstruction technique is proposed. The neural network is designed to use the information of tilt in the wave-front acquired by the science camera by extracting the parameters as inputs and estimate the turbulence in terms of Zernike coefficients. Multi-Layer feed forward Neural Network is used to train the inputs and to find actuator control voltages which are applied to DM. In this paper we present a practical implementation of Adaptive Optics system at 850 nm based on a wave-front sensorless architecture. Proposed experimental set-up reduces the complexity and the cost of the conventional adaptive optics system. SLAO provides fast and effective wave-front correction. When compared with the conventional AO systems, the sensorless technique offers the advantage of not requiring the high cost wavefront sensor.

#### I. INTRODUCTION

Free-Space Optical Communication (FSOC) offers line-ofsight, wireless, high-bandwidth communication link between remote sites using lasers as signal carriers. FSOC offers significant advantages over conventional RF wireless communications and fiber optics technology, including higher bit rates, Ease of deployment, License-free operation, Low bit error rates (BER), Immunity to electromagnetic interference (EMI) and Increased security[1],[2].

Free Space Optical Communication (FSOC) uses a modulated laser beam to carry the information over the free space atmospheric path. Basically Free Space Optical Communication system composed of three main components

namely Laser transmitter, which encodes the message into an optical signal, a channel, which carries the signal over the turbulent free space atmosphere and photo detector as receiver, which reproduces the message from the optical signal. Fig.1 shows the schematic of Terrestrial Free Space Optical Communication system[3].

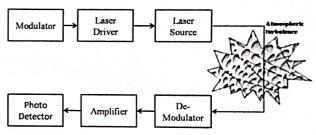


Fig. 1. Schematic of Terrestrial Free Space Optical Communication system

The performance of FSOC is mainly affected by internal parameters that are related to the system design which includes (i)wavelength, (ii)Power of the optical source (iii)Transmission bandwidth and BER. Internal parameters are otherwise called as System specific parameters. External parameters that are otherwise called as Non-system specific parameters which includes (i) Atmospheric visibility (ii) Atmospheric attenuation (iii) Scintillation and (iv) Link range. Among the internal and external parameters the variables that can be controlled are the transmitted power, receiver aperture size, beam divergence and link range[4].

The primary parameters affecting the performance include atmospheric attenuation (rain, drizzle, fog and haze scattering), scintillation, alignment or building sway and line of sight obstruction. Quality of the optical signal may be heavily degraded severely due to wave-front aberrations. In free-space optical communication, both intensity and phase of the received optical signal is heavily affected by turbulent atmosphere, thereby affecting the link performance and

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## FPGA Based Frequency Syntheziser for 14-Band MB-OFDM UWB Transceivers

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Abstract-The design of the All Digital Receiver circuit in this project uses Delay Locked Loop (DLL) as the main core instead of PLL. A 14-band CMOS frequency synthesizer using DLL is designed for spur reduction in MB-OFDM UWB system. DLL reduces the design complexity since the main difference when considering with PLL is there is no internal voltage control oscillator. The feedback more specific sub harmonics are obtained from SSB mixer for 14 band generation. This DLL based frequency synthesizer reduces the interference and provides efficient signal with negligible bit error rate. The proposed frequency synthesizer provides 0.620j energy consumption, 210Ps delay, 18Gbps data rate, 210mw static power.

Index Terms-Delay Locked Loop (DLL), Frequency synthesizer, Multiband Orthogonal Frequency Division Multiplexing (MB-OFDM) ultra-Wide band (UWB), Phase Locked Loop (PLL),

#### I. INTRODUCTION

Frequency synthesizer is an electronic system for generating any of a range of frequencies from a single fixed time base or oscillator. A frequency synthesizer can combine frequency multiplication, frequency division, and frequency mixing (generates sum and difference of frequencies) operations to produce the desired output signal. Some approaches include phase locked loops, double mix, triple mix, harmonic, double mix divide, and direct digital synthesis (DDS). The choice of approach depends on several factors, such as cost, complexity, frequency step size, switching rate, phase noise, and spurious output. Concentrating on spurs and bit error rate a DLL based frequency synthesizer is used. Spur is the major issue in frequency synthesizing. Source of spur generation is mainly by Mixer nonlinearity, I/Q imbalance of sub harmonics.

#### II. RELATED WORK

[1] This paper deals with single phase-locked loop and two-stage frequency mixing architecture, it alleviates harmonics mixing and frequency pulling to diminish spurs generation. Also, only divide-by-2 dividers are needed in the feedback path of the PLL. The spurs generations mainly stem from two reasons, the mixer nonlinearity and I/Q imbalances of the sub-harmonics. Here I/Q calibration algorithm are used. It leads to spur generation at the mixer output. The I/Q vectors of the odd harmonics of 264 MHz travel through different traces and inevitably suffer from gain and phase mismatches when they reach the 2nd stage SSB mixers.

[2] In this work the frequency is little bit small, that is 3.1-10.6 GHZ ultra wideband radio frequency (RF) receiver system is presented. Wideband-pass multistage RF preamplifier using a cascade of a three-segment band-pass LC II-selection filter with a common-gate stage as the front end. It consumed around 30mW from a 2.5-V supply voltage. It had a minimum pass band noise figure of around 4.7 dB, an input-referred third-order intercept point of -5.3 dBm, and reverses -65 dB.

[3] A frequency synthesizer incorporating one single sideband (SSB) mixer generates seven bands of clock distributed from 3 to 8 GHz with 1-ns switching time. This circuit achieves a sideband rejection of 37 dB while consuming 48 mW from 2.2 V power supply. In this paper also acquired frequency only 3-8 GHZ. Switching time is also small. Experimental verification of a fast-hopping frequency synthesizer that generates clocks for the seven bands in mode 2. So, we cannot cover wide area, this one of the major drawback.

[4] UWB RF frequency range required for the section filters with a common-gate stage as the front end. It consumed around 30mW from a 2.5-V supply voltage. It had a minimum pass band noise figure of around 4.7 dB UWB communications, the proposed mixer incorporates artificial inductance—capacitance (LC) delay lines in radio frequency (RF), local oscillator (LO), and intermediate frequency signal paths LC, and single-balanced mixer cells that are distributed along these circuits. Closed-form analytical model for the conversion gain of the mixer is presented.

## Comparison of Modulation Techniques for Underwater Optical Wireless Communication at Mallipattinam, Tamil Nadu

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Abstract— In this narvey, we explain the possessions of water niterination on an anderwater epited wireless communications system by using different modulation techniques (OPSE, ASE and OOE) and laser based epitems. Far anderwater light propagation scattering and absorption are the leading sources that may bound the transmitter applied pamer, transmitter the parameters such as braininger applied pamer, transmitter divergence angle, transmitter divergence angle, transmitter divergence ingle, transmitter effectively, receiver diameter, receiver automitivity, chlorophylic annexistation and water concentration and also convers the ather considerations. The laser based wireless remonantiation systems are fensible solution to high speed and large distance data transmission applications with data rate of 153 Mbps, wavelength of 650 nm and power of 18 mm.

Keywards—underwater communication, modulation, aptical wireless communication

#### I. INTEGRACITOR

A most important challenge facing ocean exploration and surveillance is how to rapidly and precisely communicate the data obtained by the unmanned system to a surface ship or shore-based station. Underwater communication is broadly used in military, industry, and scientific communities. This communication interface with data rates in the range of few to tens of Mhps. Optical fiber or copper cabling can be used for sufficiently large devices, a wireless link is desirable in many situations. Radio frequencies are profoundly attenuated in segwater. For short-range links, optical communication shows potential alternative. LED-based systems are used for lowcost, low power, and compact systems. Laser-based systems can be used for extended ranges, high data rates and low latencies. Underwater optical wireless communication is an attractive alternative for high speed data links and is mono directional in nature [1]. It is important to understand not only the apatial properties of scattered light in the ocean, but scattering will affect the temporally encoded information. Optical links appear to be an attractive alternative to acoustic methods as laser sources in the blue/green region of the spectrum, which shows a minimal absorption in seawater. In addition, data rates are not limited by frequency-dependent absorption as they are in acoustic. Underwater optical communications have the potential to achieve much higher data transfer rates than an acoustic communication system at considerably lower power consumption, simple computational complexity, and smaller packaging. The physical or geographical location of the optical link plays an important part in the total attenuation of the signal [2]. Various types of ocean water are used for analyzing the water quality and according to that quality various modulation and line coding techniques are used.

#### II. BACKGROUND AND RELATED WORK

Shlomi Armon (2010) has presented for three different types of optical wireless communication links: (a) a line-of-sight link, (b) a modulating retroreflector link, and (c) a reflective link. From their results, it is clear that as the water absorption increases, the communication performance decreases dramatically [3]. Tejbir Singh Hanzra et al (2012) investigated the performance of the modulation techniques-BPSK and QPSK in the Nakagami channel and the Rician Channel. It is clear from experimental results, QPSK modulation provides double data rate than the BPSK modulation technique. Certain impairments associated with the FSO system, effect of scintillation index and Free Space Path Loss (FSPL) are also discussed [4]. Vavoulus, A et al (2014) using set of numerical results revealed the relations between various parameters such as error probability, wavelength, node density, transmitted power, data rate, etc., in order to achieve k-connectivity. They proposed model forms the basis of deploying reliable underwater optical networks suitable to deliver broadband services at far distances [5]. Mazin Ali A. Ali (2015) investigated the effect of water attenuation on an underwater optical wireless communication based on LOS model. Experimental results show that the performance of OOK and 2DPSK is more suitable for the underwater optical wireless communication [6].

Mazin Ali A. Ali (2015) theoretically analyzed the performance of an underwater optical wireless communications system using different modulation techniques and an avalanche photodiode APD receiver over underwater environment channels. Characteristics of bit error rate BER for different optical modulation techniques are studied [7].

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## Dynamically Reconfigurable Multilevel Multiphase Space Vector Pulse Width Modulator for Overmodulation Region

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Abitiver. This paper perspases multi-level multi-glass Space Vactor Pates Whitch Machillates (KTPAN) similalistics five week modulation region is sported in the opportunities which mendiciation technique monores linearite till on margue of the fine, of the installar inverter expants II higher incomes autique is distinct beyond this expants, the aperation is beened as pear mostlebrism. The special reserved actions increoguration two coquestion e sempsee kest Assuiges & Leadyst anitululium term in seedigst amounth owitch over of the operation till SHE's, at its entire agreed and she beyond that in the field damping region. Depoperceifestation to a more-timent preserves and it asservations then timeline of operation depending on modulation index (NE). Minimal for compensating the voltage eactor to be applied while make it was the concept of continuous application of a specific solings ession in order to achieve the desired provings voltage vacue and house angular velocity. In this paper, made-I operation of over modulation is extended beyond would modulation index thus he reported 0.9535 in the literature movey, thus stretching the servical of Made-II further services six stage. This delice in the prival of over modulation Make-II decrease the non-Inspetty effect as the lower order harmonics are reduced, thereby improving the controllability of the augular solucity. This helps in compensating the current and aregus ripples in the motor. The acceptable operation of the extension range of mode-I and the amouth transition into mode-il and an ange is serified using

Keewards—Space Vierne Medication, Over Medication, and Medication Index

#### I INTROCERTED

The main advantage of SVPWM is its increased linear range of operation till a modulation index of 90.7% unlike the constituted Situsoidal PWM (SPWM) method having linear range till a modulation index of TESN. The concept of linear or non-linear region operation is based on modulation index (MI) that indirectly provides information about the inverter utilization capability. This facility of SVPWM pars on edge over other PWM techniques. Till MI = 0.907 SVPWM technique operates in the linear region means that the modulation index is directly proportional to the fundamental component of the line side voltage. Beyond MI = 0.907 SVPWM reached operating in the non-linear or in other words over modulation region. This over modulation region is further divided into two zones:

Zone 1 : 0.907 < M 1 = 0.9535 and

Zume II; 0:9535 < M I = 1

The main aim of any type of PWM method is to utilize the invertor to its maximum capacity that is achieved only with sin-step operation but at the price of loss of controllability. In 3 VFW M, the operation from under modulation to over musilalistics finally leads to the six step of operation. The minimal and six step operating regions of a modulator can be musicy graggammed, but to maintain continuity two regions, ever medulation is required. Besides this, over modulation below in showing the voltage capability of the inverter and therefore in neumanry to improve the dynamic response of the drive. Several methods to achieve the over modulation are suggested in literature. The over modulation range is divided into two sub regions and the switching characteristics is defined based on the unique characteristics [3]. In the first sub region, a pre processor modifies the absolute value of the reference voltage vector before the conventional SVPWM mudulator processes it. In the another sub region, the pre processor afters both the phase angle and magnitude of the reference weltage vector in order to avert the solution of nonlinear equations, two look up tables (LUT) are used and continuous control of voltage is derived until six step region. While the fundamental voltage cannot be obtained in every sampling period, it can be achieved in fundamental cycle [3].

The other over modulation schemes reported in literature [6], [3], [10], [11] uses the basic geometrical understanding provided in [3]. However, these methods varies from each other in the manner they implement the over modulation raitching strategy. In terms processing time, the method given in [6] in the fastest. However, due to large harmonic content in the voltage waveform, it results in distorted current and flux The method described in [10] uses computationally intensive algorithms to achieve modulation butend of pre-processing the voltage vector an approximated piecewise linearized equations are used in [8]. [11] to achieve over modulation switching. All these methods have effectively extended the DC bus utilization of the inverter until the six step mode and all the methods are tested for the open loop v/f drives. During over modulation, lower order harmonics are added to improve the fundamental voltage gain of the modulator. However, when used in a closed loop torque and flux vector control scheme, these harmonics interfere with the working of linear current controllers, [9]. A compensation method [9] is proposed that uses an inverse model to estimate the harmonic component of the current vector during over

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## A Fuzzy-logic Based Management System in Smart-Microgrid for Residential Applications

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Abstract-The main objective of this system is to provide Uninterruptible power to the load. This system consists of the power sources, storage system, and DC bus regulator system. The power sources employed here is the PV panels, Wind turbine, and fuel cell. The generating source, and the fuzzy algorithm are simulated using the MATLAB/Simulink software. The Energy Management System (EMS) incorporates fuzzy responsible for the Energy Management and Battery Management. The EMS assisted by RS 485 and ZigBee network communication protocol. By the information provided by these communication systems, the EMS commands the generating sources when to operate. The load applications are Electric Vehicle (EV charging), and Lighting Systems.

Index terms-Uninterruptible Power, Energy Management, Battery Management, EV charging.

#### I Introduction

The smartgrid and microgrid systems are the developing grid system for the distributed generation technology. The smartgrid and microgrid system are the hot topics to discuss. The development of the renewable energy sources has overcome all the disadvantages of the conventional power generation systems, such as the coal power generation system, diesel power generation system. There are many research groups of the smart-microgrid systems [1]-[10], have conducted many researches in the microgrid system for residential and industrial applications. The smartgrids and the microgrids systems are responsible for The typical architecture of the distributed generation. microgrid systems are discussed [11]. The microgrid systems are exists in Chicago, USA, and in Maldives. These microgrid system, the employed many load applications, here this system was employed for the vehicle charging applications. The Electric Vehicles (EV), the charging strategies has to be managed, the charging of the vehicles cause significant challenges to the electrical grid. In addition to the Energy Management, this fuzzy system along with the employment of the arm processor that dynamically controls the charging of the electrical vehicles to maintain the proper operation of the local distribution grid and minimize the environmental impacts. In this paper the charge scheduling parking slots for the charging of the hybrid electrical vehicles are discussed. The block diagram of the proposed system is shown in the fig.1.

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Fig.1. Block diagram of the proposed system

This system consists of the power sources that obtain its power from the PV panels, wind turbine, and fuel cell. The battery acts as a storage system. The DC bus regulator consists of the EB source. These sources are connected to the grid through DC-DC converters, Bidirectional DC-DC converters (BDC), and Bidirectional DC-AC converter. The DC loads directly fed its power from the microgrid. The DC load applications employed are EV charging systems, and lighting systems. The Management System incorporates the fuzzy responsible for the Energy Management (EM) and Battery Management (BM). In the case of the EM the fuzzy is responsible for the unit commitment. In the case of the BM, the fuzzy is responsible for maintaining the SoC of the battery. The SoC of the battery is directly proportional to life apan of the battery. The Management are supported by the RS 485 and ZigBee network communication protocol. The generating status of the power sources are done by this communication systems. Based on this information the EMS commands the generating sources as per the SoC of the battery. Maximum Power Point Trackers are associated with PV and Wind Energy Conversion System. When the PV is high, then the generated power was equally distributed to the load systems, battery, and EB systems through the AC grid. During the power failure condition, the power can be taken

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## Parametric Analysis of a Novel Reconfigurable Wireless Sensor Network Architecture

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Abstract—Wireless Sensor Networks (WSN) plays a vital role in the modern communication mechanism. These are more vulnerable to attacks due to their basic limitations such as communication distance, memory, processing, throughput and power. In this paper we analyze communication delay and energy consumption of a WSN. We propose a Novel Dynamic Reconfigurable Network Monitoring Node (DRNMN), which controls the data transactions in a WSN and reduces the delay incurred and improves the performance with energy optimization. This paper focuses using analysis of DRNMN model with LEACH protocol using NS2 simulator considering the delay, energy, throughput and performance parameters.

Keywords— WSN, Energy consumption, Delay, LEACH, Reliability, Throughput, Reconfigurability, Dynamic Power Management (DPM)

#### I. INTRODUCTION

WSNs are a cluster of sensor nodes distributed randomly in the network environment to detect input signal and forwards the same to the end user through the sink node via cluster head as in Fig.1. WSN nodes are limited by the resources such as energy, memory, computation and communication capabilities for physical and environmental monitoring.

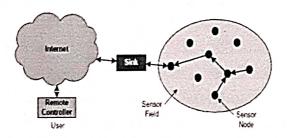


Fig. 1. General wireless sensor network Architecture

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- Distance: Sensing range of a sensor node is limited.
   As the range increases its efficiency in sensing the events gradually reduces.
- 2. Memory: captured sensor data will be saved in the memory for the processing of information
- Processing: Microcontroller has been widely used in WSN nodes whose processing capabilities are limited.
- Power: Power consumption is maximum for transmission and reception of the signals in a sensor network in processing of data.
- 5. Energy: Energy is the amount of battery source utilized for every transition of a node. Maximum energy consumed for transmission and reception process [1],[2] than data gathering.
- 6. Throughput: It is the rate at which data is processed successfully at a given time. It depends upon the efficiency of hardware units involved and protocols that were used in the system. The more the throughput the better the performance.
- 7. End to end communication delay: Has been defined as amount of delay occurred from the time of sensory event till it reaches the end user. Once the data is sensed, the WSN Node has to pass to other neighboring nodes and to cluster head and to the sink or base station.

The energy, end to end communication delay is the important parameters in the field of WSNs for reliable communications. Energy drain problems may lead result in a node to die early or lack of sufficient source of energy the sensory data may not be reachable to the end users. Energy optimization is essential for enhancing the life time of a node. Dynamic Power Management (DPM) techniques discussed [1], [17] are in achieving optimized power consumption in WSNs.

## Finite State Markovian Model for Trustworthy Reliable Communication in Dynamic Reconfigurable Wireless Sensor Network Architecture

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Abstract — Wireless Sensor Networks (WSNs) are constrained by a limited energy sources. Trust in a WSN is defined as the amount of confidence obtained from the individual node with respect to its data collecting, composing and communication (C³) probability with other peered nodes. Trustworthiness and energy optimization of Wireless Sensor Networks (WSNs) is an active research topic. Trustworthiness of a WSN majorly influenced by security, reliability, mobility and communication models.

As the topology of the network alters according to mobility of the node, getting trustworthiest system is very difficult. Reconfigurable techniques modify the system in a controlled manner, and provides adaptability, proposed a Reconfigurable Wireless Sensor Network Architecture (RWSNA) using Markovian chain model for the enhancement of the trustworthiness of the WSN system for reliable communication at runtime with energy optimization.

The trust values have been simulated based on the Markovian model based Finite State Machine (FSM) logic of our proposed RWSNA system has been simulated using MATLAB and Simulink and corresponding waveforms of the WSN has been captured and presented.

Keywords— Reconfigurable Architecture; Wireless Sensor Network; Markovian chain Model; Trustworthiness; Energy Optimization.

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#### I. INTRODUCTION

Wireless sensor networks (WSNs) is a collection of tiny sensor nodes which are constrained by limited battery and memory source distributed randomly in the environment to monitor the events for data collection and transfer the collected data back to the base station [1]. In military surveillance or monitoring applications the nodes are in mobile, hence the topology of the WSN changes dynamically. Controlling such a network by adopting reconfigurable methods is an active research topic or much advantages compare to general method.

Reconfigurability makes the system adapt to changes and reduces frequent hardware and software redesign aspects. It can also be used as a method of capability to modify the system in a controlled manner. Dynamic reconfiguration helps in monitoring WSNs more efficiently when the network topologies change at run time. It is also adaptable for future enhancement with little change of software as in [17]. Trustworthiness of the system can be enhanced by the reconfigurable method. The RWSN architecture considers about the energy source of each node and protects from battery drain in a mobile state. Thus it optimizes the energy utilization.

Most of the researches have been proposed and developed different trustworthy architectures [2, 3, 4, 6]. This paper contributes in calculation of trust in an RWSNA by Finite

## Efficient Mobile Transporter in WSNs Lifetime Enhancement

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Abstract- Mobile wireless sensor network is one of the intensifying and emerging technologies for various application of new generation networks, the massive concerns of these networks are data gathering with energy efficiency. Cluster formation system, randomly selection of cluster heads to equally balance the energy consumption among the sensor nodes and finally forward the data collected by admin node to base station by the support of Mobile Transporter (MT). MT gets the data from the Admin Node and Admin node is static and nearer to MT. The normal cluster heads send the aggregate data to the Admin Node. The Admin Node again aggregates the data and then sends to base station via MT which is placed away from the node deployment area. In the existing system there is only 10% of energy is saved but in the proposed system 40% of energy is saved, ultimately it increase the network lifetime and executed the implementation through NS-2 simulator (network simulator).

Index Terms—Wireless sensor network, Energy efficiency, Mobile Transporter, Cluster head, Admin node.

#### I.Introduction

A wireless sensor network (WSN) consists of spatially distributed autonomous sensors to agreeably monitor physical or ecological conditions like temperature, sound, vibration, pressure, motion or pollutants etc. The maturity of wireless sensor networks was goaded by military applications such as battlefield supervision. They are now worn application areas, including industrial process monitoring and control, machine health monitoring, environment and habitat monitoring, healthcare applications, home automation, and traffic control. Each node in a sensor network is characteristically outfitted with a radio transceiver or other wireless communications apparatus, a small microcontroller, and an energy source, usually a battery. WSNs characteristics are Limited power they can yield or store, Ability to withstand callous environmental conditions, Ability to cope with node failures, Nodes mobility, Network topology in static and dynamic, Communication failures, Heterogeneity of nodes, Wide scale of deployment, Unattended operation, Scalable node capacity, limited bandwidth of gateway node. The network routing protocol must take care the issues and challenges like self configuration, reliability, quality of service, throughput, fault tolerance, delay, scalability etc.

The important criterion in the design of WSN is data delivery time which is one of the critical issues in much type

of applications like battlefield and medical care and security monitoring system. These systems are essentially required to receive the data from individual sensor nodes within some time limit and slot. Designed communication routing protocols are being affect the efficiency and overall performance of WSNs by an equal distribution of available energy load and decreasing their energy consumption and therefore extending their lifetime or life span. Thus, designing energy efficient routing protocols is critical for extending the lifetime of WSNs. So, we described a novel innovative energy efficient and lifetime increased proposed routing protocol, which is one enhanced from normal LEACH protocol. The remainder of this paper we introduce a novel constant clustering based data gathering approach which is having admin node to MT and to base station, in turn the WSNs increases the lifetime with total energy consumed.

The organized paper is as follows: A brief introduction with related works of LEACH protocol is presented in Section I. Section II explains the relevant related works with literature survey analysis. Section III describes the design of our novel proposed protocol enhanced version of LEACH with Mobile Transporter techniques in detail. Discussion of simulation results contains in section IV. Finally, conclusions are described in section V.

#### II.RELATED WORKS

In this following segment, a concise presentation of the presented works related to proposed scheme. A lot of data aggregation routing protocols have been proposed for wireless sensor networks so far. These can be classified into two major classes; hierarchical clustering protocols, and chain-based aggregation protocols [1], [2], [3]. Underneath hierarchical clustering routing protocol, the key routing protocol for wireless sensor networks is called LEACH protocol presented by Heinzelman et al 2000. [4]

The clustering based LEACH protocol incorporates distributed cluster formation, local processing to reduce global communication, and randomized rotation of chance of clusterheads. In concert, these features allow LEACH protocol to accomplish the desired properties. Nevertheless, there is no guarantee that sensor nodes selected as cluster head are consistently dispersed throughout the network because procedure to select cluster head is based on the random cluster formation method having local probability. To overcome this

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# Comparative performance analysis of forward error correcting codes for Free Space Optical communication

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theres. I've Speec Optical communication extensional with several extensional with several during the transmission. These several neutral horsess of the transmission. These several neutral horsess of the first terminal temperature measurements in how extensionation link to estimate the quality of the dute link extension. Forward term Convention (TTC) codes are used to these and convent the event, as that the original data can be recovered at the receiving out. The performance of Banuming code, Low Donairs Furite Check (LIPC) and and Turbo code are compared based in Sit Error Rate. Simulation is those using MATLAS and it is abserved that LIPC code rabibits low hit areas rate compared to other two codes.

Regression—FSD, SNR, Optical communication, Bit Form Ruo, Assenti, technicolog, Furnació Form Carrection

#### 1 PROPERTY THE

Free Space Optical communication estums (FSO) is a technology that uses us as a modium to transmit rignal from tea and to other end Laun home light can resent in free space without wire from one place to other place. The Free Space Optical (FSO) channel has more capacity than the Radio Frequency path [1] Large member of customers can make use of a and thereby large handwidth applications can be backed [18].

FIG.) evenum is moving in a fast pace in the recent days due its write benefits such as fast and easy installation of the fink, cost time experience, robable sociarity in transmission, ability to transmit move bits per second, displex transmission, and last trails access [2] The Free Space Optical (FSO) technology can transfer very high data bit and also has the ability to transmit audio, video and data. But there are some limitations from which it suffers. Free Space Optical (FSO) technology is aroungly influenced by someone weather conditions like rain, base, for and snow [5-8]. Apart from this the main weather condition to be looked into in the turbulence and scuttering

which degrades the transmitted signal level drastically and unds in large bit error rate or signal level reduction at the securior and. But in real time distortion in laser link comes in the 6-rm of atmospheric turbulence. Its influence degrades the communication link and shoots up the bit error rate. The dogradiation is predominantly due to the noise generated in the alterioric circuits and atmospheric disturbances [2]. Fig.1 shows the general lifecial diagram of F343.

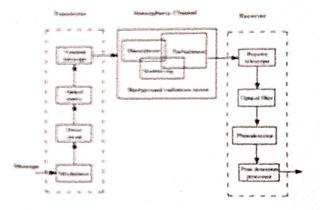


Fig. 1 Disease disagrams of FNO

Visions types of error correcting code are used in Free Space Optical and digital communication network. The codes are Linear block code, Convolution code, Binary cyclic code, The Bose. Chaudhuri, and Hocquenghem(BCH) code, Reed Solomos code, Hamming code, Turbo code and Low Density Parity Check (LDPC) code. All the codes differ from each other on the basis of their implementation and complexity. In order to have a reliable and good communication with a tolerable Bit Error Rate (BER) and good Signal to Noise Ratio (SNR) these codes are used. Forward Error Correction codes are introduced in order to detect and correct a good amount of errors in the communication system, which may arise for the period of transmission of message over the channel. Detection

## A Survey on Wireless Ad Hoc Network

Issues and Implementation

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Abstract- Wireless Ad hoc Network is the collection of wireless mobile nodes (devices) that are able to dynamically form a temporary network without the use of any existing network infrastructure or centralized administration. This paper discusses the roles of ad hoc networking in future wireless communications. In this paper we surveyed the different types of ad hoc networks such as isolated ad hoc networks with large and small sizes and integrated ad hoc networks for the mobile access networks. This paper gives various advantages and applications of ad hoc network. In addition, this paper also surveyed on ad hoc networks challenges in terms of Quality of Service (QoS), power control and security. This work discusses the implementation issues in ad hoc network and performance improvement by MIMO and cognitive radio techniques.

Index Terms—Ad hoc network, isolated and integrated Ad hoc networks, challenges, MIMO, Cognitive Radio, NoC

#### I. INTRODUCTION

An ad hoc network is a group of communications devices or nodes that communicate with each other without fixed (infrastructure) and without pre-determined organization. Hence one can define the ad hoc network as dynamic network. Individual nodes have capacity to communicate directly with other nodes. An ad hoc network can be created by using wireless technologies such as Bluetooth, Wi-Fi etc. such a network is called wireless ad hoc network. Under emergency situation these type of network is very useful to communicate with the service centers. The wireless ad hoc network can be classified as [1]: wireless mesh network, wireless sensor networks, Mobile Ad hoc network, Vehicular Ad hoc network, etc. routing of packets between communication devices takes place through several ad hoc routing protocols which allows the nodes to reach the destination effectively. Following chapters will discuss the different forms of ad hoc network, advantages, applications, MIMO and cognitive ad hoc networks in detail.

## II. DIFFERENT ARCITECTURES OF AD HOC NETWORK

#### A. AD HOC NETWORK- ISOLATED

If all nodes communicate with each other within the same ad hoc network then it is called isolated ad hoc network. The isolated ad hoc network has no link with any infrastructure-based communication network, such as the

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global Internet as shown in figure 1. The classification of the isolated ad hoc networks are:

- > large scale isolated ad hoc networks
- > small scale isolated ad hoc networks.

A large scale isolated ad hoc network may consist of thousands of nodes. It is not suited to transmit huge quantity of data because these types of networks that causes higher security problems, high network architecture costs and very low level traffic performance.

Small size ad hoc networks may have elevated commercial uses in smart home environments, business meeting places, hotspots, and also in some private areas. The promising wireless LAN technologies that enable the small size ad hoc networks are:

- IEEE 802.11
- HiperLAN2
- Bluetooth

#### B. AD HOC NETWORK - INTEGRATED

In this section, smart phone integration of ad hoc networks [2] among Internet are discussed and such scenario is shown in figure.2.

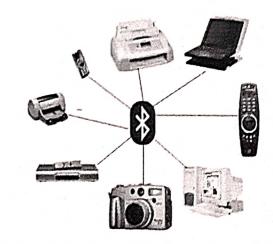


Fig. 1. Isolated ad hoc network

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### Medical Imaging Modalities: A Survey

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Abstract - Now a day's Medical Imaging is playing more and more important role in many clinical procedures and in detecting and diagnosing different human diseases. The interior parts can be reached without really opening too much of the body. The three dimensional view of the body can be viewed and imaged by Ultrasound, Computed Tomography(CT) Scanner and Magnetic Resonance Imaging which took over X-Ray imaging. By using the CT Scanner, body's ailing region can be recognized with ease and this technique cause no pain to the patient. Ultrasound imaging is mostly used to detect and classify abnormalities of the glands. The Ultrasound Imaging is less expensive, invasive, and very easy to use. The Ultrasound Imaging can be done by many image processing algorithms which consist of image pre-processing, segmentation, feature extraction, feature selection and classification. The above mentioned techniques have been summarised in this paper.

Key words - Medical imaging, Image processing, ultrasound imaging, thyroid.

#### 1. INTRODUCTION

Recently, Medical imaging is witnessing a vast revolution with the invention of rapid, more in precision and less invasive instruments. Accuracy in clinical practices and development of equipments is a necessity in medical field. Greater light should be shed to kindle the hidden knowledge from medical large data called big data and more efficient analysis of large data. The hidden data and the relationship of data items help in the medical practices. Medical imaging is taking on an increasingly critical role in health industry as it is striving to lower the costs and to achieve early disease detection.

The technology and process by which the interior parts of the body is visually represented for medical inspection and intrusion is called medical imaging. Medical imaging establishes a database of normal framework for identifying abnormalities. The procedures by which imaging of the organs and tissues that are removed for clinical purposes are the components of pathology. With the advent of high technology and various imaging modalities, more challenges of producing high quality information arises by processing and analysing significant volume of images for disease diagnosis and treatment. Worldwide there has been 5 billion studies conducted on medical imaging till 2010 [1]. About 50% of total ionizing radiation exposure in the United States in 2006 was made up of radiation exposure from medical imaging [2]. Fig. I illustrates a medical imaging system.

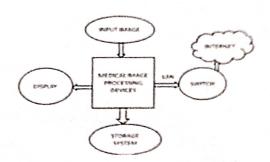


Fig. 1. A typical medical imaging system

#### II. IMAGING MODALITIES

After the 19th century there has been a vast development in the imaging technology. Many imaging techniques were discovered for clinical purposes. These imaging techniques are called as imaging modalities. The imaging modalities are classified as anatomical modalities and functional modalities. Few imaging modalities are shown in Fig. 2.

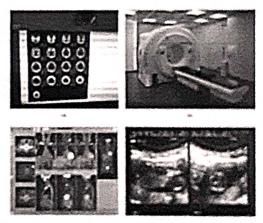


Fig. 2. (a) The results of a CT scan of the head (b) An M83 machine penerates a magnetic field around a perioni. (c) PET scane (d) Ultrasound technology

#### A. Radiosgraphy

After the discovery of X-Rays, medical imaging had heguswith radiography. Badiography is an imaging technique that makes use of the X-Rays, which were used in diagnosisprocedures before the effects that are very humilal his human brings due to the radiation of institution was discovered. Penetration of X-rays made the hady and the absorption of their radiation is differential and depends on the tissue's density. The X-Ray image is produced in the fluorescenaceses or the phinographic filtre by the different densities of

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## Survey on Soft Computing Assisted Controller Driven Insulin Injection Gadget

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Abstract-Soft computing is an sprouting set of methodologies, which aims to exploit tolerance for imprecision uncertainty, and partial truth to achieve robustness, tractability, and low cost. Soft Computing provides attractive opportunity to represent the ambiguity in human thinking with real life uncertainty, Fuzzy logic Neural Networks, and Evolutionary Computation are the core methodologies of soft computing. However, Fuzzy Logic, Neural Network, and Evolutionary Computation should not be viewed as challenging with each other, but synergistic and complementary, instead. Soft Computing is actually the combination or fusion of each methodology which yields new computational capabilities (hybrid systems). In this paper a closed-loop control algorithm is developed for blood glucose regulation in type I diabetes mellitus patients. The control skill incorporates expert awareness about treatment of disease by using Mamdani-type fuzzy logic controller to alleviate the blood glucose concentration in normoglycaemic level of 70 mg/dl. Controller performance is assessed in terms of its capability to reject the multiple meal disturbances resulting from food intake, on an averaged nonlinear patient model. Robustness of the controller is tested over a group of patients with model parameter varying considerably from the average model. In addition, proposed controller provides the possibility of more perfect control of blood glucose level in the patient regardless of ambiguity in model and measurement noise

Key words: Soft computing, Fuzzy Logic, Neural Network, Evolutionary Computation, Insulin Pump

#### I. INTRODUCTION

Soft computing is a division, in which, it is tried to erect intelligent and wiser machines. Intelligence provides the influence to enlarge the answer and not simply disembark to the answer. Simplicity of thinking, machine intelligence, liberty to work, proportions, difficulty and fuzziness managing capability enlarge, as we go higher and higher in the hierarchy. The final aim is to develop a device which will work in a similar way as human beings can do, i.e. the perception of human beings can be simulated in computers in some artificial manner. Sensitive awareness intelligence is also one of the significant areas in the soft computing, which is always refined by indication this is indeed, an extraordinary challenge and virtually a new phenomenon, to include awareness into the computers.

#### II. SOFT COMPUTING TECHNIQUES

Soft computing is defined as a set of techniques across many fields that fall under different categories in computational intelligence. Soft-computing has three main branches fuzzy Systems, evolutionary computation, artificial neural computing, with the final subsuming machine learning and probabilistic reasoning, belief networks, chaos theory, parts of learning theory and wisdom based system etc..

#### III. COMPONENTS OF SOFT COMPUTING

#### I. A. Support vector machine

Support vector machines are supervised learning models with coupled learning algorithms that examine data and recognize patterns, used for arrangement and regression analysis [1]. Given a set of training examples, each marked for belonging to one of two categories, an Support Vector Machine training algorithm builds a model that assigns new examples into one category or the other, making it a non-probabilistic binary linear classifier. A Support Vector Machine model is a illustration of the examples as points in space, mapped so that the examples of the separate categories are divided by a clear gap that is as thick as feasible.

1) History: The original support vector machines algorithm was invented by Vladimir N.Vapnik and Alexey Ya. Chervonenkis in 1963. In 1992, Bernhard E. Boser, Isabelle M. Guyon and Vladimir N. Vapniksuggested a way to create nonlinear classifiers by applying the kernel trick to maximum-margin hyperplanes[2]. The current standard incarnation (soft margin) was proposed by Corinna Cortes and Vapnik in 1993 and published in 1995[1].

2) Motivation: Classifying data is a common task in machine learning. Suppose some given data points each belong to one of two classes, and the target is to choose which class a new data point will be in. In the case of support vector machines, a data point is viewed as a P-dimensional vector, and we want to know whether we can separate such points with a (P-1) mensional hyper plane. This is called a linear classifier. There are many hyper planes that might organize the data. One reasonable choice as the best hyper plane is the one that represents the largest separation, or margin, between the two classes. So we choose the hyper plane so that the distance from it to the nearest data point on each side is maximized. If such a hyper plane exists, it is known as the maximum-margin hyper plane. The linear classifier it

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### A Survey on Smart Grid

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Abstract-Smart Celd (bil) is the vising technology which defines the moderntowner of electrical good by implementing communication terology to both. With the world booking for a director energy bil, is no repunding research topic there doubt energetically with the present problems and known challenges. The important presponder of masse grid are distincts energy of electricity, monitoring and advanced prescription and production standards principally and advanced prescription and production standards principally in the backham of books (Celd and the across trias in highlight the evaluable communication isobooksgive for emery grid application. The energy discusses according in amore grid, amore microsing technology as well as most autuable whether remnantication technologies used for this persons.

Indica terms—Advanced matering infrastructures (AMIS, Lucal Aces November (LAN), Wide Area Natural (MAN), Blume Aces Natural (MAN).

#### I INTRODUCTION

SMART GRID (SG) is an electric gral that uses information and communication technology to gather data and act on information about the behaviour of suppliers and communication are behaviour of suppliers and communers in an automated fushion. The current power network was designed as a controllered system such that the electric power flows undirectional from sufe to mide transmissions and distribution lines from power plants to the customer promises. The intelligence is concentrated in control because and only partially in substantions, while remove terminations (i.e., leads) are almost or totally passive. The new systems would provide higher and widely distributed intelligence embedded in local electricity production, two-way electricity and information flows, thus achieving reliable, flexible, efficient economic and secure power delivery and use.

The operation process of electrical grid has not distorted in great level since its improvement over 100 years ago, even though there is huge developments and modification in the field of science and technology. Leternationally, the use and require of energy is increasing day by day and the electrical grid is one of the major elements which supplies energy to the consumers but the present electrical grid has lots of unsolved instan. Which finant grid tree to resolve. The non-renewable sources which generate energy are denoted nowadays because they derectly supply to emission of greenhouse gases.

The end more which are the final consumers of electricity are somewhat not participating in the electricity market because of lack of modernization in traditional grid. The lack of good electric storage device that can store energy for more duration of time results to the fritter away of generated energy, in the same time some needy consumers are disadvantaged of this exhausted energy because of lack of information shared.

There are many emparements in electrical distribution in 21's contary which cannot be addressed by traditional grid, that's why the medicentiation in traditional grid is necessary. In Fig. 1, the expressest electricity flows in power grid. In this SG possiligm, every domain encompasses several actors as well as blue series-lines show bidirectional communication links among these domains and the red dotted lines show electricity flow in grid.

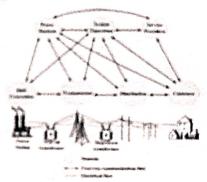


Fig. 1. Seroractions among different smart grid domains.

In this SG concept, such domain encompasses several actors and applications. Actors contain devices or systems that make decisions and exchange information necessary for implementing SG applications. On the other hand, applications are the tasks performed by one or more actors within a domain. Whenever energy demand occurs, the customer has to exchange information with power markets, service providers, and delivery domains. The power market involves energy tende and it exchanges information with all domains to equilibrium supply and demand. Service providers offer the services to support business activities of power producers, distributors and customers.

System operators exchange information with all domains to provide smooth operation of the complete system. With market and operation information, the generation domain, transmission domain, and distribution domain work together to distribute power to the customer domain.

In this chapter there is some key terms are that need to be discussed. These key terms are determined below.

Throughput - Describes the rate of which data packets or data that is effectively transmitted over the communication link or path. This rate is usually presented in bits per second (bit/s). The throughput is generally slower than the advertised

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## A Survey on wireless communication

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Abstract: Both wireless communication networks and handheld procedure have nonstop their rapid realistic development, supporting a growing focus on increased end-user effectiveness and new opportunities for convincing wireless applications in many aspects of people's lives. The advances in cellular network air interfaces and communications has included improved data rates, spectral efficiency, and wider bandwidths, with more recent focus on the efficient support of various types of network heterogeneity. Wireless operator deployments of Wide Area Network (WAN) macro cells are now being coordinated with intended lower power Pico-cells and also allowing for the addition of unexpected but auto configuring user-deployable indoor femto cells. These varying sized cells are optimized to accomplish both high capacity and good coverage, sharing the same licensed spectrum to meet the high bandwidth needs of users who might be vey tightly packed at a large sporting event, moderately clustered in an office or mall, or more geographically isolated.

Key word- wireless communication, WAN, Wireless Local Area Network (WLANs), Wide Personal Area Networks (WPANs).

#### I. INTRODUCTION

Wireless communications maintain to be fond of exponential growth in the cellular telephony, wireless Intimate, and wireless home network area. The wireless networks, include Wireless Local Area Networks (WLANs) and Wireless Personal Area Networks (WPANs) a list of communications acronyms. WPANs are differentiating from the WLANs by their smaller area of coverage, and their ad-hoc-only topology. It was a small-size, low-power, inexpensive network, with modest bandwidth, which related personal. Motivated by this development, a WPAN group started in 1997 as a part of the standardization group list of communications organizations. The group has been answerable for set the standards in wireless LANs, focus on the bottom-two layers of the Open System Interconnect model a similar effort is being conducted by for the wireless PANs.

#### II. EVOLUTION

Wireless technology has a long history, and it began around the time that James C. Maxwell theoretically predicted and then prove the continuation of electromagnetic waves in the 1860s, and when Heinrich R. Hertz experimentally confirmed the real existence of the electromagnetic wave in 1888. In 1895, Guglielmo Marconi succeeded in getting Morse code on a radio wave transmitted by a spark-gap transmitter with a

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receiver 2.4 km away. This experiment demonstrated the basic idea and structure of wireless communication today. After that, research into wireless communication was highly developed mainly for military use, and a variety of wireless technologies were developed and improved. Wireless communication was also expanded on a commercial source in the area of broadcasting, one of the major applications of wireless communication. Radio broadcasts ongoing in the first half of the 20th century and TV broadcasts started in the second half. Since the late 1980s, wireless communication has been widely used in mobile phones and other mobile terminals by individuals as these technologies, principally in semiconductor and software, have rapidly developed in line with the extend of the new infrastructure of the Internet. These are also even varying models of business and social life.

#### III. WIRELESS COMMUNICATION

Wireless communication is, by any evaluate, the fastest growing segment of the communications industry. As such it has captured the attention of the media and the imagination of the public. Cellular systems have qualified exponential growth over the last decade and there are currently around two billion users worldwide. Really, cellular phones have become a critical business tool and part of everyday life in most developed countries, and are rapidly sub planting antiquated wire line systems in many developing countries. Many new applications, including wireless sensor networks, automated highways and factories, smart homes and appliances. However, many technical challenges remain in designing robust wireless networks that deliver the performance necessary to support emerging applications.

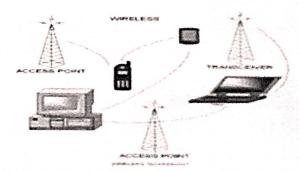


Fig 1. Wireless Communication

## A Low-Power Multiplier with the Spurious Power Suppression Technique

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#### Abstract

This paper provides the experience of applying an advanced version of our former spurious power suppression technique (SPST) on multipliers for high-speed and low-power purposes. To filter out the useless switching power, there are two approaches, i.e., using registers and using AND gates, to assert the data signals of multipliers after the data transition. The SPST has been applied on both the modified Booth decoder and the compression tree of multipliers to enlarge the power reduction. The simulation results show that the SPST implementation with AND gates owns an extremely high flexibility on adjusting the data asserting time which not only facilitates the robustness of SPST but also leads to a 40% speed improvement. Adopting a 0.18- m CMOS the proposed SPST-equipped technology. multiplier dissipates only 0.0121 mW per MHz in H.264 texture coding applications, and obtains a 40% power reduction.

Index Terms—H.264, low-power, multiplier, spurious power suppression technique (SPST).

#### I. Introduction

Lowering down the power consumption and enhancing the processing performance of the circuit designs are undoubtedly the two important design challenges of wireless multimedia and digital signal processor (DSP) applications, in which multiplications are frequently used for key computations, such as fast Fouriertransform (FFT), discrete cosine transform (DCT), quantization, and filtering. To save significant power consumption of a VLSI design, it is a good direction to reduce its dynamic power that is the major part of total power dissipation.

The designs are existing works that reduce the dynamic power consumption by minimizing the switched capacitance. The design proposes a concept called partially guarded computation (PGC), which divides the arithmetic units, e.g., adders, and multipliers, into two parts, and turns off the unused part to minimize the power consumption. The reported results show that the PGC can reduce power consumption by 10% to 44% in an array multiplier with 30% to 36% area overheads in speech related applications. Design proposes a 32-bit 2's complement adder equipping a master-stage flip-flop and a slave-

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#### LOW COST HYBRID SOLAR CAR CONCEPT

A technique that challenges the conventional cars in efficiency and usability

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Abstract— This work, is focused on an idea about hybrid solar car technology which solves the major problem of fuel and pollution in present days. To determine how feasible widespread change to hybrids would be in future with all information taken into account, it is concluded that hybrids have several advantages as fuel efficient, low pollution. In the present work a complete experiment of hybrid solar car has been prepared using small car. After complete analysis of this car the bear capability of load, stress, and strain of front & rear collision of car frame are found. A complete data analysis is to be done to examine the technical aspects of the hybrid car technology. On the whole, hybrid technology has a lot of potential in industries today and therefore it can lead to new solutions. However let's find a solution.

Keywords - Hybrid solar vehicle, solar energy, IC engine, Electric operated system

#### I. INTRODUCTION

The use of hybrid solar car can be efficient in our daily life because nowadays pollution and fuel rate are very big problems. Many people are using fuel cars. Use of solar energy is done for car, besides the control of vehicular pollution in the city, less consumption of fuel. Hybrid solar cars are effective in reducing global warming and environment problem in big frame. In the present work, the objective is to estimate the potential of both energy & PV energy and mechanical engine power and to implement a new car or a conventional old car. The hybrid solar car is one of the potential items for weight reduction as it accounts for 5% - 10% of the weight. Various advantages for hybrid solar car by using this technology are mentioned as follows

- 1. It helps to reduce the conventional car demand in urban city.
- 2. It helps to minimize the pollution problem in urban city.
- It helps to provide clean energy which will reduce the carbon dioxide emission every month.
- 4. It also helps to importantly reduce the fuel demand.

A hybrid car is a vehicle which uses three power sources such as solar energy with electric motor, electrical operation and a small combustion engine to run a car.

They are slowly gaining popularity with the auto buyers because they are seeing the benefits that owning a car will help them to reduce their carbon emission and is also energy efficient. It also makes the environment clean.

In this paper, we are going to create a design of hybrid solar car by using a remote controlled toy car to measure the solar efficiency. After that we can perform using a conventional car. Modelling is done on a remote controlled toy car or on an old conventional car.

#### II. LITERATURE REVIEW

In this paper, I am going to present a detailed study of optimal sizing, fuel consumption of a solar car based on a longitudinal vehicle dynamics mode and energy flow, weight, overall cost of vehicle. It is shown that fuel saving can be achieved for intermittent use with average power and economic feasibility.

Hybrid Solar Vehicles (HSV), derived by integration of Hybrid Electric Vehicles with Photo-Voltaic sources, may represent a valuable solution to face both energy saving and environmental issues, particularly in urban driving. This paper also focuses on general, the technological issues and challenges ahead of plug-in hybrid electric vehicles in relation to major components which can be used for design consideration and selection of component for electric motor and battery bank, control strategy.

Our technical challenge is that most of the normal solar cars are built using light weight carbon fibre materials. Using this tech in conventional car body platform and improving efficiency is a riskier task. Also we are in a situation to investigate the use of photovoltaic systems as auxiliary power generators in hybrid and electric vehicles.

This technology provides yet unexploited possibility with the advantages of a new power source, which is light, noiseless, maintenance-free and continuous working operation. A notable reduction of air emissions can be achieved through a synergy of various technological breakthroughs, such as the method we present of introducing photovoltaic arrays and additional electrochemical energy storage capacity in vehicles. Solar cars

#### A STUDY ON SELF-MONITORING GLUCOSE SENSING WITH MULTI-PARAMETRIC SURFACE PLASMON RESONANCE

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#### Abstract:

Diabetes is a metabolic disease and in an ideal diabetic diet, a number of factors must be taken into consideration, including the amount and type of carbohydrates consumed as well as the amount of fiber, fat, and protein contained in foods. Glycemic index and glycemic load are further considerations. Foods with low glycemic index and load raise blood sugar more slowly than high glycemic index / load foods. In turn the glycemic index refers to a standardized measurement, while glycemic load takes a typical portion size into account. The total daily calories are evenly divided into three meals. By the Electrochemical Glucose Measurement electrically coupling glucose oxidase to nanoscale carbon structures modulates the electrical resistance of the structures. Many researches do their work on all add-on devices that could allow the smart phone to take pregnancy tests or monitor diabetes. A smart phone can be combined with a tiny sensor and wearable insulin pump, for pancreas to monitor the blood-sugar levels and to deliver insulin as needed. So this can be the future to monitor the diabetes foe evaluating the treatment. One among the technique is Multi-Parametric Surface plasmon resonance (MP-SPR) binding analysis methodology is used to study molecular interactions The Biosenser can determines the presence and concentration of a specific substance in any test solution. Biosensors can be incorporated with the add-on devices an it can be monitored according to the necessary period of time .With this usage we can have the better sensitivity, reproducibility, and easy maintenance as well as their low cost. Index Terms: Blood glucose, Diabetes mellitus,

Electrochemical Glucose Measurement, Self-

monitoring of blood glucose, MP-SPR Biosenser

#### I. INTRODUCTION

A biosensor is a device that combines a biological recognition element together with a transduction system for the detection of a specific analyte. The biological component can comprise species such as a redox protein or enzyme, an antibody, a whole cell or a DNA strand and serves the purpose of imparting specificity to the sensor. The first biosensor, for the measurement of glucose was developed by Clark in 1962 and subsequently developed commercially with the first product released in 1973. Later then there have been an enormous number of reports on biosensors [3].

Biosensors are analytical tools for the analysis of bio-material samples to gain an understanding of their bio-composition, structure and function by converting a biological response into an electrical signal. The biological response of the biosensor is determined by the biocatalytic membrane which accomplishes the conversion of reactant to product. Immobilized enzymes possess a number of advantageous features which makes them particularly applicable for use in such systems. They may be re-used, which ensures that the same catalytic activity is present for a series of analyses. In an electrochemical cell, the oxidation can take place at the surface of an electrode, releasing electrons into an electrical circuit, which can be measured as a current [1].

#### II. GLUCOSE DETECTION

The concentration of glucose can be determined easily using HPLC and is usually performed in this manner in fermentation systems etc. Such methods clearly do not lend

# IMPLEMENTATION OF HYBRID BI-DIRECTIONAL DC/DC CONVERTER IN MICROGRID

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#### Abstract:

High efficiency power is attained using hybrid bidirectional DC-DC converter in micro-grid system. Hybrid bidirectional dc/dc converter is based on photovoltaic (PV) and wind system that are driven by permanent magnet synchronous generator are fed to the grid through common single boost converter. A battery that connected to the bidirectional dc/dc converter charges from grid and discharges through grid to the load. Model of the proposed scheme in d-q axes reference frame is developed. Steady-state performance of the system and transient response of the controllers are also presented to demonstrate the successful operation of the new hybrid system. Simulation results are given to validate the simulation model.

**Keywords:** Bidirectional dc/dc converter, boost converter, micro grid, Photovoltaic, wind system.

#### I INTRODUCTION

The electricity requirements of the world including our nation are ever-increasing at frightening speed and the power demand has been running at the forefront of supply. It is also now widely known that the renewable and nonrenewable energy resources, presently being used for generation of electrical energy, are not sufficient to bare the demand of electrical energy of future needs. We need to solve this problem by developing a new kind of hybrid system to generate electricity which provides energy for 24X7 hours with power quality and pollution free. With increasing concern of global warming and the depletion of fossil fuel reserves, many are looking at sustainable energy solutions to preserve the earth for the future generations. Wind and photovoltaic energy holds the most

potential to meet our energy demands. Wind energy is capable of supplying large amounts of power but it is predictable by turbine only at 12m/sec. Similarly, solar energy radiation throughout the day vary due to sun intensity and unpredictable shadows cast by clouds, birds, trees, etc. As the wind and photo voltaic system depends on meteorological conditions, we cannot fully depend on them, because of their reliability. However, by combining these two intermittent energy sources and by incorporating Maximum Power Point Tracking (MPPT) algorithms, the systems power transfer efficiency and reliability can be improved significantly. The rest of the paper is organized as follows: section II describes the background and related works; section III describes about the proposed hybrid system.

#### II BACKGROUND AND RELATED WORK

Corresponding to developing technology, demand of energy makes us seek new energy sources. Wind and solar energy have being popular ones due to its availability and convertibility to the electric energy. Prior work covers under a microcontroller to utilize the solar and wind power and implemented in accordance with available line-electricity. Batteries are charged by either wind power or solar power. The whole System control confide mainly on microcontroller. Separate boost converter is connected to solar and winds to step up the voltage. Large number of power converters is used to generate quality power.

Shuai Jiang et. Al, 2012 presented a novel boost-half-bridge micro inverter and its control implementations for single-phase grid-connected photovoltaic systems. Their systems consists of a

## Simulation of three phase five-level neutral clamped inverter (NPC) for Induction motor

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#### Abstract:

This paper presents a control for a three phase five-level neutral clamped inverter (NPC) for induction motor connected. The maximum power point tracking (MPPT) is capable of extracting maximum power from the each DC link voltage level. The MPPT algorithm is solved by fuzzy logic controller. The fuzzy MPPT is integrated with the inverter so that a DC-DC converter is not needed and the output shows accurate and fast response. A digital PI current control algorithm is used to remain the current injected into the induction motor sinusoidal and to achieve high dynamic performance with low total harmonic distortion (THD). The validity of the system is verified through MATLAB/Simulink and the results are compared with three phase three-level grid connected NPC inverter in terms of THD.

**Keywords:** Three phase five-level neutral clamped inverter; Maximum power point tracking (MPPT); Total harmonic distortion (THD)

#### I. INTRODUCTION

In recent years, the use of direct current energy resources instead of pollutant fossil fuels and other forms has increased. Any generation is becoming increasingly important as a direct current resource since it does not cause in fuel costs, pollution, maintenance, and emitting noise compared with other alternatives used in power applications. Higher power equipments require higher voltages, which limit the maximum DC voltage level.

Therefore a new family of multilevel inverters has emerged as the solution for solar applications, as the DC is directly connected to

each level of the DC link. Different types of topologies are presented in the literature (Rodriguez et al., 2002; Colak et al., 2011). This paper uses the NPC topology since. Capacitance (Hussein et al., 1995), constant voltage (Hsiao and Chen, 2002), neural network (Hiyama and Kitabayashi, 1997), it has the advantages such as: (i) DC-link capacitors are common to three phases. (ii) Switching frequency can be low and (iii) reactive current and negative phase sequence current can be controlled.

Several methods of modulation techniques such as selective harmonic elimination PWM, sinusoidal PWM, space vector modulation, sigma delta PWM, closed loop modulation techniques exist to control the inverter (Colak et al., 2011).

The amount of power generated by a PV generator depends on the operating voltage of the PV array. The maximum power operating point changes with insolation level and temperature. The PV system operates at its highest efficiency at the maximum power point (Villalva et al., 2009a). In order to increase the efficiency, MPPT controllers are used. Such controllers are becoming an essential element in PV systems.

Different tracking control strategies such as perturbation and observation (Hua et al., 1998), incremental conductance (Won et al., 1994), parasitic and fuzzy logic control (Senjyu and Uezato, 1994) have been proposed to extract maximum power from the PV array. In this paper, an intelligent control technique using fuzzy logic control (FLC) is associated to an MPPT in order to improve energy conversion efficiency under different environmental conditions (Won et al., 1994).

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# Implementation and Control of Multiple Input Single Converter Battery Charger for DC Nanogrid Applications

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#### Abstract:

In this paper a Multi input single converter battery charger is presented. Nowadays due to power failure, there is a great usage of UPS systems in our homes or in industries which leads to a great problem to the consumers. The amount of DC loads used in our buildings such as computers, televisions, mobile phones, induction based appliances and other electronics are increasing day by day. To meet out the concern renewable power and storage have made DC based distribution an attractive alternative solution. By using dc sources it is necessary to use converters. If using multiple sources it need separate converters for each stage. This multi input single converter reduce the system size and cost by reducing the number of components. In addition some other advantages are the system is reliable and its dynamic performance due to centralized control. The system is suitable for applications such as hybrid automobile charging and in residential buildings. The design circuit, performance of different operating modes, simulation results using Proteus software is presented here.

**Keywords:** Renewable energy sources, DC-DC converter and PI controller.

#### I. INTRODUCTION

Energy is a fundamental aspect to people's life, and is essential not only for individuals but also the fact for various sectors. It can be supplied from various resources which can be divided into two categories; renewable and non-renewable sources. Typical examples of non-renewable energy sources are petroleum, coal, and natural gas. As for renewable sources, these include energy generated from wind, solar, wave, fuel cell, geothermal, biomass and hydro. Both renewable and non-

renewable energy sources can be used to produce energy sources including electricity and hydrogen. Solar and wind energy which are non-pollution, free in their availability and renewable are considered as a promising power sources. In recent days, the number of applications which require more than one power source is increasing. Distributed generating systems or micro-grid systems normally use more than one power source or more than one kind of energy source. Also, to increase the utilization of renewable energy sources, diversified energy source combination is recommended. The combination of more power sources and diversified power sources make it possible to obtain higher availability in a power system. Nowadays power electronics is covering a wide range of industrial and commercial applications, including computers, mobiles, telecommunication, aircraft, and transportation, information processing and power utilities. Renewable energy usage has been increasing day by day scenario. And by the parallel connection of converters has been used to integrate more than one input energy source in a power system. However this converter can generally have the following advantages compare to a combination of several individual converters like cost reduction, compactness, more expandability and greater manageability. Consumption of electricity has been rising at fastest rates in the world owing to growing population and Our economy has economic development. been put forth to increasing challenges since energy supply is struggling to meet the demand and there are energy shortages almost

#### SMART TRACKING SYSTEMS FOR DOMESTIC CONSUMERS

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#### Abstract:

The motivation to manage energy usage at residential home in India is influenced by economics environment condition and technical reasons. Economically, it offers reduction of government subsidies and electricity bill. The environment condition aspect enables reduction of CO<sub>2</sub> level. We can limit the power supply to the home by pre-default setting the value to be consumed, so that energy can be managed by limiting. The power management system is consists of Digital Power meters installed in every consumer unit and an Electricity e-Billing system at the energy provider side.

Wireless sensor network to send its power usage reading using information back to the energy provider wirelessly. At the power provider side, they have the control to change priority of the devices when power distributed in low range. Human operator billing or prone to reading error as sometime the houses electric power meter is place in a location where it is not easily accessible. The concept of dynamic assignment of priorities to interrupts is discussed which reduces the time delay for a lower priority task which under some circumstances becomes a higher priority task. Slicing of interrupt timings is also discussed which can be used to improve the performance.

The highest priority task is serviced more number of times and with lesser time period. Hence it need not wait for the slack time of other previously higher priority interrupts. If power will be less in grid, automatically power will be manage.

Our proposed system when low power generation automatically goes to power management. All the devices controlled depends upon the priority based and timing based control the devices when low power generation.

#### I. OVERVIEW OF EMBEDDED SYSTEMS

An embedded system is a special-purpose computer system designed to perform one or a few dedicated functions, often with real-time computing constraints. It is usually embedded as part of a complete device including hardware and mechanical parts. In contrast, a general-purpose computer, such as a personal computer, can do many different tasks depending on programming.

Embedded systems have become very important today as they control many of the common devices we use. Since the embedded system is dedicated to specific tasks, design engineers can optimize it, reducing the size and cost of the product, or increasing the reliability and performance. Some embedded systems are mass-produced, benefiting from economies of scale. Embedded systems range from portable devices such as digital watches and MP3 players, to large stationary installations like traffic lights, factory controllers, or the systems controlling nuclear power plants. Complexity varies from low, with a single microcontroller chip, to very high with multiple units, peripherals and networks mounted inside a large chassis or enclosure.

In general, "embedded system" is not an exactly defined term, as many systems have some element of programmability. For example, Handheld computers share some elements with embedded systems such as the operating systems and microprocessors which power them but are not truly embedded systems, because they allow different applications to be loaded and peripherals to be connected.

#### II. BLOCK DIAGRAM OF AN EMBEDDED SYSTEM

An embedded system usually contains an embedded processor. Many appliances that have a digital interface microwaves, VCRs, cars utilize

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Department of Mechanical Engineering

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Send all correspondence to: The Organizing Chair

NCRAME-16

Department of Mechanical Engineering

Kings College of Engineering.

E-mail: ncrame2016@gmail.com

#### LIST OF RESEARCH ARTICLES

#### National Conference on Recent Advances in Mechanical Engineering – 2016

	TECHICAL SESSION 1
NCRAME 01	Experimental investigation of geometrical effect on hds-11 dry and wet condition in CNC drilling with various process parameters
	M.Karthikraja,, V.Kalaiyarasan
NCRAME 02	Experimental investigations and weld characteristics of single pass semi- automatic TIG welding with dissimilar stainless steels
	K.Subbaiyan, V.Kalaiyarasan
NCRAME 03	Experimental investigation and optimization of machining parameters for EDM using graphite electrode on Inconel 600
TVCTCTIVIL 03	G.Pragadeeswaran,V.Kalaiyarasan
NCRAME 04	Experimental investigation of friction stir welding dissimilar alloys using computerized numerical control machine
TVCIMIVIL 04	N.Ramanujam, V.Sivaramakrishnan, D.Balaji
NCRAME 05	An experimental investigation on heher surface property and process parameter on CNC milling machine
TVCTCTIVIL 05	R.Arunmozhivarman, V.Kalaiyarasan
NCRAME 06	Design of toy car compression plate core and cavity
NCKAME 00	I.Elamaran
NCRAME 07	Developing a model for institutional capacitated vehicle routing problem
NCKAME 07	D.Yogendran
NCRAME 08	Effect of surface roughness on titanium alloy in cnc-wedm using response surface methodology.
	S.karikalan, J.Prabakaran,
NCRAME 09	Effect of surface roughness on aa6061 with titanium nickel composite fabricated via friction stir processing
NCKAME 09	M.Pradeep,N,Mahesh

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#### Proceedings of NCRAME-2016 / Kings College of Engineering

NCD AME 10	Fuels for future splitting of hydrogen from water by carbon-graphite method	
NCRAME 10	Venkatesh. S, Mathan. S, M.Babu	
	Experimental investigation on the effects of acetone additive with cashew nut shell liquid bio-oil blends in diesel engine	
NCRAME 11	T.Pushparaj, P.P.Shantharaman	
	Finite element analysis of welding induced residual stresses for duplex stainless steel weld joint using contour method	
NCRAME 12	V.Vijayakumar, G.Mathivanan	
TECHICAL SESSION 2		
NCRAME 13	Metallurgical investigations of pulsed nd: yag laser welding on austenite steel sheets-ss316	
	B.Ram vignesh, V.Kalaiyarasan	
NCRAME 14	Determination of more influencing geometrical parameter of spring back angle on wipe bending of sheet metal using response surface regression	
NCKAME 14	Sowndarapandiyan. V, Loganathan.V	
NCRAME 15	The comparative study on performance and emission characteristics of cotton seed oil and rice bran oil methyl esters in compression ignition engine	
IVERAIVIE 13	C.elajchet senni ,R.Raj mohan	
NCRAME 16	A comprehensive analysis of the latest technologies for controlling nox and sox emissions in mobile and stationary sources and their scope for improvement	
IVERAIVIE 10	Arun M, Ramesh, K. Jothibasu	
NCRAME 17	Process optimization and experimental investigation on the performance of di engine fuelled with mahua fatty acid methyl ester and its blends	
IVCIANIL 17	S. Dhakshinamoorthya, S.Thulasiramb	
NCRAME 18	Design of toy car compression plate core and cavity	
	I.elamaram, S. S. Vetrivel, P. Malaiselvaraja	
NCRAME 19	Experimental investigation of aluminium alloy reinforced with Zrsio4 – b4c by using amc's	
NCKAME 19	N.Anatharaman, V. Vinoth kannan	

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#### Proceedings of NCRAME-2016 / Kings College of Engineering

NCRAME 20	Optimization techniques for concentrating solar system A review report
	M.Babu
NCRAME 21	Optimum design of dynamic vibration absorber for boring process
IVCIVILIZI	V.Brahadeeswaran ,R.Suriyamurthy
NCRAME 22	Influence of friction stir welding parameters on microstructural and mechanical properties of dissimilar aa6061 and aa7075 alloy joints
NCRAME 22	M.Melwin Jagadeesh Sridhar, B.Adichelvan
NCRAME 23	Effect of molasses as a blending agent with metonal gasoline fuel engine emission
IVCIVILIZE	H.Agilan, R.Shankar
NCRAME 24	Design and fabrication of solar water heater
INCRAIME 24	T.Tamilselvan ,T.Muralidharan , K.Jothibasu
NCRAME 25	Experimental investigation on emission characteristics of a diesel engine using sunflower oil and diesel blends.
	Mrs.K.R.Kavitha, Mr.R.Suriya Murthy, Mrs. Lilly Mercy

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### E-R-K-ARTS AND SCIENCE COLLEGE

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# ROYAL ALFRED NOBEL ASSOCIATION PC & RESEARCH DEPARTMENT OF CHEMISTRY

NATIONAL CONFERENCE
Ou





This is to certify that Dr./Mr./Ms.P. SARAVANAN, Agricant Professor of Chemistry of	
Kings College of Frain conned. Yung Kungan Trangayur has attended the Conference and Tresented in	
Paper entitled Dyeing of polyester with Eco-Friendly Natural due Obtained from Barks in the On	- :-:
of Odina Wadier	-
Day National Conference on the topic "Chemistry of Heterogeneous Emerging Materials" organized by Roya	
Alfred Nobel Association, PG and Research Department of Chemistry, E.R.K Arts & Science College held on August 19, 2016	

Mr. M. SIVAKUMAR
Organizing Secretary

Mr. D. SAKTHI Convener

Dr., A., PALVANNAN Patron



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#### 1<sup>st</sup> International Conference on Environment, Climate Change, Adaptation and Future Energy

(ICECAFE - 2016)

Certificate

This is to certify that Mr./Ms. A.L. Koultha. of Kings College of Engineer presented a paper (Oral/ Poster) entitled Study of Tolegaction of Y-Fe Co. Chinate Change, in the 1st International Conference on "Environment, Climate Change, Adaptation and Future Energy" (ICECAFE - 2016), organized by the Department of Science and Humanities, Dhanalakshmi College of Engineering, Chennai in technical collaboration with India Meteorological Department, Government of India, Chennai during 20-22 October, 2016.

Dr K Nagajyothi Convener

Dr C Ramesh Babu Durai Principal Dr V P Ramamurthi Chairman



## TEQIP II sponsored National Conference on

# Research Advances in Materials Science and Applications



Organized by

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ANNA UNIVERSITY

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TIRUCHIRAPPALLI – 620 024



Jr. /Mr. /Mrs. S. UDAYAKUMAR AP/ Chamistry

Jelngs Colloge of Engineering Than javus has

participated / presented a research article titled Structural, And Thermal Studies of Cobalt

popad Hexogonal Zna. By Simple Chamical Precipitation Method

prize in RAMSA'16

held on 19th & 20th August, 2016.

Mr. S. Moscow Coordinator Dr. R. Thiruneelakandan

Dr. R. Thiruneelakandan
Convener

Dr. P. Suresh Kumar

Coordinator, TEQIP

Dr. T. Senthil Kumar

302



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Dr. /Mr. /Mrs. V. SURESH KUMAR AP/	Chemisky of
Dr. /Mr. /Mrs. V. SURESH KUMAR. AP/  JKings College of Engineering  participated / presented a research article titled. A company	Thanjavur has
derivatives on corraien by weight homekind wo	
held on 19th L 20th August, 2016.	and the same of the same

Mr. S. Moscow Coordinator

Dr. R. Thiruneelakandan
Convener

Dr. P. Suresh Kumar

Coordinator, TEQIP

Dr. T. Senthil Kumar





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# <u>Certificate</u>

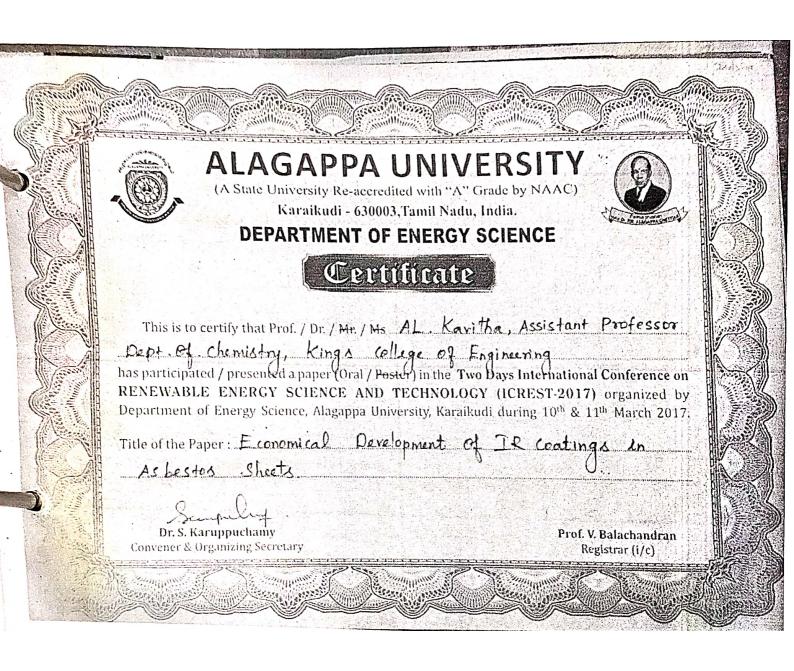
This is to certify that Dr/Prof/Mr/Ms. P. Sarravanan, Kings College of Engineering, Thanjavur, Tamilnadu, India. has actively Participated/Presented paper on Technology - Enabled, Eco-Friendly Modes of Effective Parent-Teacher Communication Supporting Student Progression. in the 46th ISTE Annual National Convention and National Conference organized by Gulzar Group of Institutes, Ludhiana (Punjab).

Er. Kanwar JS Gill Organising Secretary Convention & Dean (Research & Development), Head (Deptt. of Mech. Engg.) GGI, Ludhiana

Prof. Dr. Vijay Athavale ganising Chairman Convention Campus Director GGI, Ludhiana

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### INDIAN SOCIETY FOR TECHNICAL EDUCATION (ISTE)

19th ISTE TN & P Section Annual Convention for Faculty Members of Engineering Colleges - 2016

#### CERTIFICATE

This is to certify that Pr/Mr/Ma. T. GINANA JEYA.

ul

TRINGIS COLLEGIE OF ENGINEERING ACTIVITY BAGED LEARNING APPEARCHES IN HANDLING ENGGMATHEMATICS ENLIGHBLE TO THE HANDLING

has presented paper titled

ENGG MATHEMATICS ENHANCING PROBLEM SOLVING / participated in 19th 18TH TN & P. Section Situs
Annual Convention for Faculty Members of Engineering Colleges - 2016 (Theme: "Internationalization of

Bingineering Biducation - Empowering the Puture") organized by Dr.N.G.P. Institute of Technology.

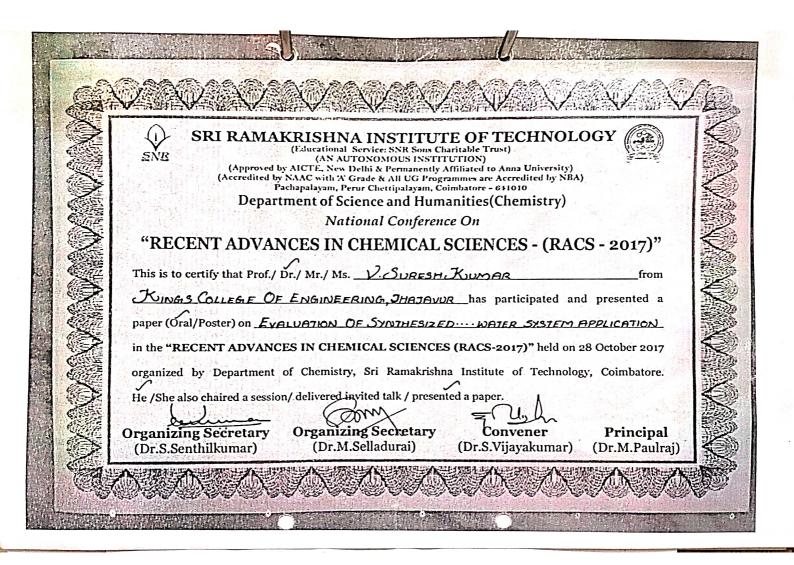
Colmbatore -641 048 during December 2 & 3, 2016.

Dr.S.Surect Moder Onganizing scenerary

Dr.K.Porkumaran Onganizing chaluman

Dr.K. Conosoo Secretary esternary

Dr.A.K.Hatusan Chairman-isti mai



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# DEPARTMENT OF MATHEMATICS

#### CERTIFICATE

This is to d	certify that Dr / Mr / Mrs / MsT.: Gnang Jeya
kings Lolley	ge of Engineering, Thanjavur
has participa	ted in the TEQIP-II sponsored One Day National Seminar on
"Effective V	Vay of Teaching Mathematics to Engineering Students
organized by t	he Department of Mathematics Thiagaraiar College of F
Madurai on 2	8" January 2017.
14. 14. A	

Goordinator

ン: くこ と ター・ Dr:V!Gnanarajj HOD, Department/of/Mathsi

Dr. V. Abhaikumar Principal

TE OIP



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This is to certify that Dr. / Mr. / Ms
KING S COLLEGEOF. ENGINEERING PUNARKULAM has participated
in the One Day National Level Workshop on "RECENT ADVANCES IN MATERIAL SCIENCE
AND ENGINEERING" [RAMSE'16] held on 30th September, 2016 in the Department of
Physics, Kongunadu College of Engineering and Technology, Trichy.



Convener

Organizing Secretary

Principal Principal



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Centre for Research and Development

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KINGS COLLEGE OF ENGINEERING

has participated in the One Day Seminar on

Molecular Simulation and Interpretation of Chemical Structures (MSICS)

on  $2^{nd}$  July 2016, organized by Department of Physics in collaboration with the

CRD, PRIST University, Thanjavur

Shil danne Convener

Director, CRD

Vice-Chancello

310



## Ponnaiyah Ramajayam Insititute of Science and Technology (PRIST)

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Vallam, Thanjavur – 613403, Tamilnadu
Centre for Research and Development

Seminar on

Molecular Simulation and Interpretation of Chemical Structures
(MSICS)

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KINGS COLLEGE OF ENGINEERING

has participated in the One Day Seminar on

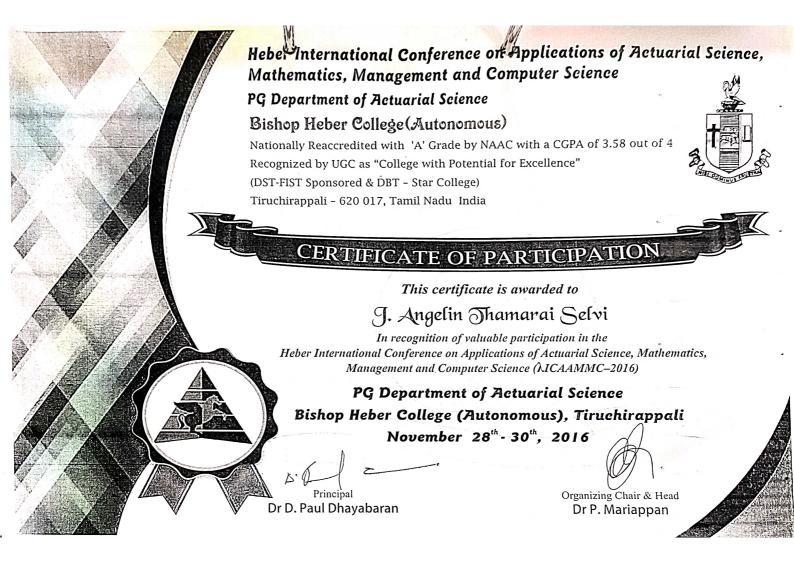
Molecular Simulation and Interpretation of Chemical Structures (MSICS)

on  $2^{nd}$  July 2016, organized by Department of Physics in collaboration with the

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Shhalcha Qn Convener Director, CRD

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on

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January 7, 2017

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\_\_\_ of

KINGIS COLLEGE OF

= ENGINEERING.

has participated in the 1-day Teacher's Conclave

on "Pursuing Excellence in Teaching" on January 7, 2017 at S\$N College of Engineering, Kalavakkam 603 110.

Maccian

Dr. K. T. Selvan Conclave Chair, SSNCE Shri B. S. Raghavan RCPA

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# DEPARTMENT OF MATHEMATICS

#### CERTIFICATE

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Kings College of Engineering, Thanjavur
has participated in the TEQIP-II sponsored One Day National Seminar on
"Effective Way of Teaching Mathematics to Engineering Students"
organized by the Department of Mathematics, Thiagarajar College of Engineering,
Madurai on 28 <sup>th</sup> January 2017.

Coordinator

 Dr. V. Abhaikumar



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