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1.

Authors: Nasser. R.A., Hee. H.C., Ervina Junaidi, Martin Anyi

Paper Title: Hydro Rice Milling Machine

Abstract: It has been reported that 41% of the countryside and isolated areas in Sarawak which still have no electricity coverage, compared to only 10% in Peninsular Malaysia. Furthermore, most of the Sarawak rural communities are farmers and families are feeding on the harvesting of paddies. The harvesting of paddies in rural area of Sarawak is inefficiency as compared to other parts of the world due to insufficient supply of electricity. This study investigates the feasibility of of implementing hydropower generated rice milling machine in rural area of Sarawak through laboratory testing on minimum power required to run the rice milling machine and the power that can be supplied from the open channel. The results show that with the current open channel flume and the structure of the rice milling machine, it is feasible to replace traditional methods (beating or foot husk) and more modern methods (gasoline powered engine or electricity dependence rice miller) with the hydro rice milling machine.

Keywords: harvesting of paddies, Hydropower, Open channel, Rice milling machine.

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2.

Authors: A. Chennakesava Reddy

Paper Title: Effects of Adhesive and Interphase Characteristics between Matrix and Reinforced Nanoparticle of AA2124/AlN Nanocomposites: Mathematical and Experimental Validation

Abstract: Interphase around the reinforcement has significant influence on the interfacial stress, displacement and stiffness of composites. In this article two types of RVE models have been implemented using finite element analysis. Aluminum nitride nanoparticles were used as a reinforcing material in the matrix of AA2124 aluminum alloy. It has been observed that the nanoparticle did not overload during the transfer of load from the matrix to the nanoparticle via the interphase due to interphase between the nanoparticle and the matrix. The maximum tensile strengths of AlN/AA2124 nanocomposite have been found 535.40 MPa without interphase and 561.57 MPa with interphase. The transverse modulus has been established lower than the longitudinal modulus of AA2124/AlN nanocomposites. The results obtained from the finite element analysis were validated with mathematically derived and experimental results.

Keywords: RVE models, AlN nanoparticle, AA2124, finite element analysis, interphase, transverse modulus.

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3.

Authors: **David R. Tuigong, Thomas K. Kipkurgat**

Paper Title: **Viability of Using Solar Photovoltaic Systems in Textiles Industries in Kenya: a Case of Rivatex East Africa Limited**

Abstract: The low supply and the high cost of electricity create a huge gap between demand and supply in Kenya, making industries to look for alternative ways of generating cheap and renewable power. This paper attempts to identify the challenges and drivers of the using solar photovoltaic system in textiles industries with a case of Rivatex East Africa Limited. The study adopted a qualitative research method in order to achieve the intended objectives. Data was collected using interviews. The findings indicates that for textiles industries to operate optimally and cut down on the production cost, there is need for alternative means of generating power and one of the options is to purchase and install solar PVC's. Another factor that motivates the textiles industry to invest on PVC is the sustainability that solar energy creates. The study also reveals that inadequate policies to encourage subsidies by the government, high cost of installation, challenges to access funding, high and fluctuating interest rates for loans to invest on renewable technology were identified as the major barriers to industries adapting to solar energy. Furthermore, the study revealed other barriers such as lack of awareness and inappropriate information concerning solar energy coupled with poor implementation of policies were also factors that were identified in the study. The study recommends that appropriate structures and policies that encourage subsidies for industries to be put in place to encourage such industries to invest in renewable energy. The government should also give support to industries in terms of funding renewable energy investments.

Keywords: Renewable energy, Textiles industries, Photovoltaic, Rivatex, Solar energy

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4.

Authors: **Amit J. Modak, H. P. Inamdar**

Paper Title: **Optimal Simulated Design of RBF Neural Network Classifier Block for Assessment of State of Degradation in Stator Insulation of Induction Motor**

Abstract: In the present work the design of discrete 'ANN' simulation model is done for the classification and qualitative assessment of the state of degradation of insulation in the respective phases of three-phase ac induction motor. The extraction of mathematical parameters of stator current data pattern, which are simulating the specific state of degradation of insulation based on Park's current transformation model, are presented in the previous research papers. The methodology adopted towards the optimal design process of the discrete neural network classifier blocks of discrete 'ANN' simulation model , which are designed on the basis of 'radial basis function' (RBF) type of neural network architecture for the qualitative assessment of the state of degradation of stator insulation is described in the present research paper.

Keywords: induction motor, stator insulation, radial basis function, artificial neural network, Park's current transformation

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5.

Authors: **Malini S, Lizy Abraham, R.S. Moni**

Paper Title: **Multiresolution Color Denoising using Biorthogonal Wavelets for Satellite Images**

Abstract: Satellite images are required to be of high quality since most of the databases created by different countries are using the images especially for Geographical Information System (GIS) applications and military purposes. Recently available high resolution multi spectral imaging sensors facilitate greatly the process of feature extraction which is given as the input to the database systems. But because of the sensor vibrations, different angle of inclinations, influence of clouds & shadows and many unwanted factors create noise in satellite images which ultimately affects the quality of feature extraction process. In this paper a novel method of multiresolution colour image denoising using bi-orthogonal wavelets is discussed. The method is compared with other orthogonal wavelet denoising schemes and existing techniques based on patch processing. Experimental analysis and visual inspection of images validates the superior performance of the proposed method.

Keywords: Multispectral, Biorthogonal, Daubechies, Decomposition, Multispec32, Quality Measures

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Authors:	**ASM Delowar Hossain**	
Paper Title:	**Consolidation of Accreditation Activities to Improve Assessment of Student Learning Outcomes in Technical Disciplines**	

6.

Abstract: Lack of coordination in accreditation activities results in assessment being a burdensome and inefficient process. This work emphasizes the need of a preemptive and coordinated effort to consolidate various accreditation activities to make the assessment process more streamlined and efficient within the context of technical discipline. Specifically, this work demonstrates common grounds of assessment activities between the regional standards and ABETS accreditation criteria to attain assessment efficiency.

Keywords: Assessment, Accreditation, Engineering Education

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7.

Authors: **Lakshmi HV**

Paper Title: **Detection of Intrusion and Honey Net Architecture Approach to Defend in Virtual Network Systems**

Abstract: Security in cloud is one of the most important issues that drawn interest of research and development in past years. Hackers can explore vulnerabilities of cloud system and to deploy large-scale Distributed Denial-of-Service they compromise virtual machines. Distributed Denial-of-Service attacks involve early stage actions as multi-step exploitation, less frequency vulnerability scanning, and compromising insecure virtual machines, and Distributed Denial-of-Service attacks through the compromised VMs. In cloud system, the detection of zombie attacks is difficult. Because users may install insecure applications on their VMs to avoid insecure virtual machines from being compromised in the cloud, we propose a multi-phase distributed vulnerability finding, and Honey Net approach to fight back the attack. Honeypot is a data system resource and its value lies in unauthorized use of that resource of system. Honey nets are "a security resource whose value lies in being attacked". Honeypots and honey nets are used to collect data about threats that organizations might face and hence protect them.

Keywords: Network Security, Honey Pot, Honey Net, Cloud Computing, Intrusion Detection

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8.

Authors: **M. Jagannadha Rao, B. Gopal Krishna**

Paper Title: **Synthesis of Copper Silicate (CuSiO3.H2O) using Copper Oxide, Quartz and Microbes**

Abstract: Microbes like bacteria, algae, fungi and virus play an important role to catalyst chemical reactions. In Nature, ores or minerals of different compounds are formed due to microbial environment and other factors like weathering. Microbial environment is also instrumental in forming copper containing silicate minerals. Chemical reactions occur under microbial environment because microbes have the ability to control or modify different factors like pH, chemical potential and temperature during reactions. In this paper, synthesis of copper silicate (CuSiO3.H2O) using copper oxide (CuO) and quartz (SiO2) under microbial environment in the laboratory is being adopted to produce the material. XRD technique is used to confirm the formation of CuSiO3.H2O.

Keywords: Copper oxide, Quartz, CuSiO3, microbes, XRD

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9.

Authors: **Christy James Jose, Jijo Francis, Rajasree M.S**

Paper Title: **Digraph Approximation with an Adaptation Technique for Mobile User Authentication through Keystroke Dynamics**

Abstract: Mobile devices have evolved at a proliferating rate and are now used in almost all aspects of life. With these the ability to store potentially private or sensitive information on these devices has also increased. Hence an intrusion detection and prevention system is a necessity for preserving the confidentiality and integrity of users. Keystroke dynamics which refers to detailed typing pattern of a person is used to model user behavior and use the so formed footprint for user identification and intrusion detection. A neural network based system using monograph and digraph timings with digraph approximation and adaptation technique is proposed for keystroke dynamics in mobile devices for free text data. With adaptation mechanism, the missing monographs and digraphs and also the time bound variations of user keystroke time variations are captured and adapted. The combined use of digraph approximation and adaptation yields a False Acceptance Rate (FAR) and False Rejection Rate (FRR) of 0% for 22 users. The impact of adaptation on other performance measures like accuracy, specificity, sensitivity and Mean Square Error(MSE) is also studied.

Keywords: Keystroke Dynamics, Intrusion Detection, Adaptation Mechanism, Keystroke Authentication

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10.

Authors: **Davood Kaviani, Majid Saghi, Maryam Sabonian, Mohammad Hosein Bigtan, Behzad Padidaran a**

Paper Title: **Orthogonal Array Design for the Optimization of Solvent-Assisted Dispersive Solid Phase Extraction for the Determination of Copper Ions in Water and Vegetable Food Samples using Flame Atomic Absorption Spectrometry**

Abstract: A simple and efficient dispersive solid -phase micro extraction technique was developed and combined with flame atomic absorption spectrometry, for the extraction and determination of trace amounts of copper in real samples.2-(5Bromo-2-pyridylazol)-5-(diethyl amino)-phenol (5-Br-PADAP) was used as chelating agent and banzophenon was selected as extraction solvent. Several possible influential factors such as the type and amount of extraction solvent, amount of autistic agent, sample pH, were optimized using orthogonal array design (OAD) with OA16(4)5 matrix. Under optimum conditions, an enrichment factor of 13 was obtained. The analytical curves were linear between 5-2000 µg L-1. Based on three SD of the blank, the detection limits was 1.2 µg L-1. The relative SDs for eight replicate measurements of 100 µg L-1 of metal ions was 3.2%. The proposed method was successfully applied for determination of copper in environmental waters and some vegetable samples including Pepper, Tomato, Thyme, Aloe vera gel, Morus.

Keywords: Solvent-assisted dispersive solid phase extraction, Copper (II), Flame atomic absorption spectrometry, Food and environmental water samples.

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11.

Authors: **Davood Kaviani, Majid Saghi, Maryam Sabonian, Mohammad Hosein Bigtan, Behzad Padidaran a**

Paper Title: **Performance and Emission Characteristics of CI Engine Operated with Waste Cooking oil Methyl-Ester and Diesel Blends**

Abstract: Biodiesel from bio-oils are considered as the promising renewable alternative fuel for CI engine. However the damped waste cooking oil poured in the earth is one of the contributors of water and environmental pollution. In this study, biodiesel from waste cooking oil (WCO) is produced by transesterification reaction and blended with diesel fuel (B10, B20, B30, B40, B50). These blends were tested in single cylinder, 4-stroke, water cooled CI engine at different loads with 1500rpm constant engine speed to evaluate the performance and emission characteristics. Performance study contains brake thermal efficiency, specific fuel consumption while emission study consider NOx, CO, CO2 emission. During experimentation it was found that an increase of load leads to increase of brake thermal efficiency and decrease in specific fuel consumption. It was also observed that the results using biodiesel have similar characteristics to that of diesel. The NOx emission increases as load increases, while CO emission decreases for B10, B20 as blending increases.CO follows the trend similar to that of diesel. Also CO2 emission increases at partial and medium loading condition.

Keywords: Waste cooking oil, waste cooking oil methyl ester, transesterification, emission

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12.

Authors:	**Jagadishchandra S. Naik, N. K. Misra**
Paper Title:	**Interactive Terrain Surface Visualization using Haptics Assisted Display**

Abstract: In this paper we present a novel method to handle terrain surface features using haptic feedback providing interaction for the purpose of navigation of terrain over a virtual 3D environment. This system uses Phantom Haptics Desktop Device for touch bound interactions using force feedback stylus, which acts as a pointer that allows the user to feel the deformations over the terrain surface. The advantage of haptic feedback is that it works in 3D environment and provides better control with the force compared to mouse and other hardware.

Keywords: Haptics Visualization, Navigation, Terrain classification.

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13.

Authors:	**Harsh Deep, Varsha**
Paper Title:	**Tabu Search Based General Self-Organized Tree-Based Energy-Balance Routing Protocol (GSTEB) for Wireless Sensor Networks**

Abstract: GSTEB has shown quite necessary results over the on the market WSNs protocols. but it's neglected

many issues. thus on beat the constraints of the sooner work a completely unique improved technique is planned throughout this analysis work. The planned technique has the flexibility to beat the constraints of the GSTEB routing protocol by pattern clump and TABU search. The comparison square measure drawn among the current and planned techniques. The comparisons has clearly shown that the planned technique outperforms over the on the market techniques. The experimental results has shown an 20.37% improvement in network time period.

Keywords: GSTEB, PASCCC, WIRELESS SENSOR NETWORK ,TABU SEARCH .

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14.

Authors:	**Saloni Bindra, Priyanka Karmarkar, Abhishek Kumar Verma, Laxmi Grover**
Paper Title:	**Social Media Mining for Opinion Analysis**

Abstract: Here we describe a method which involves determining the sentiment of a review about Banks by extracting the phrases with a noun-adjective relationship, Identifying if the noun is present in the domain specific Ontology tree and then determining the polarity of the adjective, aggregating the polarity. The results so obtained are thus summarized and then categorized by characteristic feature pertaining to the Bank. This reduces the human efforts to go through them and a result specific to a particular Bank; sub-categorized by Peculiar features of it with polarity alongside each individual characteristic. Thus the fruits of the reviews are gained even without reading them.

Keywords: Sentiment, Polarity, Domain Ontology, Opinion Mining.

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Authors: **Esam Elsheh, Saddek Elbendago, Marwan Ali.H.Omer**

Paper Title: **On the Security of Image Encryption Using Discrete Fourier Transform and Fractional Fourier Transform**

Abstract: Recent developments of different forms of discrete Fourier transform, have encouraged many researchers to design image encryption algorithms based on a discrete fractional or multiple fractional Fourier transforms. One of these algorithms is proposed by Ashutosh and Sharma, (International Journal of Engineering and Advanced Technology, Vo. 2, Issue. 4, 2013). In this paper, we show that this algorithm represents a classic textbook example of insecure cipher; all the building blocks of this scheme are linear, and thus, breaking this scheme, using a known plaintext attack, is equivalent to solving a set of linear equations. We also invalidate several of the security and performance advantages claimed by the authors, namely, the efficiency, key sensitivity, and the complexity.

Keywords: Image processing, encryption, discrete transforms, linear cipher.

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Authors: **Athira R, Lekshmy D Kumar**

Paper Title: **Secure Data Storage in Cloud using Centralized Access Control with Anonymous Authentication**

Abstract: Cloud computing's multi-tenancy feature which provides privacy, security and access control challenges because of sharing of physical resources among untrusted tenants. Much of the data stored in clouds is highly sensitive particularly in the case of medical records and social networks. Security and privacy are very important issues in cloud computing. In one hand, the user should authenticate itself before initiating any transaction, and on the other hand, it must be ensured that the cloud does not tamper with the data that is outsourced. User privacy is also required so that the cloud or other users do not know the identity of the user. The validity of the user who stores the data is also verified. In order to achieve safe storage, a suitable encryption technique with key management should be applied before outsourcing the data. A new decentralized access control scheme is implemented for secure data storage in clouds, which supports anonymous authentication. In this scheme, the cloud verifies the authenticity of the user without knowing the user's identity before storing data. The scheme also has the added feature of access control in which only valid users are able to decrypt the stored information. The scheme prevents replay attacks and supports creation, modification and reading data stored in the cloud. User revocation is also addressed. Moreover, the authentication and access control scheme is decentralized and robust, unlike other access control schemes designed for clouds which are centraliz

Keywords: Attribute based encryption, Access control, Authentication.

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Authors: **Ruchal G. Humbare, Suraj R. Gurav, S. B. Trimbakeac**

Paper Title: **Analysis of Heat Transfer Enhancement in Tube-in-tube Helical Coil Heat Exchangers**

Abstract: The heat exchangers most widely used are shell and tube heat exchangers which are larger in size and offer lesser heat transfer rate. Also, in shell and tube heat exchanger dead zone is produced which further reduces heat transfer rate and in order to improve heat transfer rate some active techniques are required. Helical heat exchanger is more compact, offer better heat transfer rates and heat transfer rate can be further improved by passive techniques. Its shape offers advantages such as more fluid contact, elimination of dead zones, and secondary turbulence. An experimental test rig was developed for evaluation of tube-in-tube helical coil heat exchanger. This paper deals with parametric analysis and its effect on performance of tube-in-tube helical coil heat exchanger.

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Keywords: Tube-in-tube helical coil, Dean Number, Dimensionless pitch, Curvature ratio, Effectiveness, Secondary turbulence, Heat transfer coefficient, Nusselt number.

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21.

Authors: **A. A. Elsayed**

Paper Title: **Structural Behavior of High Strength Self – Compacting Concrete Beams**

Abstract: This research presents an experimental and theoretical studies on the structural behavior of high strength self- compacted concrete I-beams. The main objective is to arrive the mode of failure of I beams which reinforced with and without web reinforcement. The experimental program presents the obtained results of tested eight high strength self compacting concrete I- beams specially reinforced to ensure a shear failure. All beams were tested simply supported along span 2400mm and subjected to four lines loadings until failure. The main variables were web thickness. The presence of web reinforcement in concrete beams increases its shear capacity and improves the ductility of the beam. Increasing the loading span to depth ratio decreased the failure load of concrete beams with web reinforcement, increasing the loading span to depth ratio decreased the failure load of concrete beams with web reinforcement, increasing (a/d) ratio from 2.4 to 2.9 led to a decrease in failure load by 33.3%. The effect of the studied variables are presented and discussed.

Keywords: High strength concrete; Self compacting concrete; Beams; Shear failure; Stirrups; Cracking.

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22.

Authors: **Shiny Sara Jacob, P Sandhya**

Paper Title: **Postion Sensorless Direct Torque With Indirect Flux Control Of BLDC Motor In Three Phase Conduction Mode**

Abstract: In this work, an analysis on position sensorless direct torque control of BLDC Motor with indirect flux control have been studied using two level, six switch Voltage Source Inverter (VSI). By adopting the indirect flux control in direct torque control, the stator flux can be effectively controlled in the constant torque region. This scheme is adapted to three phase conduction mode of VSI. Maximum torque efficiency can be obtained in this method since the torque is estimated in the dq reference frame. In direct torque with indirect flux control of BLDC in three phase conduction mode, the commutation torque ripple can be minimized as well as torque ripple can be effectively reduced. Since the scheme is position sensorless, the electrical rotor position is estimated using stator winding inductance, stationary reference frame currents and flux linkages. The voltage vector selection is set up in the look-up table so that fast torque response is possible. Since the neutral point of the motor is not available, conventional 2×3 matrix is replaced by 2×2 Park's and Clarke's transformations for the balanced systems. The experimental results are validated in MATLAB/SIMULINK

Keywords: Brushless DC (BLDC) Motor, Constant torque region, Direct Torque Control (DTC), Three phase conduction mode, Voltage Source Inverter (VSI).

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23.

Authors: **Michael A. Gragasin, Romualdo C. Martinez**

Paper Title: **Design and Testing of Improved Village-Type Dehuller- Degerminator for Dry-Milling Process of Corn**

Abstract: Majority of the available village-type corn mills in the Philippines have failed to fully satisfy the minimum product recovery and degerminator efficiency of 64% and 80%, respectively, as set by the Philippine Agricultural Engineering Standard (PAES). This resulted in the production of poor quality corn grits with high postharvest losses. Vital in improving the performance of existing village-type corn mills is the development of efficient dehuller-degerminator that responsible in the separation of germ and hull including the tip cap from the endosperm. The major part of the corn kernel that causes irritation when cooked corn grits are served in the table is primarily the tip cap and not the hull alone. The results of laboratory and field trials revealed that the developed dehuller-degerminator has a milling capacity of 367 kg/h and capable of providing milling recovery of 79.2% and degerminator efficiency of 83.8%. Significant reduction in aflatoxin level was also observed once corn kernels with high level of aflatoxin have pass through the developed dehuller-degerminator. The innovative design features a hexagonal-dented screen-huller with counter-flow auger and suction blower to efficiently separate the tip cap, germ, and hull from the endosperm.

Keywords: Corn dehuller-degerminator, Corn mill, Dry-milling process, Postharvest

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24.

Authors: **A. A. Elsayed**

Paper Title: **Study of Isolation Methods of Underground Structures By using Concrete Admixtures**

Abstract: Waterproofing of underground structures is frequently a problem and a range of solutions have been tried in the last two decades. Dominating the market are PVC and HDPE (high density poly ethylene) sheet membranes, but recently the alternative, is concrete admixtures for water permeability reducing and so that use in concrete isolation (waterproofing), the longevity of a concrete structure is influenced by the permeability of the concrete. The main objectives of the research are to study the mechanical properties of concrete and the improvement these properties by adding waterproofing using various mount percentages and two types of waterproofing (ADDICRETE DM2-PLASTOCRET-N) series of experimental studies were carried out on plain concrete with added, ADDICRETE DM2 and PLASTOCRETE-N in order to investigate their properties and

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influence on the water permeability of concrete. In this study, it has been addition ADDICRETE DM2 and PLASTOCRETE N to the mixture by difference ratio. 1%, 0.5%, 0.45% ,0.35% of cement weight, constant ratio from , sand, gravel, cement and water W/C equal to 0.45 in all tests that used in the research . The study of these tests by measuring the permeability of concrete specimens prepared in the laboratory. Many tests were carried out and the results were presented.

Keywords: waterproofing; ADDICRETE DM2, PLASTOCRETE-N, permeability, concrete.

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Authors: **Swapna P S, Sakuntala S. Pillai**

Paper Title: **Downlink Resource Allocation Scheme for OFDMA System**

Abstract: Orthogonal Frequency Division Multiple Access (OFDMA) is a promising multiple access technique for next generation wireless communication such as WiMAX, LTE, IMT-A etc because of its high spectral efficiency and inherent robustness against frequency selective fading. Inclusion of relays into the system further improves the system performance. The asymmetric radio resource allocation problem for cooperative relay assisted OFDMA wireless networks with the objective of maximizing the data rate is addressed in this paper. In cooperative communication the transmission from base station to mobile stations is assisted by decode-and-forward relays. To reduce the computational complexity of its optimal solution, the proposed scheme is sub-divided into three subsections. The first section is to select the relays and then the subcarrier is allocated to the selected relays. As the next step, power is allocated to each subcarrier. Simulation results shows that the proposed scheme achieves better performance than the existing techniques.

Keywords: Hungarian algorithm, Interference computation, OFDMA, Resource Allocation, Water filling algorithm. .

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26.

Authors: **Anita Ganpati, Jyoti Sharma**

Paper Title: **A Hybrid Implementation of K-Means and HAC Algorithm and Its Comparison with other Clustering Algorithms**

Abstract: There is a huge amount of data which is being produced everyday in Information Technology industry but it is of no use until converted into useful information. Data mining is defined as the process of extracting of hidden predictive information from large databases. Data mining provides an easy and timesaving concept to extract the useful information from large database instead of going through the whole database. There are various data mining techniques and clustering is one of them. Clustering algorithms especially draws significant attention of researchers all around the world because it makes an easy availability of the same data in form of clusters. There are various types of clustering algorithms available in the literature, with each algorithm having its own pro and cons. In this research paper, a hybrid implementation of k-Means and HAC clustering algorithm is presented. Also, the hybrid approach is compared with four other clustering algorithm namely k-Means, DT, HAC, VARCHA. The hybrid implementation has been done using Python scripting language and SCIKIT LEARN open source tool was used for the performance comparison of the algorithms. The various parameters used for comparison were accuracy, precision, recall and f-score. The results show that the performance of hybrid algorithm is found to be quite better than the existing ones.

Keywords: Data Mining, Clustering, k-Means, DT, HAC, VARCHA, Python and SCIKIT

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27.

Authors: **Nikita Lemos, Kavita Sonawane, Bidisha Roy**

Paper Title: **Novel Approach to Secure Data Transmission using Video**

Abstract: Internet is being widely used for transmitting sensitive data. The data transferred online is prone to attacks. This paper presents a novel technique where steganography and cryptography are clubbed together to get achieve dual level security. Steganography hides the existence of data and cryptography scrambles the data and makes it difficult to interpret it even if the attacker gets hold of the data. Since videos are used widely today and are a popular on social media we have used video as a cover to the hide the secret data Text data is stored in video frames. The data is subjected to steganography and cryptography which are simple and novel techniques and then stored in the video frames using a random fashion using simple linear probing techniques.

Keywords: Steganography, cryptography, cover, security threats

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Authors: **Hakeemuddin Ahmed, N. Seetha Ramaiah, M. Manzoor Hussain**

Paper Title: **Experimental Investigation of Surface Integrity of End milled CFRP Composites**

Abstract: In general, the quality of the surface produced during machining is affected by the process variables and the vibrations of the tool. The surface finish is affected by the undesired vibrations that occur especially when a rotating tool like drill/ milling cutter is involved. Machining of fiber reinforced composites plays a vital role in obtaining fine tolerances on their components so as to assemble and integrate them with the other components. Carbon Fiber Reinforced Polymer (CFRP) composites are rapidly substituting the conventional materials as they meet high performance requirements due to their high specific stiffness, strength and corrosion resistance. In this study, the effect of process parameters on the dimensional accuracy and surface finish of the slots produced by end milling on CFRP laminate is studied. Experimental investigation is carried out to determine the relationship between spindle speed and feed which minimizes the surface roughness and delamination factor. The variation of the cutting forces involved is also studied in relation with the process variables to derive the regression equations

Keywords: CFRP, Delamination factor, End Milling, Surface Integrity

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29.

Authors: **Rashmi Kalia**

Paper Title: **Persistent Organic Pollutants: A Review**

Abstract: Persistent organic pollutants (POPs) are toxic chemicals that adversely affect human health and the environment around the world. Most of the POPs are released due to anthropogenic activities, while others are produced as a result of secondary emission. Because they can be transported by wind and water, most POPs generated in one country can and do affect people and wildlife far from where they are used and released. They persist for long periods of time in the environment and can accumulate and pass from one species to the next through the food chain.

Keywords: Persistent Organic Pollutants, Pesticides, Hazards

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30.

Authors: **Zuhair Issa Ahmed, Ali Malik Saadoon**

Paper Title:	Optimization Process Parameters of Submerged Arc Welding Using Taguchi Method

Abstract: Submerged arc welding (SAW) process is an essential metal joining processes in industry. The quality of weld is a very important working aspect for the manufacturing and construction industries, the challenges are made optimal process environment. Design of experimental using Taguchi method (L9 orthogonal array (OA)) considering three SAW parameter are (welding current, arc voltage and welding speed) and three levels (300-350-400 Amp. , 32-36-40 V and 26-28-30 cm/min). The study was done on SAW process parameters on the mechanical properties of steel type comply with (ASTM A516 grade 70). Signal to Noise ratio (S/N) was computed to calculate the optimal process parameters. Percentage contributions of each parameter are validated by using analysis of variance (ANOVA) technique. The experimental results were analyzed by using Minitab 16 software.

Keywords: ANOVA, SAW, S/N, Taguchi Method, Welding Process Parameters

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