# CONFERENCE PROCEEDINGS



## Scientific and Technical Research Association

## ICRST (2018) VIth International Conference on Researches in Science & Technology, 05-06 May 2018, Kuala Lumpur, Malaysia

05- 06 May 2018

Conference Venue

Scholar's Inn, Universiti Teknologi Malaysia (UTM), Kuala Lumpur, Malaysia

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# KEYNOTE SPEAKER



**Dr. Md. Eaqub Ali**
**Associate Professor of Nanobiotechnology at the University of Malaya Kuala Lumpur, Malaysia**

Dr. Md. Eaqub Ali is an Associate Professor of Nanobiotechnology at the University of Malaya. He received his BSc in Biochemistry from Dhaka University, MSc in Chemistry from Concordia University at Montreal and Ph.D. in Nanobiotechnology from the University Malaysia Perlis. His research focus includes Forensic Biotechnology (DNA Probes) and Environmental Friendly Products and Technologies. His outstanding contributions include "CNT and Graphene Hybrids for Water Purification and "Multicomponent Systems for Food Security Detection". Dr. Ali has supervised 7 completed Ph.D. and 5 MSc and contributed 2 patents, 2 Trademarks, 3 books, 130 papers in the web of science, 60 conference papers, 5 keynotes and 20 invited lectures in prestigious conferences and universities. He has also published 5 newspaper articles on popular topics and his research findings have been featured in many news media such as the Milestone@UM, ScienceDaily, WiseNews, Laboratory Equipment, Filtration+Separation.com and National Homeland Security. The legendary work of his team won many prestigious awards such "Atlas" Award in 2015 from Elsevier for groundbreaking research on desalination technology and global warming (https://www.elsevier.com/connect/atlas-award-quenching-the-worlds-thirst-for-seawater) and "ACS PressPac" in 2016 from the American Chemical Society for outstanding research on food fraud detection (https://www.acs.org/content/acs/en/pressroom/_presspacs/2016/acs-presspac-august-10-2016/frankfurter-fraud-finding-out-whats-in-your-hot-dog.html). Dr. Ali also received many regional and national level awards such as BioMalaysia "Gold "and "Silver" Awards for 2011 and 2012. He is a member of the Royal Society of Chemistry, International Association for Food Protection, AOAC International, Malaysian Institute of Chemistry and Malaysian Nanotechnology Association.

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| Lawal Idris Bagiwa GICICRST1805051 | Honeypots and Honeynets: Concepts, Approaches, and Challenges |
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| | **Lawal Idris Bagiwa** **Department of computer Studies** **College of Science and Technology Hassan Usman Katsina Polytechnic Katsina P.M.B. 2052 Katsina State Nigeria** |

**Abstract**
The early users of the Internet did not spend much time thinking about whether or not their online activities presented a threat to the network or to their own data. Today, the Internet is a very different network compared to its beginnings. More people rely on the network for their personal, financial, and business needs. Information security is a growing concern today for organizations and individuals alike. This has led to growing interest in more aggressive forms of defense to supplement the existing methods. Some of these methods involve the use of honeyports or honeynets. Honeynet is a form high-interaction honeypot. Its aim is to gather extensive information on threats. A honeynet is an architecture, the two critical requirements for this architecture are data control and data capture. This paper presents an overview of honeynets and highlights different kinds of honeynets, honeynets concepts and approaches to their implementation. This paper serves as a starting point for individuals and organizations who are interested in this technology.Keywords: Honeyports, Honeynets, Types of honeyports and honeynets, Honeyports and honeynets concept, Honeyports and honeynets challenges.

| Esteban GICICRST1805052 | Effectiveness of Technology in Learning English as a Second Language |
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| | **Esteban** **Bachelor of Secondary Education Major in English** **Department of Elementary and Secondary Education, Polytechnic University of the Philippines** |

**Edison O.**
**Bachelor of Secondary Education Major in English**
**Department of Elementary and Secondary Education, Polytechnic University of the Philippines**

**Nagal Luigui Carmelo**
**Bachelor of Secondary Education Major in English**
**Department of Elementary and Secondary Education, Polytechnic University of the Philippines**

**Soco Shenna Lyn**
**Bachelor of Secondary Education Major in English**
**Department of Elementary and Secondary Education, Polytechnic University of the Philippines**

**Abstract**
The main objective of the study was to determine the effectiveness of video technology on the teaching of English as a second language to Senior High School Students of Polytechnic University of the Philippines.
The researcher utilized the descriptive method of research with 30 Senior High School Students of Polytechnic University of the Philippines as respondents. The instruments used were a questionnaire and a language proficiency test.

| Dr Zahedi Ssi Mt GICICRST1805053 | Model Of Integrating Batch Production And Maintenance Scheduling For Multiple Items Processed On Flow Shop With Two Machines With |
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| | **Dr Zahedi Ssi Mt** **Department Mathematics, School Of Computer Science, Binus University,** |

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| | Jakarta, Indonesia **Abstract**<br>**This paper elaborates an integrated model of batch production scheduling and maintenance scheduling on flow shop with two machines producing multiple items to be delivered at a common due date. This model describes the trade-off between production cost and maintenance cost as the increasing of production run length on both of machines. The objective function of the model is to minimize total cost consisting of in process and completed part inventory costs, setup costs, preventive and corrective maintenance costs and rework cost on two machines. The Model was a mixed integer quadratic that contains some integer and binary variables, so that analytic search solution could not be used for the model. It was developed a stepwise optimization algorithm to solve the model. An example is given to clarify how the model solved.**<br>**Keywords: stepwise optimization, two machines, multiple items, batchproduction, machine maintenance** |
| **Aminu S. M.**<br>**GICICRST1805060** | **Determination Of Rhizobial Populations Of Soils From Different Geographical Locations In North Western Nigeria For Biological Nitrogen Fixation On Soybeans (Glycine Max)** **Aminu S. M.**<br>**Department Of Science Laboratory Technology, Hussaini Adamu Federal Polytechnic Kazaure, Jigawa State.**<br><br>**Shamsuddeen U**<br>**Department Of Microbiology, Bayero University Kano.**<br><br>**Dianda, M**<br>**International Institute Of Tropical Agriculture (Iita) Ibadan, Nigeria.** **Abstract**<br>**This study was conducted to estimate the rhizobial populations of soils for biological nitrogen fixation on soybeans (Glycine max) by the Most Probable Number (MPN) technique. Soils were collected from seven locations namely; Albasu, Bichi, Garko, Gaya (Sudan savanna), Giwa, Soba and Z/kataf (Northern Guinea Savanna). The result showed that Garko has the least MPN rhizobia/g ($0.61*10^1$) and Z/kataf has the highest MPN rhizobia/g ($7.65*10^3$). The soils sampled at northern guinea savanna have higher organic carbon content (0.69-0.65%) and nitrogen content (0.05-0.07%) compared to the soils sampled at Sudan savanna (0.30-0.44% and 0.08) respectively. From the result obtained soils collected from northern guinea savanna have higher MPN rhizobia/g compared to the soils collected from Sudan savanna.**<br>**Keywords: Soybeans, Rhizobia, Populations, Most Probable Number, Biological Nitrogen Fixation.** |
| **Abubakar Siddiq Mohameed**<br>**GICICRST1805061** | **Impact Of Indigenous Language In Teaching And Learning Of Mathematics In Junior Secondary Schools In Nigeria** **Abubakar Siddiq Mohameed**<br>**College Of Pure And Applied Sciences**<br>**Statistical And Mathematical Sciences Department Kwara State University, Malete Ilorin- Kwara Nigeria.** **Abstract**<br>**The indigenous language refers to the child's mother tongue,which is a very crucial language in the child's developmental stage of skill and language acquisitions. Mathematics is one of the basic and compulsory subject taught in primary and post primary schools in Nigeria. The purpose of this research is to determine the effect of indigenous language on junior secondary school student's academic performance in mathematics. To archive this, a Demonstrative Teaching Techniques (DTT) and Mathematics Test of** |

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Assimilation (MTA) are used for the study mainly to assess the effect of treatment on the two groups (Control and Experimental groups). This study used Quasi-Experimental research design and the sample consist of 120 students randomly selected from three schools in each of the six Geo-political zones in Nigeria, leaving the total population sample to 2160 students. Three (3) research questions and three (3) null hypotheses guided the study. The statistical analysis, using z-test showed that there was a significant difference before and after the teaching using indigenous language on students' performance in mathematics ($p \leq 0.05$). Based on the findings, it is recommended among other things that indigenous language (mother tongue) should be encouraged in our school system, particularly at junior secondary school level in Nigeria. This will in turn improve the student academic performance in mathematics.

Keywords : Indigenous Language, Mathematics, and Performance.

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| **Reza Javankia**<br>**GICICRST1805063** | **An Optimal Installation of Photovoltaic-Based Renewable Energy Resource for Energy Consumption Expenses Reduction**<br><br>**Reza Javankia**<br>**Department of Urmia Municipal Infrastructure and transportation**<br>**Urmia, Iran**<br><br>**Tohid Sattarpour**<br>**Department of Urmia Municipal Infrastructure and transportation**<br>**Urmia, Iran**<br><br>**Abstract**<br>**The rapid growth in use of renewable energy resources (RESs), like solar panels, in distribution networks has increased the need for having an efficient method of handling these technologies. Recently, due to increased interest in low carbon energy supply, installation of RESs appears to be a promising solution for generating clean and unlimited energy. In this paper, the optimum investiment planning for electrical expansio of Urmia modern amusement and tourism complex (Chichest) including PV technology has been discussed. Hence, this study reports the PV system's impact on reducing the cost of energy consumption in Chichest.**<br>**Keywords— PV modules; daily load curve; electricity tariff; energy consumption expenses.** |
| **Yusuf Ja'afar**<br>**GICICRST1805067** | **Synthesis And Characterization Of Amidoximed Modified Polyacrylonitrile Grafted Moringa Seeds**<br><br>**Yusuf Ja'afar**<br>**Chemistry Department, Science Faculty, Kaduna State University, 2339, Kaduna State, Nigeria**<br><br>**Abubakar Muhammad**<br>**Chemistry Department, Science Faculty, Kaduna State University, 2339, Kaduna State, Nigeria**<br><br>**Salamatu Hayatu**<br>**Chemistry Department, Science Faculty, Kaduna State University, 2339, Kaduna State, Nigeria**<br><br>**Abstract**<br>**The graft copolymerization of acrylonitrile (AN) onto moringa seeds (MS) with potassium persulphate (KPS) was carried out. AN was grafted with MS at 70℃ via redox. The monomer ratios and reaction temperatures were varied, in order to obtain the optimum grafting efficiency and grafted yield. The optimum grafting efficiency (89%) and grafted yield (72%) were achieved at 50℃ with AN:MS 2:1 in 3 h. Poly(acrylonitrile-grafted-moringa seeds) (poly(AN-g-MS)) were then chemically modified with hydroxylamine** |

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| | hydrochloride (NH2OH.HCl) to convert the nitrile groups into oxime functional groups. The poly(AN-g-MS) and amidoxime-modified poly(AN-g-MS) were characterized by Fourier transform infrared (FT-IR) spectroscopy, scanning electron microscopy (SEM), thermal gravimetric analysis (TGA), Brauner-Emmet-Teller (BET) and X-ray diffraction (XRD). The IR spectra proved that the grafting of MS onto PAN was successful and the poly(AN-g-MS) was successfully modified with hydroxylamine hydrochloride. It was shown that the specific surface area, pore volume and average pore diameter of MS were significantly increased after grafting with AN and modification with NH2OH.HCl. <br><br> Keywords: polyacrylonitrile, amidoxime polyacrylonitrile, graft copolymerization, hydroxylamine, moringa |
| **Mansur Aliyu** <br> **GICICRST1805068** | **Assessing the Features of Islamic Websites and Muslim User Satisfaction: A Muslim Students Perspective** <br><br> **Mansur Aliyu** <br> **Department of Computer Science** <br> **Umaru Ali Shinkafi Polytechnic Sokoto, Nigeria** <br><br> **Murni Mahmud and Rasheed M. Nassr** <br> **Department of Information Systems International Islamic University Malaysia** <br><br> **Abstract** <br> Islamic websites demand special attention due to the nature of the content delivered to the users. To deliver satisfying online knowledge and practice for Muslim Ummah, it is important to identify and evaluate the overall features of Islamic website (Iweb). In this paper, we explored the literature on Islamic website and e-consumer in order to developed a conceptual model that identifies perceived Muslim user satisfaction. The paper examines two areas namely: website features (i.e. design, content, and Islamic features) and Muslim user satisfaction towards using websites for Islamic Education. |
| **Narges Darvish Talkhoncheh** <br> **GICICRST1805069** | **Recognizing the Physical role and Impact of Iranian Garden on Iranian Arts; (A Case study of Carpet)** <br><br> **Narges Darvish Talkhoncheh** <br> **PHD Student of architecture in Islamic Azad University, South Tehran Branch** <br><br> **Dr. Hadi Ghodusifar** <br> **Assistant Professor, Faculty Member of Islamic Azad University, South Tehran Branch** <br><br> **Abstract** <br> Crisis in the relationship between man and nature along with population density in the present age have caused the emergence of stressful environments. Nature is effective in responding to human needs including the need for peace and self-prosperity and enhancing the mental health of individuals and groups and the appropriate presence of nature in living environments reduces many of mental, physical and social illnesses in communities. In this regard, architects, organizers and city planners have proposed the idea of designing home, healing and public gardens in cities for citizens in order to meet the need and be related to nature. Iranian garden like architecture, poetry, painting, music and other branches of Iranian art has some subtleties within the framework of tradition and principles and is of the highest ranking in the unity of diversity. In creating Iranian gardens, the verdancy of trees and plants, dynamics and joyful presence of water, the attractive sound of birds, pleasant air, beauty and the ultimate savings and efficiency with their all aspects are considered. Iranian garden in other Persian arts such as carpets, handicrafts, miniature, prose and verse literature and also music has displayed a design of garden or its mindset in itself. And this display is manifested in the most practical art forms such as rug and carpet weaving to |

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| | the most subjective and fantastic sound of music.<br>Keywords: Iranian garden, architecture, carpet, Persian arts, creation of garden |
| **Adedayo**<br>**GICICRST1805070** | **Identifying Research Key Opinion Leaders**<br><br>**Adedayo**<br>**Department Of Materials Science And Engineering; Obafemi Awolowo University, Ile-Ife, Nigeria**<br><br>**Department Of Metallurgical Engineering; Kwara State Polytechnic, Pmb 1375, Ilorin, Nigeria**<br><br>**Abstract**<br>**This paper developed a new scheme for identifying research Key Opinion Leaders. The developed methodology is an approach for evaluating Average Percentile Rank of individual researcher by measuring their collaborative strength through their published works. The study considered and introduced new parameters useful in measuring collaboration, and Average Percentile Rank. With these parameters, a new relationship to quantify Percentile Rank was introduced and applied to evaluate the Research Key Opinion Leader status of individual research staffs of INGENIO, the joint research institute of the Spanish National Research Council (CSIC) and the Polytechnic University of Valencia (UPV), Spain. Overall, the result shows that, number of persons collaborating in a particular research, and the relative positions of the collaborators among their peers and within their organization are relevant and important in determining the KOL status of a researcher.**<br>**Keywords: Co-authorship, authorship order, research collaboration, rising star, key opinion leader** |
| **Suleiman Sunkanmi Oparinde**<br>**GICICRST1805072** | **Technical And Vocational Education:**<br>**With Particular Reference To Fashion Design**<br><br>**Suleiman Sunkanmi Oparinde**<br>**Hussaini Adamu Federal Polytechnic Department Of Fashion Design & Clothing Technology**<br><br>**Abstract**<br>**Fashion Design has become the fastest growing economic activity after oil and the major content in poverty alleviation programmes. The author discusses the definitions, historical background of fashion, and concept of fashion design by National board for technical education. The paper also highlights the Goals and Objectives of NBTE, appropriate courses to undergo to qualify one as a full fledge professional fashion designer. Also discussed Types of fashion in more specific category which include Haute couture, Ready-to-wear and Mass market.**<br>**Keywords: Fashion Design, Poverty Alleviation, Technical and Vocational Education, Goals, Evaluation.** |
| **Yahaya Kaka**<br>**GICICRST1805073** | **Stochastic Production Technology: Variance and Inefficiency Estimation of Paddy farms in Malaysia**<br><br>**Yahaya Kaka**<br>**Department of Agricultural Economics and Extension, Faculty of Agriculture, Kebbi State University of Science and Technology, Aliero, PMB 1144 Kebbi State Nigeria**<br><br>**Mad Nasir Shamsudin**<br>**Department of Agribusiness and Bioresource Economics, Faculty of Agriculture, Universiti Putra Malaysia, 43400 UPM Serdang Malaysia.**<br><br>**Ismail Abd. Latif**<br>**Department of Management and Marketing, Faculty of Economics and** |

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Management, Universiti Putra Malaysia, 43400 UPM Serdang, Malaysia.

**Alias Radam**
**Department of Management and Marketing, Faculty of Economics and
Management, Universiti Putra Malaysia, 43400 UPM Serdang, Malaysia.**

**Abstract**
**This study models production risk and technical inefficiency as two possible sources of the production variability that characterized Malaysian Paddy Production. Data from a total of 397 Paddy farms randomly sampled from MADA granary area Malaysia were used for the analysis. The study employed a Cobb-Douglas stochastic frontier production function model with flexible risk specification. The empirical estimates from Stata12 Software revealed that, mean output is positively influenced by seed, fertilizer, agrochemicals, irrigation water and labour. Fertilizer, agrochemicals and irrigation water are found to be risk-reducing inputs, while seed and labour are revealed to be risk-increasing inputs. This implies that an average risk-averse producer is expected to use more of fertilizer, agrochemicals and irrigation water and less of seed and labour compared to risk-neutral producer in the study area. It was also revealed that extension visit, credit access, MR219 seed variety, MR220CL2 seed variety, method of broadcasting and harvesting technology significantly reduces the technical inefficiency in paddy production of the study area.**
**Keywords: Cobb-Douglas Function, Paddy, Stochastic, Technical Inefficiency, Variance.**

**Nura Abdullahi Haladu**
**GICICRST1805074**

**Fabrication And Characterisation Of Photoelectrochemical Solar Cell Of Copper- Copper Sulphide (Cu/Cu2s) Electrodes.**

**Nura Abdullahi Haladu**
**Husaini Adamu Federal Polytechnic, Kazaure**

**Dr Abdu Yunusa**
**Bayero University, Kano**

**Abstract**
**This paper discuss the fabrication and characterization of a photoelectrochemical (PEC) Solar cell based on a single photo-Cathode and a metal counter electrode. Copper(I)oxide was prepared by thermal oxidation of copper foils at $9320C$ and sulphided in a 0.05 M of Sodium sulphide (Na2S), Copper Sulphide (Cu2S) was formed and used as photo-cathode while copper foil is used as the counter electrode. Both electrodes were immersed in different concentrations of Sodium Chloride (NaCl) electrolyte containing 0.1M Ferric Chloride redox couples ($Fe^{3+}/Fe^{2+}$) in a beaker. The cell was kept under solar illumination. When tested, the open voltage, Voc and short circuit current, Isc of 90 mV and 1025.0 µA were obtained for the best cell. The fill factor, FF, and the electrical conversion efficiency, η, of the cell were found to be 0.63 and 0.08% respectively. The values represent an improvement over the previously reported values using similar materials for both photoelectrchemical solar cells (PEC) and non PEC Solar cells.**
**Keywords: Redox couples, Photoelectrochemical solar cell .**

**Fanny Azzahra**
**GICICRST1805077**

**Vegetation Composition Of Cilaja River Basin Based On Land Use**

**Fanny Azzahra**
**Biology, Indonesia University of Education, Bandung, Indonesia**

**Abstract**
**Analysis of land use change is very important because the land use is dynamic. Periodically land use will be influenced by natural factors and human characters in it. Analysis of vegetation in river border can be used as one of the indicators in determining the quality of border around the river. This study**

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aims to determine the vegetation composition of Cilaja river basin based on different land utilization. This research was conducted at coffee plantation location, rice field and settlement using Quadrant Method with determination of sampling plot in Stratified Random Sampling. Bound vegetation of Cilaja watershed at coffee plantation area is dominated by Ageratina riparia (IVI=36.94), Coffea arabica, (IVI=22.33) and Alternanthera sp. (IVI=20,71). In the rice field location is dominated by Calliandra calothyrsus (IVI=32,75), Tithonia diversifolia (IVI=15,91) and Synedrela nodiflora (IVI=15,79). The location of the settlement is dominated by Syngonium sp. (IVI=19,57), Musa paradisiaca (IVI=15,13) and Hyptis capitata (IVI=12,32). It can be concluded generally that the involvement of land management can change the amount and type of vegetation around it.

Keywords: Vegetation, Basin, Cilaja Watershed, Land

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| **Atiku Muhammad**<br>**GICICRST1805079** | **Assessment of Growth and Productivity Parameters of Tree Species in Wassaniya Forest Reserve, Sokoto, Nigeria.**<br><br>**Atiku Muhammad**<br>**Affiliation: Depatment Of Forestry, Faculty Of Agriculture,Kebbi State University Of Science And Technology, Nigeria**<br><br>**Abstract**<br>A Point Centre Quarter (PCQ) method was used to demarcate 123 sampled plots measuring 30m x 30m at Wassaniya forest reserve in Sokoto state northern Nigeria as described by (Mueller-Dombois & Eilenberg (1974). Eight different vegetation types were identified based on tree species composition. Using a stratified sampling method the biodiversity indices and growth parameters of the vegetation composition of the forest reserve were assessed. Raw data on DBH, TH, were used to calculate BA and Volume. This was further used to calculate Relative densities and relative dominance and important value index of all trees species. A total of 46 species belonging to 19 families were found with different but interesting biodiversity indices and growth parameters. A multi linear correlation model was developed from the growth and productivity parameters as dependent variables against the eight different vegetation types which serve as the independent variables. The result indicates that there is a significant difference between all the parameters tested from all the different vegetation types.<br>Key words: Assessment, Biodiversity, Forest, Parameters, Reserve, Species, Tree and Vegetation |
| **Taura Y. B.**<br>**GICICRST1805081** | **Graft Copolymerization Of Methylmethacrylate Onto Cellulosic Cotton Fabric - Effects Of Preteatments And Monomer Concentration**<br><br>**Gumel S. M.**<br>**Department of Pure and Industrial Chemistry, Bayero University, Kano. P.M.B. 3011. Kano State, Nigeria.**<br><br>**Taura Y. B.**<br>**Department of Fashion Design and Clothing Technology, Hussaini Adamu Federal Polytechnic, Kazaure, Jigawa State, Nigeria.**<br><br>**Yakubu M.K.**<br>**Department of Textile Science and Technology, Ahmadu Bello University, Zaria. Kaduna state, Nigeria**<br><br>**Habibu S.**<br>**Department of Chemistry, Federal University, Dutse P. M. B. 7156, Jigawa State, Nigeria**<br><br>**Abstract**<br>The graft polymerization of methylmethacrylate (MMA) on to enzyme desized, scoured, bleached and mercerized cellulosic cotton fabric was studied in 0.1M |

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nitric acid using ceric ammonium nitrate (CAN) as initiator. The investigation was conducted to study the possibility of grafting methylmethacrylate on to cellulosic cotton fabric at various stages of processing. Two sets of five different samples were used, four of them passed through the pretreatment stages of desizing (D), desizing and scouring (DS), desizing, scouring and bleaching (DSB), desizing, scouring, bleaching and mercerizing (DSBM) and one was kept as grey (G). The first set of these samples including the grey were grafted with 3.5mls of MMA and CAN concentration of 0.05M at a time of 3hrs and a temperature of 50°C. In the second set of samples the graft polymerization was carried out under varying concentrations of monomer, while keeping all other factors constant. The second set has all passed through the final stages of pretreatment (DSBM). The results of FT-IR (infra red spectroscopy), water absorption, dimensional stability, crease recovery properties, tearing strength indicated that there was modification in the physical and chemical properties of the cellulosic cotton fabric as a result of the graft polymerization. Tearing strength and water absorption of the grafted sample showed considerable decrease. The dimensional stability and crease recovery characteristics of the cotton fabric were generally improved.

## Humic fertilizer of western Mongolian brown coals

**Ganzorig Aduuch**
**Chemistry Department, Natural Science and Technology Institute, Khovd State University, Khovd Province, Mongolia**

**Ganzorig Aduuch**
**GICICRST1805083**

### Abstract
The brown coal fields of the "Baraan shoroot" basin in Khovd province are the only known source of high quality humates in Western Mongolia, producing what is possibly the richest of all humates mined in the Mongolia today. Data on oxidation of brown coal by nitric acid and production nitrogen-humic fertilizers are given at various temperatures with extraction of humic acids.
According to the suggested method humates are produced by hyperfine dispersion of coals containing humic acids in the presence of a chemical additive such as sodium hydroxide or potassium hydroxide. Determining the soluble humate and fulvate content of materials is relatively straight forward by extraction at high pH. The determination of humic acids is not so simple and the methods used can significantly influence the result obtained.

**Umar Farooq**
**GICICRST1805085**

## Studies On Suitability And Acceptability Of Apple And Pomegranate Peel Aqueous Extracts For The Development Of Respective Juices

**Umar Farooq**
**Department Of Food Science And Technology, Muhammad Nawaz Shareef University Of Agriculture, Multan, Pakistan**

**Afshan Shafi**
**Department Of Food Science And Technology, Muhammad Nawaz Shareef University Of Agriculture, Multan, Pakistan**

**Kashif Akram**
**Institute Of Food Science & Nutrition, Bahauddin Zakariya University, Multan, Pakistan**

### Abstract
Pomegranate (Punica granatum) and apple (Malus domestica) are rich source of bioactive compounds i.e. phenolics components, anthocyanins and tannins that can be potential antimicrobial agents. The present study was conducted to evaluate the preservative effect of pomegranate and apple peel extracts on shelf life, quality and acceptability of their respective fruit juice. For this purpose pomegranate and apple peels aqueous extracts were prepared and added as a natural preservative to their respective juices. The effect of

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| | concentration of apple peel extract and storage period on the microbiology of the apple juice was analyzed. Results revealed that the microbial stability of both juices was increased by increasing concentration of extracts with the passage of time. The results for physico-chemical analysis of both juices indicated the significant suitability of development of the apple and pomegranate juices by the addition of their respective peel aqueous extracts. Whereas sensory analysis showed reduced acceptability of pomegranate juices with its peel aqueous extracts as natural preservatives. On the basis of these results it was concluded that addition of apple and pomegranate peels extracts possess preservative effects on fruit juices but pomegranate peel extract addition in pomegranate juice was observed unacceptable. <br><br>Keywords: Natural preservatives; Aqueous extract; Shelf stability |
| **Kashif Akram** <br> **GICICRST1805086** | **Optimization Of Composite Flour For Unleavened Flat Bread** <br><br> **Umar Farooq** <br> **Department Of Food Science And Technology, Muhammad Nawaz Shareef University Of Agriculture, Multan, Pakistan** <br><br> **Afshan Shafi** <br> **Department Of Food Science And Technology, Muhammad Nawaz Shareef University Of Agriculture, Multan, Pakistan** <br><br> **Kashif Akram** <br> **Institute Of Food Science & Nutrition, Bahauddin Zakariya University, Multan, Pakistan** <br><br> **Abstract** <br> **The research study was performed to develop composite flour for unleavened flat bread using wheat, chickpea, and psyllium husk. Response surface methodology was employed in the aim of determining the experimental conditions for the optimal concentration of chickpea flour and psyllium husk powder. A central composite design was used to investigate the effects of two independent variables, psyllium husk powder (X1) and chickpea flour (X2), on physico-chemical (Y1) and sensory characteristics (Y2) of unleavened flat bread. The most significant results for physico-chemical and sensory characteristics were obtained at 5-6% psyllium husk and 15-20% chickpea flour concentrations. Physicochemical analysis results of unleavened flat bread prepared by composite flour of psyllium husk and chickpea flour showed that the values of moisture, ash, fiber, protein and fat were observed as 21.22+0.04%, 2.28+0.04, 9+0.04%, 18+0.02% and 3+0.05%, respectively. Whereas composite flour unleavened flat bread obtained the score of 9+0.03, 8.9+0.02, 8.8+0.01, 8.8+0.04, 8.7+0.04, 9+0.02 and 8.7+0.07 for color, flavor, taste, texture, foldability, chewability and over all acceptability at the concentration of 6% psyllium husk and 15% chickpea flour.** <br> **Keywords: Optimization, Composite flour, Psyllium husk powder, Chick pea flour** |
| **Afshan Shafi** <br> **GICICRST1805087** | **Therapeutic Potential Of Sweet Melon Peel** <br><br> **Umar Farooq** <br> **Department Of Food Science And Technology, Muhammad Nawaz Shareef University Of Agriculture, Multan, Pakistan** <br><br> **Afshan Shafi** <br> **Department Of Food Science And Technology, Muhammad Nawaz Shareef University Of Agriculture, Multan, Pakistan** <br><br> **Kashif Akram** <br> **Institute Of Food Science & Nutrition, Bahauddin Zakariya University, Multan, Pakistan** |

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| | **Abstract**<br>**Background:** Sweet melon (Cucumis melo) belong to cucurbitaceae family possessed high food value. The waste of sweet melon (Cucumis melo) (seeds and peels) are ridiculous source of various bio-active components.<br>**Objective:** The current research study has been planned to explore the anti-microbial potential of sweet melon (Cucumis melo) peel aqueous extract against food borne pathogens. **Methodology:** The tested microbes were, Klebsiella pneumonia, and Pseudomonas aeruginosa. Antibacterial potentials of the extracts were examined through disc inhibition zone technique and the results were compared with commercial antibiotic.<br>**Results:** Maximum antibacterial activity was shown by peel extract against Escherichia coli with average zone of inhibition 13.25±0.89 mm while least was against Bacillus subtilis 8.75±0.71 mm. The antibacterial activities of peel extract were comparable with commercial antibiotic (15.13±0.83 mm).<br>**Conclusion:** So, it is concluded from the results that melon peel oil might be used in food products as natural preservative.<br>**Key words:** Agricultural waste, Aqueous Extract, Antibacterial Activity |
| **Mr: Abdelouahed Touhami GICICRST1805088** | **Analysis Of 48-Pulse Based Upfc Performance Under Balanced And Fault Conditions**<br><br>**Mr: Abdelouahed Touhami**<br>**Intelligent Control And Electrical Power System Laboratory, University Of Sidi Bel-Abbes, Algeria**<br><br>**Pr: Zidi Sid Ahmed**<br>**Intelligent Control And Electrical Power System Laboratory, University Of Sidi Bel-Abbes, Algeria**<br><br>**Dr: Fadi M. Albatshb**<br>**2electrical Engineering Section, University Kuala Lumpur, International College, Malaysia**<br><br>**Abstract**<br>The Unified Power Flow controller (UPFC) is Voltage Source Converter (VSC) based Flexible AC Transmission System (FACTS) devices that has its unique capability to control simultaneously all the three parameters of line power flow which are line impedance, voltage and phase angle in transmission line by controlling its series and shunt converters. This device creates a tremendous quality impact on power system stability. This will give the power system operators much needed flexibility in order to satisfy the demands that the deregulated power system will impose. In This paper, using MATLAB/Simulink software, a simple power system incorporated with UPFC as an example to show and validate the improvement in power oscillation damping with UPFC, the effect of STATCOM and SSSC, when the active and the reactive power reference values changed is also presented.<br>**Key words:** FACTS, UPFC, STATCOM, SSSC, Power flow control modeling, transient Stability, MATLAB simulation. |
| **Dr. Shahbaz Ahmad GICICRST1805089** | **The Level Of Ict Utilization In Instruction By The University Lecturers In Pakistan**<br><br>**Dr. Shahbaz Ahmad**<br>**Department of Education, University of Lahore, Sargodha Campus, Sargodha, Sargodha, Pakistan**<br><br>**Abstract**<br>The ICT (Information & Communications Technology) utilization in instruction among university and college lecturers is gaining in prominence in many countries in the world, including Pakistan, for the purpose of globalization and enhancing the quality of instruction and learning. The purpose of the study was to examine the benefits of ICT utilization, the extent |

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of success factors, problems and constraints encountered in ICT utilization in instruction among lecturers in universities of Islamabad. A cross-sectional questionnaire survey was used to find out the level and extent of ICT utilization in universities of Islamabad. The sample from the study consisted of 260 lecturers drawn from the 14 universities of Islamabad. The data were analyzed using descriptive statistics and inferential statistics such as Pearson correlation, and chi square. Results of the study showed that there were significant relationships among the 14 areas of ICT utilization, significant relationships between ICT utilization and lecturers' characteristics, and significant relationships between ICT utilization and university demography. There were positive correlations between ICT utilization and some demographics such as lecturers' age, working experience, experience in computer use, frequency of ICT use, computer use at home, ICT training duration, extent of ICT knowledge, awareness of ICT and ICT written / published in university. The findings of this study could be used for improving instruction among lecturers and for designing a training model for instruction among lecturers in the pursuit of enhancing excellence and quality of education in universities. This study was subjected to several limitations that include online assessment, incorporating audio video conferencing tools, giving more sophistication to educational management software.

## Residue management for climate resilience and sustainable system productivity in rice-wheat cropping system of Punjab

**Dr.Nadeem Iqbal**
**Agronomy Section, Rice Research Institute, Kala Shah Kaku,Department of Agriculture (Research), Govt.of Punjab, Pakistan, Kala Shah Kaku, Pakistan**

**Dr.Nadeem Iqbal**
**GICICRST1805092**

**Abstract**
Rice transplanting in puddled soil is labour, water, and energy intensive practice negatively affecting soil physical properties, causing environmental pollution through methane emissions and ultimately yield decline of succeeding upland crop. Similarly, burning of rice and wheat crop residues results into losses of soil organic matter and nutrients, increased C emissions, intense air pollution, and reduced soil microbial activity. It calls for resource conservation strategies in irrigated rice ecosystems like direct seeding of rice and residue management practices.

A three-year field experiment (2014-2016) involving an annual double crop rice-wheat rotation was established at experimental area of Rice Research Institute, Kala Shah Kaku, Pakistan (31°45'35N and 73°50'16E with altitude 205 m). The treatments comprised of combinations of planting methods (TR: Transplanting of rice seedling in puddled soil DSR: Direct seeding of rice, ZT: Planting with Zero Tillage Happy Seeder in standing residues without any tillage operation) and residue management scenarios namely; T1: TR-CT (partial burning of crop residue), T2: TR-CT (incorporation of crop residue), T3: DSR-ZT (partial retention of crop residue), T4: TR-ZT (partial retention of crop residue) and T5: DSR(ZT)-ZT (full retention-combine harvesting of both wheat and rice and use of happy seeder in residue for planting).

Minimum weed density of 66.6 m-2 (grasses 30.7, sedges 19.4, broad leaf weeds 16.5) and maximum number of productive tillers m-2 (467.7), panicle length (26.7 cm), number of filled grains panicle-1 (121.6) and paddy yield (4.61 t ha-1) was recorded with T3 and it was followed by T4. The highest water use efficiency (26.1 kg ha-1 mm-1) was measured with T3 that also expressed higher values for leaf area index, total dry matter accumulation and mean crop growth rate. Similarly, significantly the highest wheat yield and total system productivity was recorded with T3 that was followed by T5.

A tillage-residue management system comprising of direct seeding of rice after conventional tillage and planting of wheat with zero tillage happy seeder in standing residue of rice (T3: DSR-ZT) is considered to be the most appropriate for highest system productivity through efficient resource utilization. Enhanced yield will encourage the farmers to adopt this climate-smart

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technology that employs S.A.L.M (sustainable agricultural land management) practices which will eventually increase crop productivity, climate resilience and carbon sequestration.

Key words: Direct seeded rice (DSR), residue management, paddy yield, wheat yield, weed density

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| **Gabriela Mihaela Muresan**<br>**GICICRST1805093** | **Financial and marketing factors on insurance brands**<br><br>**Gabriela Mihaela Muresan**<br>**Faculty of Economics and Business Administration, Babes Bolyai University, 400591 Cluj-Napoca, Romania**<br><br>**Ligia Maria Nan**<br>**Faculty of Machine Building, Technical University of Cluj-Napoca, 400641 Cluj-Napoca, Romania**<br><br>**Abstract**<br>**This paper presents issues linked to the key elements of finance and management, used at the level of 31 insurance companies registered in Romania at the end of 2016. We analyze the importance of the effects of financial and marketing factors on insurance companies. Our results highlight the valence of communication of corporate social responsibility in terms of financial performance on Romanian insurance market. This study has multiple implications on understanding the role of transparency in the insurance companies. The insurer should use more the web-sites and the social media platforms, for example Facebook, Instagram and Twitter, for a better communication with the potential insured.**<br>**Keywords: corporate social responsibility, insurance, social media** |
| **Ibrahim Haruna Shanono**<br>**GICICRST1805094** | **Finite Element Analysis of A Base Stand with Different Materials Using ANSYS software.**<br><br>**Ibrahim Haruna Shanono**<br>**Faculty of Electrical and Electronic Engineering, University Malaysia Pahang, Pahang, Malaysia**<br><br>**Abstract**<br>**In this paper, deformation, Von-Mises stress and failure analysis were carried out on a base stand using ANSYS workbench. The investigation is performed using four different materials, i.e. structural steel, aluminium alloy, carbon fibre, and copper alloy with an applied loading force of 1000N at the tip of the structure. The results obtained were compared and analysed, to identify the best material capable of withstanding the subjected force. This technique highlights a complete reaction of the structure to the loading force, therefore providing the room for structural optimisation to reduce the risk of unexpected failure and unnecessary material wastage. The structural design was carried out using SolidWorks software and then imported into the ANSYS workbench for analysis.**<br>**Keywords: Finite Element Analysis, Base Stand, ANSYS, Deformation, Von-Mises Stress.** |
| **Julieana Durai**<br>**GICICRST1805095** | **Serial Evaluation Of Thrombopoietin In Cases Of Gastrointestinal Malignancy**<br><br>**Julieana Durai**<br>**Lab Oncology Unit, Dr. BR Ambedkar Institute Rotary Cancer Hospital, All India Institute of Medical Sciences (A.I.I.MS),New Delhi, India**<br><br>**Abstract**<br>**Introduction:**<br>**Thrombopoietin (TPO) is a protein that is encoded by the TPO gene. It regulates the production of platelets. It is believed that plasma level of TPO is regulated by its binding to platelets and megakaryocytes.**<br>**Material & Method: A prospective study was conducted comprising of 72 cases** |

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(32 female, 40 male) of gastrointestinal cancer, which were undergone surgery in the year 2016. It included cancer of esophagus, stomach, colon and ano-rectum. Three serial whole blood samples were taken from single patient, 1st preoperatively, 2nd& 3rd postoperatively on day 3 & day 5. Serum samples were stored at-80C. Samples were tested for thrombopoietin (TPO) and procalcitonin (PCT) by ELISA technique. Statistical analysis was done.

Result: Day 3 after surgery, patients (n = 72) showed a significant thrombocytopenia followed by a reactive thrombocytosis on Day 5. Platelet recovery was preceded by a significant rise in TPO (from 162.4 +/- 118.8 pg/ml at baseline to 355.3 +/- 304.4pg/ml at 72 h, p <0.0001), which in turn was preceded by a marked increase in PCT (from 141.7 +/- 406.4 pg/ml at baseline to 659.6 +/- 1087.0 pg/ml at 72 h, p <0.0001). The rise of both PCT and TPO was significantly higher in all patients at an interval of 3-4 days. No correlation was found between the post-operative decrease in platelet mass and changes in either the TPO or PCT levels.

Considering the change of parameters from day 3 to 5, there was rise in Platelets and decrease in TPO and PCT. These changes were not found statistically significant. But statistically significant changes were noticed from day 1 to day 5 similar to day 1 to day 3.

Conclusion:

Findings suggest that circulating TPO levels, besides being controlled by changes in platelet mass, are also influenced by certain cytokines involved in oncogenesis and inflammatory processes. Studies suggest that it is influenced by IL-6. It has shown activities like acute phase reactants for e.g. C-reactive protein.

## A Survey Of Automatic Lip Reading Approaches

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Faculty Of Science And Technology Universiti Sains Islam Malaysia

**Prof. Madya Dr. Norita Binti Md Norwawi**
Faculty Of Science And Technology Universiti Sains Islam Malaysia

**Dr. Waidah Binti Ismail.**
Faculty Of Science And Technology Universiti Sains Islam Malaysia

**Khaled Nayef Ahmad Abu Nab GICICRST1805096**

### Abstract

In most cases, automatic speech recognition (ASR) performs well under restricted conditions such as quiet environment, while performance degrades in noisy environments. However, in some cases, the use not only of sound, but also video information can improve the quality of recognition or even for Modify the audio model. In this paper, the study presents research efforts in lip reading recognition by using Active Appearance Models (AAM) and Hidden Markov Models (HMM). AAM combines a shape model with a statistical model of the grey levels in the mouth region. Hidden Markov Models (HMM) approach is employed for Lip recognition or lip reading . In this paper, it is argued that the visual features based on shape . Also discussion of characteristics and efficiency toward lip reading recognition will be included. The efficiency of both approaches (AAM and HMM) will be evaluated, compared and discuss depending on their performances. The process recognition of visual features for an improved lip reading recognition will be presented.Keywords: Active Appearance model, Speech Recognition, Hidden Markov Model, Lip Reading

### Aproach Of Detecting The Motion Of The Human Lips In The Video Stream

#### Abstract

In the modern era, models and techniques for the recognition of human visual speech have been increased popularly. One of the approaches in which the automated lip reading obtains visual speech data is to extract relevant information from the video stream to search for the coordination of control

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| | points of the lip area and to analyze the modifications in the coordination of the same points . The paper presents a method for detecting lip movements of the human in a video stream using a phone camera. The major steps of the method for detecting lips movements are presented. The presented technique permits to recognize movements of person's lips effectively throughout the video stream.<br>Keywords: lip reading, face recognition, visual speech , key points of the lips. |
| **Ling Ling Tan**<br>**GICICRST1805056** | **Optical Sensor Based On Immobilized Nitrite-Degrading Microorganism On Acrylic Microspheres For Visual Quantitation Of Nitrite**<br><br>**Ling Ling Tan**<br>**Southeast Asia Disaster Prevention Research Initiative (SEADPRI-UKM), Institute For Environment And Development (LESTARI), Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor Darul Ehsan, Malaysia**<br><br>**Siti Nur Syazni Mohd Zuki**<br>**Faculty Of Industrial Sciences & Technology, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Gambang, Kuantan, Pahang Darul Makmur, Malaysia**<br><br>**Nina Suhaity Azmi**<br>**Faculty Of Industrial Sciences & Technology, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Gambang, Kuantan, Pahang Darul Makmur, Malaysia**<br><br>**Abstract**<br>**A microspheres-based microbial optosensor for $NO_2^-$ ion quantitation was constructed by using immobilized Raoutella planticola (R. planticola), the bacterium expressing NAD(P)H nitrite reductase (NiR) enzyme, which was isolated from local edible bird's nest (EBN) via microbial technique. The whole cells and the lipophilic Nile Blue chromoionophore (NBC) were physically adsorbed on the self-adhesive photocurable poly(n-butyl acrylate-co-N-acryloxysuccinimide) [poly(nBA-NAS)] microspheres, whilst the reduced co-enzyme NAD(P)H was covalently immobilized on the succinimide-functionalized acrylic microspheres via peptide link to produce a reagentless nitrite biosensing system. As the microbial bio-optode responded to nitrite through colour change from blue to pink, a facile reflectometric approach was adopted to measure reflectance intensity at 639 nm, before and after reaction with nitrite at optimum pH 8. The optosensor could quantify $NO_2^-$ ion concentration within a dynamic linear response range of 0.5-400 mg L-1 with a limit of detection (LOD) of 0.2 mg L-1. The large surface area to volume ratio of the acrylic microspheres allowed solid-state diffusional mass transfer of the substrate to occur at micro-bio-optode surface, and an equilibrium response was achieved within 5 min. The practical feasibility of using the bio-optode for nitrite assay in food matrix sample showed good agreement with standard ion chromatography method.**<br>**Keywords: Nitrite; Raoutella planticola; Edible bird's nest; Optode; Reflectance.** |
| **Sallehuddin Ibrahim**<br>**GICICRST1805057** | **Ultrasonic Tomography for Visualizing Gas Bubbles Flow**<br><br>**Sallehuddin Ibrahim**<br>**Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia**<br><br>**Mahdi Faramarzi**<br>**Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia**<br><br>**Mohd Amri Md Yunus**<br>**Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru,** |

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| | **Johor, Malaysia** |
| | **Mohd Taufiq Md Khairi**<br>**Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia** |
| | **Abstract**<br>**Imaging of flow involving gas bubbles is important for the process industries. Ultrasonic tomography provides a useful tool for visualizing the internal behaviour of such flow. This paper presents an investigation on the use of an ultrasonic tomography system to visualize gas bubbles flow in a vertical pipe. The system which has sixteen 333 kHz ultrasonic transceivers was tested with six different phantoms resembling gas bubble flow and the results showed that it was capable of detecting the locations of the bubbles.**<br>**Keywords: Bubbles, Flow, Ultrasound, Tomography, Visualization.** |
| **Hala Ahmed Abdou**<br>**GICICRST1805058** | **A Baseline Assessment of Patient Safety Culture among Nurses at Student University Hospital**<br><br>**Hala Ahmed Abdou**<br>**Nursing Administration Department, Faculty Of Nursing, Alexandaria University Nursing Department, College Of Nursing - Jeddah, King Saud Bin Abdul-Aziz University For Health Science.**<br><br>**Kamilia M. Saber**<br>**Department of Nursing Administration, Faculty of Nursing, Alexandria University, Alexandria, Egypt**<br><br>**Abstract**<br>**There is widespread interest in measuring healthcare provider attitudes about issues relevant to patient safety. Increasingly, health care organization is becoming aware of the importance to improve safety culture. So interesting in safety culture assessment has been grown in parallel with increasing focus on different aspects of safety performance through providing a well managed system. The current study aimed to assess patient safety culture among nurses at Student University Hospital-Egypt. A descriptive correlational research design was selected for this study. The study was conducted in twelve inpatients units at Student University Hospital. Subjects consist of a convenience sample of one hundred and sixty five nurses from those meeting the inclusion criteria, available during data collection period and working in the above mentioned settings. A self administered Safety attitude questionnaire (SAQ) developed by University of Texas was used to collect data. Data were collected over a one-month period. Bivariate and multivariate analysis revealed that positive responses of safety culture dimensions had the highest ratings among nurses whereas they were generally satisfied with their job followed by team work climate while they reported lowest ratings includes perceptions of management. Also, technical nurses who are employed in ICU reflected a significantly highest perception of overall safety culture dimensions compared to those professional nurses who working in CCU and general units. Significant relationship was observed between socio-demographic characteristics and all dimensions of safety culture. The finding concluded that providing insight into nurses' safety attitudes that can be used as a baseline for raising safety awareness throughout the organization and identifying the areas that need for improvement.**<br>**Key words: Safety culture, Safety climate, Safety attitude, Inpatient units** |
| **Mahmoud Nadim Nahas**<br>**GICICRST1805075** | **The Fracture Behavior Of Random Fiber-Reinforced Composites**<br><br>**Mahmoud Nadim Nahas**<br>**Professor, Mechanical Engineering Department King Abdulaziz University P. O. Box 80204, Jeddah 21589, Saudi Arabia** |

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| | **Abstract**<br>An experimental investigation of the fracture behavior of random fiber-reinforced composites has been carried out using tension tests. The crack opening displacement (COD) was measured continuously with the applied load. The load-COD curves were used to draw the R-curves (crack growth resistance curves). Using the resulted R-curves, few analytical relationships have been obtained. From these relationships, the fracture toughness have been predicted.<br>Keywords: composites; fracture; R-curve; toughness. |
| **Nangkula Utaberta**<br>**GICICRST1805076** | **Evaluating Public Expectation On Accesibility Factors Of Community Center Designs In Kuala Lumpur, Malaysia**<br><br>**Nastaran Jafari**<br>**Department of Architecture, University Putra Malaysia, Malaysia**<br><br>**Azmal Sabil**<br>**Department of Architecture, University Putra Malaysia, Malaysia**<br><br>**Nangkula Utaberta**<br>**Department of Architecture, University Putra Malaysia, Malaysia**<br><br>**Abstract**<br>Community center as a public space must be seen and treated as a crucial part of the planning process for urban development. The Malaysian Government is consistently to improve the quality of life with Malaysian's aspiration toward becoming a developed nation. The main objective of this paper is to identify significant criteria for formulating a design framework for responsive community centers based on community expectation in the Malaysia. To achieve this objective, four community centers in four regions of Kuala Lumpur were used as the case studies to show the participants expectation and evaluation toward using the community center in terms of accessibility factors. Quantitative research was conducted in this research and data was collected through questionnaire survey and analyzed by using SPSS. The result of the questionnaire presented that, participants.<br>Keyword: Expectation, accessibility, Community Center<br>_____<br>_<br>**The Evaluation Of Universal Design And Accessibility For People With Disabilities In Masjid Wilayah By Using Malaysian Standard Of Ms 1184:2014, "Universal Design And Accessibility In The Built Environment - Code Of Practice"**<br><br>**Nangkula Utaberta**<br>**Department of Architecture, University Putra Malaysia, Malaysia**<br><br>**Mahsa Dabbagh Niya**<br>**Department of Architecture, University Putra Malaysia, Malaysia**<br><br>**Azmal Sabil**<br>**Department of Architecture, University Putra Malaysia, Malaysia**<br><br>**Abstract**<br>In achieving fully developed country, one of the main criteria is to establish a fully caring society. This is as highlighted as one of the nine central challenges in the body "Wawasan 2020.Along with developed societies overcoming such dysfunctional built environments has become under consideration in Malaysia as well to remove barriers and provide equal access of people with disabilities (PWDS) to all public services. Notwithstanding practical steps taken, there are still dissatisfactions from the members of public toward public buildings which cause restriction in PWDS daily life. Previous studies has also raised claims |

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| | against inaccessibility of mosque buildings as well. In order to realization of a barrier-free built environment for a huge portion of Malaysia population, this research aimed to investigate accessibility and usability of Malaysian mosques for PWDS. Masjid Wilayah was selected for the purpose of this study. The most recent revision of available Malaysian Standard of MS 1184:2014, "Universal Design and Accessibility in the Built Environment - Code of Practice", became the reference in this study. A comprehensive evaluation checklist was constructed for the purpose of a systematic observation including 162 checkpoints under 22 items of accessibility. |
| **Mouaaz Nahas** **GICICRST1805078** | **Improving The Real-Time Behavior Of A Distributed Control System By Reducing Transmission Jitter** **Mouaaz Nahas** **Department Of Electrical Engineering, College Of Engineering And Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia** **Abstract** The Controller Area Network (CAN) protocol is still widely used in distributed real-time, resource-constrained embedded systems due to its profound roots in automotive and other industries. CAN employs bit-stuffing mechanism for clock synchronization which in turn makes the frame length vary depending on the transmitted data, and hence produces jitter. There have been several attempts to deal with transmission jitter caused by bit-stuffing mechanism, e.g. XOR masking, Software Bit Stuffing, Eight-to-Eleven Modulation, Third Bit Complement, and some others. This paper verifies the usefulness of software bit stuffing technique in reducing transmission jitter and hence improving the control performance of a distributed CAN-based adaptive cruise control system used in modern passenger vehicles. Keywords : Jitter, bit stuffing, scheduler, time-triggered, shared-clock, adaptive cruise control, hardware-in-the-loop, jerk |
| **Thilini Kananke** **GICICRST1805082** | **Estimation of bioaccumulation, translocation and distribution patterns of cadmium and lead in commonly consumed green leafy vegetables in Colombo District, Sri Lanka.** **Thilini Kananke** **Department of Food Science and Technology, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka.** **Jagath Wansapala** **Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka.** **Anil Gunaratne** **Department of Livestock Production, Faculty of Agriculture, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka.** **Abstract** Green Leafy Vegetables (GLV) are a key component of the Sri Lankan diet. However, GLV are identified as good heavy metal accumulators, which in turns causes potential health risks for consumers through food chain contaminations. The present study aimed to investigate the bioaccumulation, translocation and distribution patterns of cadmium (Cd) and lead (Pb) in five key Sri Lankan GLV ["Kankun" (Ipomoea aquatica), "Mukunuwenna (Alternanthera sessilis), "Thampala" (Amaranthus viridis), "Nivithi" (Basella alba) and "Kohila leaves" (Lasia spinosa)] grown in Colombo District, Sri Lanka. The levels of Cd and Pb in different plant parts (roots, stems and leaves) and the soil underneath were determined using the inductively coupled plasma optical emission spectroscopy (ICP-OES) and the bioaccumulation and translocation factors of heavy metals from soil to different plants parts (roots, stems, leaves), were calculated to identify the hyper accumulative species. |

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| | Irrespective of the species and the location, GLV showed the distribution pattern for Cd and Pb as: roots>stems>leaves. In all the analyzed GLV, roots have accumulated significantly higher concentrations (at $P<0.05$) of Cd and Pb compared with stems and leaves. Among the two heavy metals, Cd bioavailability was higher compared with Pb. Amaranthus viridis had the lowest capacity for metal enrichment. In contrast, Lasia spinosa showed the highest bioaccumulation factors for both elements and the accumulation factor obtained for Cd (1.04) was >1. Thus, Lasia spinosa has the potential to use in phytoextraction and phytoremediation purposes in future, to clean the metal contaminated environments, though it is not safe to consume as a day to day food item. **Keywords:** Green Leafy Vegetables, Heavy Metals, Distribution, Bioaccumulation |
| **Sebastian GICICRST1805091** | **Load Abalancing Optimization For Rpl Based Emergency Response Using Q-Learning (Lbo-Ql)** **Sebastian** **Research Scholar, Department Of Computer Science And Applications, Gandhigram Rural Institute, Dindigul, Tamilnadu, India** **Dr. S. Sivagurunathan** **Asssistant Professor, Department Of Computer Science And Applications, Gandhigram Rural Institute, Dindigul, Tamilnadu, India** **Abstract** Internet of Things technology is a collection of sensors and actuators which gathers data from physical environment that can be stored and processed to generate actuating information. Physical environment data such as temperature, pressure, humidity, pollution and any valuable parameters related to body, machine, etc have great value for automation, fault detection and timely remedy. Thus, IoT networks have given rise to Smart Cities, Smart Health, Smart Transport Logistics, Smart Production and Supply chain management, Smart Home and many more. For IoT deployments, ROLL-WG has standardized Routing Protocol for Low Power and Lossy Networks (RPL) for urban environment (RFC 5548), home automation (RFC 5826), industrial control (RFC 5673) and building automation (RFC 5867). RPL is a destination vector protocol for low power devices which is designed to address the needs of constrained IoT environment. In RPL, nodes organize themselves by forming a Destination Oriented Directed Acyclic Graph (DODAG) rooted towards the sink. RPL uses Objective Functions (ETX & Hop Count) to optimize path selection. Many new Objective Functions for IoT applications are suggested by researchers for path optimization. In most cases, RPL is efficient in providing fast network convergence. However path optimization and network performance are affected by Load Balancing problem. Emergency responses in smart cities need serious attention. In addition to fast convergence, load balancing optimization is the aim of our proposed work. Machine learning provides lot of scope for optimization for unknown environments such as emergency response. So we explore machine learning algorithm like incremental learning or Q-learning technique to optimize load balancing algorithm. Our proposed method is envisaged to address problems related to RPL load balancing and path optimization for emergency response in IoT based smart cities. The proposed method is efficient theoretically and tested using standard simulator, Contiki OS and Cooja simulator. The proposed model provides improved efficiency in Packet Delivery Ratio, Traffic Control Overhead and Power consumption. Hence, RPL load balancing optimization using Q-Learning for emergency response is efficient managing constrained resources improved network stability. **Key words:** Internet of Things, RPL, Load Balancing Optimization, Emergency Response, Q-Learning |

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**Efficient Removal Of Fluoride In Water Using Activated Biochar From Food Waste :Thermodynamic And Kinetic Study**

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**Abstract**
**Thermally treated domestic food waste is utilized to prepare bio-char, followed by chemical activation to obtain activated bio-char(Biochar-act) which is used as de-fluoridating agent in contaminated water. The structural property of the synthesized activated bio-char is studied in detail. From continuous batch process, it is shown that efficiency of bio-char with lower degree of carbonization has remarkable properties of de-fluoridation. Here temperature, contact time and adsorbent dose , used as process parameters, have strong influence on fluoride uptake process. The adsorption equilibrium data are well fitted to the Langmuir isotherm model. Comparatively the data provided by pseudo-second-order kinetic model correlated better experimentally than pseudo-first-order kinetic model. From thermodynamic point of view, it is experimentally proved that de-fluoridation onto activated bio-char is spontaneous and endothermic in nature. Here, a low-cost process is suggested using low-cost starting materials to convert bio-char upon heat treatment at $350°C$andthen activated chemically**

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