



## **Conference Proceedings**

**2nd ICSTR Malaysia – International Conference on Science & Technology Research, 28-29 June 2019**

28-29 June 2019

### **CONFERENCE VENUE**

The Regency Scholar's Hotel, Universiti Teknologi Malaysia (UTM), Kuala Lumpur, Malaysia

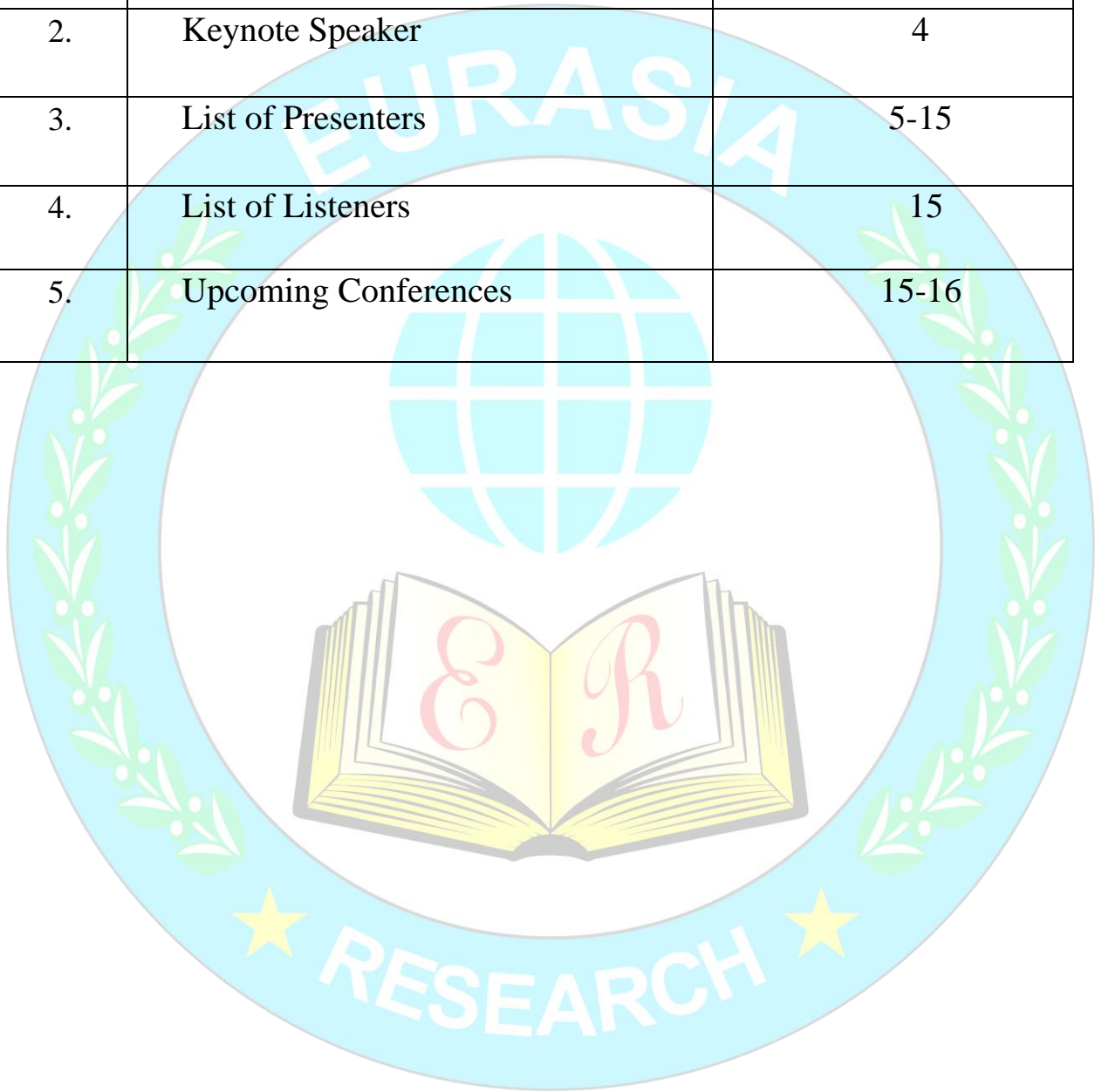
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**Preface:**

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## **KEYNOTE SPEAKER**



### **Abdelmoiz Ramadan**

**Teacher, Ministry of Education, Technical and Vocational Education and Training, Sudan**

**Topic: Challenges and Opportunities of TVET in Developing Countries: A Cases from Sudan**

Abdelmoiz Ramadan is a teacher at the Ministry of Education, Technical and Vocational Education and Training TVET, Sudan. He is PhD candidate, School of Computer Science and Information Technology, Northeast Normal University NENU, China. He joined NENU in 2015, his project title is: Towards Integration ICT in TVET: A Case Study in Sudan. He received his Masters of education in 2009 from Sudan University of Science and Technology SUST. His project attempts to integrate ICT technologies in pedagogical practice and teacher professional development. He has published articles in international conferences and journals; world journal of education; PEOPLE: International Journal of Social Science and Springer. He is an Advisory Board Member of Teaching & Education Research Association – TERA, Eurasia Research, and Editorial Board Member of Humanities and Social Sciences Journal Profile

## PRESENTERS

<p><b>Dr. Asoke Kumar Saha</b> ERCICSTR1908051</p>	<p style="text-align: center;"><b>Patient Satisfaction Level on Medical Care in Perspective of Bangladesh</b></p> <p style="text-align: center;"><b>Dr. Asoke Kumar Saha</b> Chairman &amp; Professor, Dept. of Psychology, Jagannath University, Dhaka, Bangladesh Editor-in-Chief, Jagannath University Journal of Psychology, Dhaka, Bangladesh</p> <p style="text-align: center;"><b>Abstract</b></p> <p>The purpose of the present study is to investigate whether the medical care has any effect on the patient satisfaction. A total of 90 patients from different place of Dhaka city were taken as the sample of the study where 45 were male and 45 female and among them 30 were adult(18-40yrs),30 middle age(40-60yrs) and 30 were old age(60-death) patients. The study was implying a cross-sectional survey method. The major objective of the study is to measure the patients' satisfaction as a function of sex and age as different stages of life in the perspective of Bangladesh. The Bangla versions of Patient Satisfaction Questionnaire (PSQ) originally developed by Wale et al., (1976) and the PSQ have been developed, researched, and modified by Wilkin et al., (1992) was used in the present study. The analysis of variance (ANOVA) of patient satisfaction according gender was computed. The results of the F-test found that there is a significant difference in patients' satisfaction in relation to gender. The results of the study are discussed in the context of Bangladesh.</p> <p><b>Keywords: Patient Satisfaction, Medical Care, Doctor-Patients Relationship</b></p>
<p><b>Dominga Esnara Gabriel</b> ERCICSTR1908053</p>	<p style="text-align: center;"><b>Formulation and Evaluation of Flavored Potato Ice Cream</b></p> <p style="text-align: center;"><b>Dominga Esnara Gabriel</b> Faculty of BTVEd, Benguet State University, Philippines</p> <p style="text-align: center;"><b>Marcializa Waklin Bogtong</b> Formerly Job Order, Canteen Manager, Benguet State University, Buguias Campus, Philippines</p> <p style="text-align: center;"><b>Linda Palatino Goygoyan</b> Faculty of BTVTED, Benguet State University, Philippines</p> <p style="text-align: center;"><b>Abstract</b></p> <p>The study was conducted to formulate flavored potato ice cream products and to evaluate their organoleptic acceptability, nutritional content, shelf life, production cost and the consumers' taste preference. The potato ice cream products were formulated through experimental method. Fifty respondents were randomly selected to evaluate the products. Samples of the products were subjected to nutritional analysis and microbial test at the laboratory of the Department of Science and Technology (DOST – CAR). Formulation with three teaspoons vanilla flavor; one cup chocolate powder; and three tablespoons of buko – pandan flavor got the highest organoleptic acceptability ratings and thereafter finalized as Potato Ice Cream Vanilla, Potato Ice Cream Chocolate and Potato Ice Cream Buko-pandan. The products have an acceptable nutritional profile and maintained their palatability for a period of four months as were kept unopened and stored under freezing condition. The production cost per piece of each product is minimal with promising return on investment. Potato ice cream vanilla and chocolate are more preferred than the commercially available vanilla and chocolate ice cream while there is equal respondents' taste preference of the commercial and potato ice cream buko-pandan. Hence, these products can compete with the similarly flavored commercial ice cream and can generate income when commercialized. Result of the study is relevant for it can contribute to the sustainability of agri-enterprise and food security in the community.</p> <p><b>Keywords: Flavored Potato Ice Cream, Potato, Ice Cream, Formulation, Evaluation</b></p>
<p><b>Iiyasu Usman</b> ERCICSTR1908055</p>	<p style="text-align: center;"><b>An Estimation of Ultraviolet Index UVI from Global Solar Irradiance GSI in Sokoto</b></p> <p style="text-align: center;"><b>Iiyasu Usman</b> Department of Physics, Sokoto State University, Sokoto, Nigeria</p> <p style="text-align: center;"><b>Abstract</b></p>

	<p>An estimation of Ultraviolet Index UVI from global solar irradiance GSI in Sokoto, Centre for Energy Research, Usmanu Danfodiyo University, Sokoto Nigeria using pyranometer CPM11 on a horizontal surface based on a single parameter were Investigated. In this work, five days of global solar irradiance data were used to estimate the UVI, the low values ranges from 1-2, and the extreme values were 11-14 UVI observed at early hours 10:00am-12:00pm and 12:00-2:00pm respectively. The results of calculations are compared well with the UVI derived from erythema ultraviolet EUV irradiance Samui island and Phuket island in Thailand.</p> <p><b>Keywords:</b> UV index, Global Solar Radiation, World Health Organization, Pyranometer</p>
<p><b>Kumar Das Nisansala Madushani Deshappriya ERCICSTR1908056</b></p>	<p><b>An Improved Approach of Performance Factor Assessment Method as a Continuous Improvement Tool for Apparel Manufacturing</b></p> <p><b>Kumar Das Nisansala Madushani Deshappriya</b> <b>Department of Mathematics, University of Sri Jayewardenepura, Colombo, Sri Lanka</b></p> <p><b>Abstract</b></p> <p>The purpose of this study is to introduce an Improved Approach of Performance Factor Assessment Method (IAPFAM) for Sri Lankan apparel industry as a continuous tool for improving the labour productivity through analyzing the activities and motions of sewing sections' employees. The Improved Approach of Performance Factor Assessment Method consists six steps: Identifying the work units, Motion Study, Activity Sampling, Data Analysis, and Eliminating/ reducing unnecessary motions and activities, and Measure the labour efficiency. After measuring the labour efficiency, researcher comes back to the first step for further improvements as a continuous improvement tool. Data analysis and implementation of appropriate solutions are the critical part of this study. The results showed that talking privately, discussing work related things, idle sitting, judgments, cutting excess threads are the critical Non-value added and Necessary non-value added activities which have to be eliminated from the process. Bottleneck of the motions can be identified through motion study. Activity Sampling Technique and Motions Study are the most significant steps of this study. Therefore this is mainly primary data driven research. After implementing probable solutions for those activities and eliminating unnecessary motions, labour efficiency could be increased greatly. These techniques of analysis can be applied to other sectors of manufacturing regardless of nature of the product and working conditions.</p> <p><b>Keywords:</b> Improved Approach of Performance Factor Assessment Method, Activity Sampling Technique, Labour Productivity, Lean Manufacturing, Continuous Improvement</p>
<p><b>Syed Mohamad Shazali ERCICSTR1908057</b></p>	<p><b>DOF Handheld Haptic Device Rendering Roll Motion of ROV</b></p> <p><b>Syed Mohamad Shazali</b> <b>Center for Robotics and Industrial Automation, Faculty of Electrical Engineering, Universiti Teknikal, Melaka, Malaysia</b></p> <p><b>Abstract</b></p> <p>While scientist and marine industries exploring what the ocean had to offer, Remotely Operated Vehicle (ROV) still the best option they have to do it. While most ROV controlled by varying its motion, it is very helpful to be able to control the orientation directly through a handheld device. This offers opportunity to provide haptic feedback on such handheld device. Haptic device provides force feedback to as a cue signal to a user. The motivation of this work is to give the sensation of rolling object to a user when an ROV, controlled through the handheld device, rolling on the x-axis. The challenge of delivering actual force feedback, instead of a pseudo force, on a handheld device was tackled by using a pair of thrusters, made by brushless DC motors. This device successfully provides up to 168 g (1.65 N) of thrust at it full capacity from each thrusters which gave effective 336 g (3.3N) of thrust in total. While more work can be done to improve the convenient of the user using the device, this device had managed to provide small but enough force feedback for the user to receive the necessary cue. This paper discussed the approach, some testing results and future work for this study.</p> <p><b>Keywords:</b> Haptic Feedback, Handheld Device, ROV Control</p>



Richard Ojedele  
ERCICSTR1908058

**Prevalence of Tinea Capitis among Children in Osogbo, Nigeria, and the Associated Risk Factors**

**Richard Ojedele**

Department of Medical Microbiology and Parasitology, Ladoké Akintola University of Technology,  
College of Health Sciences, Osogbo

**Abstract**

Tinea capitis is a fungi infection of the scalp that disproportionately affects children in rural and underserved communities in Nigeria. A case-control study was conducted to identify the causative agents and factors that predispose school pupils to tinea capitis in two selected government-owned public primary schools in Osogbo, Southwestern Nigeria. A total of 230 participants were included in the study: 115 cases and 115 controls. Head scrapings were collected from pupils with suspected T. capitis lesions, viewed under Potassium Hydroxide smear microscopy and cultured in Sabouraud's Dextrose Agar (SDA) for characteristic fungal elements. A total of 105 (91%) samples were successfully cultured, of which 56% (59/105) were from male pupils. Tricophyton rubrum (34%), Tricophyton mentagrophyte (31%) and Microsporum canis (18%) were the most prevalent organisms. Other dermatophytes obtained include Microsporum nanuum (3%), Epidermophyton floccusum (6%), Tricophyton verucosum (1%), and Microsporum gypseum (8%). Pupils between the ages of 4 and 7 years had the highest distribution (67%) followed by those between the ages of 8 and 11 years (39%). Playing with animals, the sharing of combs and not bathing with soap were significantly associated with tinea capitis infection ( $P < 0.05$ ) in each case. This study showed a high prevalence of tinea capitis caused by the identified dermatophytes in the area.



Usman Isyaku  
Bature  
ERCICSTR1908059

**A Review of Cloud Delivery Models: Challenges, Security Threats, Benefits and Drawbacks**

**Usman Isyaku Bature**

Department of Computer and Communications Engineering, Abubakar Tafawa Balewa University  
Bauchi, Nigeria

**Abstract**

Cloud computing has been a key factor nowadays and one of the most capable technologies when it comes to delivery of computational resources in a shroud autograph called "Cloud". Cloud Computing service providers deliver numerous services to the clients through service delivery models termed as SPI and popularly known as Software as a service (SaaS), Platform as a service (PaaS) and Infrastructure as a service (IaaS). This paper is aimed at providing a simple understanding of Cloud Computing services and explores ways in which SPI interact with one another, and further compare and contrast between these models in terms of their characteristics and sources, services offered, critical security issues and challenges currently faced by these service models, and lastly the advantages and disadvantages of these models were discussed and further elaborated in tabular form. Keywords: Cloud Computing, Challenges, Benefits, Platform, Security, Service Delivery Models, Software



Abubakar Lawal  
ERCICSTR1908060

**Chemometrics Approach to High Performance Liquid Chromatography-Tandem Mass Spectrometry for Multi-Standard Determination of Pesticides using Multivariate Response Surface Methodology**

**Abubakar Lawal**

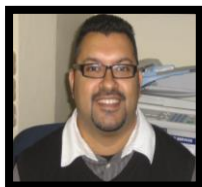
Department of Pure and Industrial Chemistry, Umaru Musa Yar'adua University, Katsina, Nigeria

**Abstract**

The response surface methodology (RSM) for the design of experiment (DOE) is considered as one of the best multivariate optimisation approach, which can be used to obtain the optimum condition of an Analytical instrument prior to the main analysis of a research. However, the multivariate optimisation approach of this research involved the use of Blanket-Burman and Box-Behnken designs generated by Minitab statistical software for the screening and optimisation of significant factors, respectively, at 95% confidence interval (0.05 confidence limits). The analysis was carried out using a multi-standard mixture of pesticides solution for optimisation of the high performance liquid chromatography-tandem mass spectrometry (Agilent G6490A LC-MS/MS) instrument. The multiple reaction monitoring (MRM) of the instrumental runs for analysis of the multi-pesticides mixture of standard solution

resulted in chromatographic peak separation (areas). The numerical values of the areas were summed up to total chromatographic peak areas (TCPAs), which were used as responses for the screening and optimisation of significant factors of the instrument. Eventually, the analysis carried out favoured the RSM optimised LC-MS/MS instrument over the unoptimised LC-MS/MS instrument after comparative studies. Therefore, these results justify the potential benefits of optimising the LC-MS/MS instrument before analysis of various analytes such as multi-pesticide residues.

**Keyword:** Chemometrics RSM; Liquid chromatography-mass spectrometry; Pesticide analytes; Total chromatographic peak area



**Desan Iyer**  
ERCICSTR1908062

**The Importance of Introducing Nonverbal Communication into Law Curriculums**

**Desan Iyer**

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**Abstract**

Many law bodies in South Africa such as the Law Society, Judiciary and National Prosecuting Authority have expressed concern about the competency of law graduates to practice law in the “real world”. The growing concern about the disjuncture between legal education and the professional demands and the shortage of practice skills has been cited as one of the major stumbling blocks. A cause for concern is that modern day legal studies at many tertiary institutions in South Africa exclude the study of nonverbal communication as a standalone module in their law curriculums. Therefore, within the domain of the legal profession and the tertiary environment, there has been a degree of ignorance about the effectiveness of nonverbal communication as a means of improving the so called “practice” skills of attorneys. In South Africa as well as worldwide, there has been little scholarship concerning nonverbal skill development in law. Some investigations have been undertaken on the role and importance of nonverbal behaviour as a communicative tool, yet limited research had been undertaken on its impact and benefits to the legal profession. The existing literature on nonverbal communication has shown that it does improve the communicative process as well as assisting people to understand themselves and others. For the legal profession, an understanding of the dynamics of nonverbal communication is vital to improving the overall communicative legal skills of the attorney. The need to make nonverbal communication part and parcel of every law curriculum has never been greater. The paper seeks to address the grey area that currently exists within the current legal framework with the objective of introducing nonverbal communication into the law curriculums in South Africa. As a way forward, it will become evident that there is a strong need for robust practical and skills emphasis in most law programmes, and such interrogation should ultimately prepare graduates for practice. The study of nonverbal communication amalgamated with traditional legal skills would go a long way in producing law graduates who have a systematic and coherent body of knowledge as well as a high level of cognitive and generic skills that will pave the way forward for successful practice.

**Tsowa Elijah**  
ERCICSTR1908064

**Evaluation of Compressive Strength and Durability of Concrete Containing Cocount Husk Fiber**

**Tsowa Elijah**

**Department of Building Technology, Federal Polytechnic, Bida, Niger State, Nigeria**

**Abstract**

Concrete have been used since the era of Roman Empire and the earliest form of concrete was made from quicklime, pozzolana and other aggregate of pumice. Most construction work are done with mass concrete using specified concrete grade, situation occurs where cracks start to form as soon as the concrete is been placed and before it becomes properly hardened those crack can be overcome by use of fibers and also to improve in the use of local material, in order reduces pollution and also to make environment more friendly .Concrete characteristically deteriorate when in contact with acid and durability decrease faster as concrete remain in contact with acid. That is to say, concrete erection cannot cover its life span in acidic environment. Using 0%, 0.25%, 0.5% and 0.75% of fibers of weight of fine and coarse aggregate, cement and detergent used to test for durability of concrete. The concrete cubes were cast using 100x100x100mm steel mould. the concrete sample were all cured in water and detergent and tested at 7days,21days and 28days an destructive compressive test concrete sample and effect of detergent on strength of concrete and it durability were observed. The result obtained show that OPC specimen and those containing 0.25%,0.5%,0.75% of fibers developed a compressive



strengths of 21.29N/mm<sup>2</sup>, 26.73N/mm<sup>2</sup>, 23.89N/mm<sup>2</sup>, and 22.59N/mm<sup>2</sup>, at 28 days. Detergent results of OPC and 0.25%, 0.5%, 0.75% of fibers are 19.23N/mm<sup>2</sup>, 20.03N/mm<sup>2</sup>, 19.02N/mm<sup>2</sup>, and 19.83N/mm<sup>2</sup> at 28 days. The entire specimen gain weight 0.02kg with smooth edge and cloudy surface while specimen under detergent condition experience gradual rate of deterioration with rough edge and rough texture. this implies the introduction of coconut husk fiber into concrete in correct proportion judging from the compressive strength and durability increase the strength and reduce rate of deterioration .it can be concluded that the addition of coconut husk fiber into concrete increase the strength and have advantage under aggressive environment.

**Keywords:** Coconut Husk Fiber, Compressive Strength, Durability, Deterioration



Joseph Francis Itiat  
ERCICSTR1908065

**Proximate and Sensory Attributes of Composite Jam Produced from Apple, Date, Ebony and Orange**

Joseph Francis Itiat

Department of Home Economics and Nutrition, Federal College of Education (Technical), Gusau, Zamfara, Nigeria

**Abstract**

Post harvest losses remain a major challenge in all food related discipline. However, the dite of such food produce to Home Economist is in dearth, thus processing foods into different storage forms is required. Apple-orange jam was used as a control while the novel fruit; ebony (*Diospyrus mollis*) was added to apple (*Malus domestica*), date (*Phoenix dactyliferal*), and orange (*Citrus sinesis*) at 1:1 ratio to produce composite jam. The composite jams were investigated for proximate and sensory evaluation. The proximate analysis showed that there was a significantly ( $p < 0.05$ ) higher moisture (32.94%) content in ebony-orange jam and protein (3.75%) in apple-orange jam respectively. Carbohydrate (43.28%) in ebony-apple jam while lipid (35.10%) content in ebony-date jam and crude fiber (2.32%) content in ebony-orange jam, there was no significant ( $p > 0.05$ ) difference in ash content of ebony-apple jam and ebony-date jam, ebony-orange and apple-orange jam respectively. The sensory evaluation of jams using 9-point hedonic scale, showed a preference for ebony-orange jam in terms of colour and general acceptability. There was no significant ( $p > 0.05$ ) difference in taste for all jams while control (apple-orange) was significantly ( $p < 0.05$ ) different in texture and colour with ebony-orange. This indicates that fruits like ebony and date are promising fruits for jam production to reduce post harvest losses and improve nutrition and food security.

**Keywords:** Nutritional Composition, Sensory Evaluation, Jam, Proximate Analysis, Fruits

Moh'd El Khatieb  
ERCICSTR1908066

**Innovation Process Zero Discharge of Desalination Brackish Water**

Moh'd El Khatieb

Civil Engineering, Zarqa University, Zarqa, Jordan

**Abstract**

The innovation of the new process is to modify the normal R.O. plant with mixed system, combining Reverse Osmosis, Chemical process and Solar Evaporation, by obtaining goals that today are to be considered important:

- 1) To gain a significant increase in desalted water production (45/46% more) by obtaining an osmotic water efficiency of 90/92%.
- 2) Have a production system with “Zero Discharge” of reject water (brine) containing concentrated residual salts (while now currently with the technology of Reverse Osmosis Systems the rejected water charges of twice or more the salts, is dispersed on the ground or thrown back in the ground water or actually in wells.
- 3) Get the appropriate water for irrigation with an exact reduced salinity rate for the selected crops.
- 4) This new system avoids putting back in the aquifers very concentrated rejection salts.
- 5) No contamination and no accumulation of concentrated salts or brackish water to be dispersed or concentrated on the ground.



Nur Yaumil  
Awaliah  
ERCICSTR1908067

**Management Development of Web-Based Digital Library Systems to Increase Reading Interest and Student Self-Efficacy**

Nur Yaumil Awaliah

Postgraduate in Chemistry Education, Yogyakarta State University, Yogyakarta, Indonesia

**Abstract**

This study aims to increase the reading interest and self-efficacy of students after using a web-based digital library in the learning process. It is very important to examine how the interest in reading of students in Indonesia itself is still low when compared to countries around Indonesia which have made reading as a routine activity every day. Even though through reading, students can dig up information, learn knowledge, enrich experiences, develop insights that have an impact on increasing the self-efficacy of students themselves. This Web-based Digital Library contains e-books which are expected to be more accessible means of reading than students must go to the library and read printed books. This web-based digital library was developed as a library application tool that can be accessed by unlimited learners. A total of 375 high school students will be respondents in this study. With the development of a web-based digital library, it is expected to be able to answer research questions

**Keywords:** Digital Library, Website, Students, Reading Interest, Self Efficacy

Alonzo RImando  
ERCICSTR1908068

**Interplay between Arts and Waste Management: A Phenomenological study**

Alonzo RImando

Lorma Basic Education Schools, La Union, Philippines

**Abstract**

Many economically developing countries produced more waste for as a country develops, the level of consumption also increases which causes the diminution of proper waste control because of the continuous production of wastes. Waste management liabilities stated that waste management practices, knowledge and awareness differs by sex, class, and age of the students. In general, the cooperation of communities and government is really important to minimize the effects of poor waste management of our community which encouraged the government implementing rules which creates creating necessary institutional mechanisms and incentives, declaring certain acts prohibited and providing penalties and appropriating funds. Our main research problem is; What are the challenges in the implementation of proper waste management. This research is a phenomenological research. Our participants are the artists of the Iilikha Artist village. Baguio experienced waste management problems because some people did not cooperate with the laws because of use of technology and their level of participation. People can contribute in creating a sustainable environment by creating advocacies that can help minimize waste or by understanding the concept of upcycling. The artists of the said village recycled waste to create something more beautiful that could lessen wastes. Our research could serve as a basis for the future researches so that they would not have much trouble in understanding waste management. It could also give the future researchers a head start on what to do and serve as a convenient guide. It could give them a clearer comprehension of Waste Management.

**Keywords:** Waste, Education, Liability, Upcycling, Utilization



Manikandan A  
ERCICSTR1908069

**Therapeutic Efficacy Dimensions of (E)-Benzylidene-Indazolpyridin Methanones as Effective Anti-Inflammation Agents and Alternate Therapeutics to Breast Cancer**

Manikandan A

Dept. of Biotechnology, School of Biosciences and Technology, VIT University, Vellore, India

**Abstract**

Indented to develop novel (E)-Benzylidene-indazolpyridin methanones (Cpd-1-10) as effective cyclooxygenase-2 (COX-2) inhibitors, a molecular based therapeutic investigations were executed in order to measure the druggability possibilities of these compounds. Their cytotoxicity effect against breast cancer cell lines found excellent and an extended anticancer study ensured that these compounds are also an alternative therapeutic agents against breast cancer. COX-2 seems to be associated to cancers and atypical developments in the duodenal tract. Preliminary prediction indicated the most probable COX inhibition potentials of Cpd1-10 and based on this, a competitive ELISA based COX-2 inhibition assay was done. To validate the inhibitory potentials and to get more

	<p>insight into the interaction of COX-2 with Cpd1-10, molecular docking was performed. Briefly, the COX-2 inhibitory relative activity was found to be in between the range of 80-92 % (Diclofenac, the standard showed 84 %, IC<sub>50</sub> 0.95 µM). Among all the tested cancer cell lines, anticancer effect on breast cancer was exceptional for the most active compounds Cpd5 and Cpd9. Thus, these two compounds could be taken for further anticancer and anti-inflammatory drug development. Keywords: Anti-inflammation, ADMET, Benzylidene-indazolpyridin methanones, COX-2, HRBC membrane stabilization, SAR</p>
<p>Gwamzhi Danjuma ERCICSTR1908070</p>	<p><b>Parasitic Contamination of Some Fruits and Vegetables Sold in Bukuru Market of Jos South Local Government Area of Plateau State, Nigeria</b></p> <p><b>Gwamzhi Danjuma</b> Department of Science, Plateau State Polytechnic, Barkin Ladi, Jos, Nigeria</p> <p><b>Abstract</b></p> <p>The research is aimed at investigating the parasitic contamination of sample fruits and vegetables in Bukuru Jos South Local Government Area Plateau State Nigeria. It was carried out between August to December, 2017. A total number of one hundred (100) samples was collected, 20 each from watermelon, carrots, tomatoes, garden egg and pineapple. The sample fruits and vegetables were analysed parasitologically using sedimentation technique. During the studies the results obtained shows that, the sample fruits and vegetables analysed were contaminated with six (6) different parasites. They include, <i>Ascaris lumbricoides</i> 5(41.7), <i>Tinea</i> species 2(16.7), <i>Entamoeba coli</i> 2(16.7), <i>Hymenolepis diminuta</i> (1(8.3), <i>Strongyloides stercoralis</i> 1(8.3) and <i>Butulinum coli</i> 1(8.3). In view of this findings, the prevalence of parasites in the sample fruits and vegetables was probably due to the use of contaminated water in irrigating the vegetables and fruits. Hence there is a need for health education on the practice of better irrigation system as well as good personal hygiene to the general public on the effects pose by these parasites; this will help reduce the rate of parasitic infections. Keywords: Parasite, Contamination, Fruits &amp; Vegetables, Sedimentation Technique</p>
<p>Chup Jessicah Alexander ERCICSTR1908071</p>	<p><b>A Comparative Study on the Nutritional Value and Mineral Content of Infected and Non-Infected Cocoyam (Colocasia Esculentum) by Root Rot Blight Complex</b></p> <p><b>Chup Jessicah Alexander</b> Department of Science, Plateau State Polytechnic, Barkin Ladi, Jos, Nigeria</p> <p><b>Abstract</b></p> <p>Fresh samples of infected and non-infected cocoyam (<i>Colocasia Esculentum</i>) root rot blight complex disease caused by <i>Phylum myriotylum</i> were obtained from Ganawuri in Riyom Local Government of Plateau State, Nigeria. A comparative study of the nutritional value and some mineral content (Ca, Na, K, Mg) was conducted using proximate analysis and atomic absorption spectrometry methods. The results of the non-infected cocoyam were; protein 6.30%, fat 0.2%, moisture content 9.99%, ash content 3.94%, crude fiber 4.4%, carbohydrate 75.08%, K 226.03mg, Na 4.488mg, Ca 10.34mg, Mg 123.56mg, while that of the infected were; 5.55%, 0.21%, 8.50%, 8.84%, 4.97%, 71.93%, 171.063mg, 1.377mg, 6.15mg, 61.67mg respectively. This shows a decrease in the essential nutrients and the minerals indicating the adverse effect of root rot blight complex disease on the yield of cocoyam and its nutritional and mineral content. Based on these findings, consuming the infected cocoyam implies a low intake of nutrients and the above minerals. It is therefore, advisable that Farmers should plant tolerant varieties and research be done to obtain a scientific method to control the disease. Keywords: Cocoyam, <i>Phylum myriotylum</i>, Nutritional Value</p>
<p>Chundusu Elizabeth Sam ERCICSTR1908072</p>	<p><b>The Effects of Four Local Additives on Some Physico-Chemical Properties of Palm Oil Obtained from Jos Metropolis, Plateau State, Nigeria</b></p> <p><b>Chundusu Elizabeth Sam</b> Department of Science, Plateau State Polytechnic, Barkin Ladi, Jos, Nigeria</p> <p><b>Abstract</b></p> <p>Producers and Marketers of palm oils are suspected to add different unknown substances in unregulated quantities in order to enhance quality, appearance, preservation viscosity to attract buyers not minding whether they are toxic or hazardous to the consumers. The effects of four such</p>

local additives (lime, red dye, ripe plantain and banana peel extracts) on six physicochemical properties (acid, free fatty acid, iodine, peroxide, saponification values and moisture contents) of pure palm oil and of the oil samples adulterated with varying amounts of additives were investigated by titrimetric methods. The results obtained showed that the physicochemical properties of the pure palm oil sample were within the ranges recommended by CODEX and SON. Lime and red dye increased the acid values, moisture contents and free fatty acids with increasing amounts of the additives. This showed that the quality of palm oil, which is a function of the properties tested, were more adversely affected by the introduction of lime and red dye than ripe plantain and banana peel extracts additives. The introduction of additives to palm oil leads to so many alterations in the natural composition of the oil, causing such a nutrient rich oil to become a slow killer. Therefore, the use of such additives in palm oil or any other vegetable oil should be discouraged due to their effects on the quality of the palm oil. Nigeria should make efforts towards the control of the quality of palm oil offered for sale to the public.

**Keywords: Toxicity, Physicochemical, Rancidity, Additives, Palm Oil**

Rhobert Alvarez  
ERCICSTR1908073

**Design and Development of Modified Trapiche**

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**Abstract**

This study aimed to design and develop a sugarcane juice extracting machine (trapiche) for small scale farmers. An engineering planning and design type of study was utilized. The existing problems on the existing trapiche and other juice extracting machines led to the conceptualization of the project study. Basically, this study is focused on the design and development of a modified electric to ensure its functionality and reliability. The proposed sugarcane juice extracting machine was designed to eliminate/minimize the unsatisfactory conditions of the existing method of extraction of juice from sugarcane such as feeding of sugarcane and volume of juice extracted.

The project considered the fabrication of the main components like rollers, conveyor and its rollers, bearings, shafting and bushing. Assembly of the different electrical components and other materials was done for the construction of the control system for the operation of the sugarcane juice extraction machine. The electrical components consisted of circuit breaker, magnetic contactors, capacitors, speed reducer, push buttons, pilot lamp and toggle switch and other. The developed sugarcane juice extracting machine was tested and evaluated for the verification of its functionality. This was done through series of testing in terms of its operating capacity, speed and time. Performance of the machine in terms of production rate, extraction efficiency and percent yield was also done and discovered to be more efficient as compare to the existing trapiche utilized by small scale farmers in Western Batangas. To ensure safety of the extracted juice, properties of juice were tested and found that E. Coli and Salmonella bacteria are not present/below the detection limit. Metal content particularly nickel, copper and chromium were also tested and found values are below the detection limit or not present. The cost – benefit analysis was also conducted and found to be economically viable.

The design of the sugarcane juice extracting machine and most of the components were locally fabricated. The developed sugarcane juice extractor is based on system lay-outs and diagrams and concluded to be functional and safe for operation. The operating time, speed and capacity of the developed sugarcane juice extracting machine with the values of 23.67s, 30rpm and 168.99g/s are much greater than the operating time, speed and capacity of the existing trapiche with the values of 36s, 15rpm and 83.37g/s respectively. The developed sugarcane extractor is efficient and reliable. The average production rate, extraction efficiency and percent yield of the proposed sugarcane extracting machine of 55ml/s, 85.89% and 34.59% are better than the production rate, extraction efficiency and percent yield of existing trapiche utilized in Western Batangas with the values of 21.29ml/s, 52% and 32.89% respectively. The juice extracted from the developed sugarcane juice extracting machine is safe from E. Coli bacteria & Salmonella bacteria wherein E. Coli bacteria is below the detection limit of <3.0MPN/g and the Salmonella bacteria is not present in the sample juice of 25ml. Metal contents particularly the nickel, copper and chromium were also tested and those metals were not detected given the detection limit of <0.02ppm, <0.01ppm and <0.015ppm respectively. The utilization of the proposed sugarcane juice extracting machine is feasible and a worthwhile investment since the initial investment of 301,410 pesos would be paid in short time of 1 year and 3 months with respect to its life span of 15 years. The average yearly net income for the developed trapiche amounting to 222,939 pesos

	<p>is more than three times as compared to the yearly average net income in the utilization of the existing trapiche with only 70,461 pesos. For further improvement and enhancement of the machine, it is recommended to include a system for bagasse processing and collection, to put a guide in a conveying and feeding systems of the sugarcane, to develop a self - sustaining power source and further study on the positioning and dimensions of the rollers may be done to make the machine much more efficient.</p>
 <p><b>Dr. Said Akbar Khan</b> ERCICSTR1908075</p>	<p><b>Water Quality Assessment of Produced Water of Oil and Gas Field Gujar Khan, Punjab, Pakistan</b></p> <p><b>Dr. Said Akbar Khan</b> Senior Assistant Professor, Environmental Sciences, Bahria University, Islamabad, Pakistan</p> <p><b>Abstract</b> This study was conducted to analyze the physicochemical and heavy concentrations in produced water of Missa Kaswal Oil field Gujar Khan, Punjab, Pakistan. Produced water samples were collected from various locations points and analyzed for various parameters by using standard operation procedures. According to Pakistan Environmental Protection Agency, pH, temperature were noted with in permissible limit, total dissolved solids, chlorides, fluorides and oil and grease concentrations were found very high. Concentration of chloride and oil and grease were found several time higher as compare to Pak-EPA. Heavy metals results of the research samples were compared with Pakistan Environmental Protection Agency. From the results it was found that nickle (Ni), lead (Pb), manganese (Mn), zinc (Zn) and arsenic (As<sub>0</sub>) were within the permissible limits while chromium (Cr) concentration were observed in produced water were above the permissible limits. So overall study concluded that wastewater which are released from oil and gas sector are highly polluted. So it is strongly recommended that Pakistan Environmental Protection Agency should regular check and monitor that waste water before releasing into the environment. <b>Keywords:</b> Produced Water, Physicochemical Characteristic, Heavy Metals, Pak-EPA</p>
<p><b>Harim Kim</b> YRSICSTR1908051</p>	<p><b>Design of a Safe Return Service System Using Drone</b></p> <p><b>Harim Kim</b> Convergence Security, Sungshin University, Seoul, South Korea</p> <p><b>Abstract</b> In recent years, the number of crimes increased rapidly worldwide, especially against women, elderly and teenagers who are returning home late at night. A lot of work has been done on solving the problem, e.g. the Seoul Metropolitan Government has implemented 'Safe return service' project in 2013. Even though many counties also have followed the implementation of such services, besides that, there are still problems such as poor utilization rate. The final goal of this study is to identify the problems of the existing 'Safe return service'. Hence, we proposed a platform framework during the project for identifying the problems inside the existing 'Safe return service' through using a drone as a supplementary tool, which will be an autonomous droid-companion following all way along to home and keep the target safe. <b>Keywords:</b> Safe Return Service, Drone, Crime Prevention</p>
<p><b>Tosaporn Mahamud</b> ERCICSTR1908076</p>	<p><b>Human Resource Management Practices Transfer in Multinational Indian Companies in Bangkok</b></p> <p><b>Prof Choosakdi Janepakon</b> Wichayapong Srikacha Somkid Chaiponoi</p> <p><b>Tosaporn Mahamud</b> Faculty of Business Administration, Graduate school of Business Administration, Kasembundit University, Bangkok Patanakarn Campus 1761 Patanakarn Rd, Suan Luang Bangkok 10250</p> <p><b>Abstract</b> This article deals with the transfer of human resource management (HRM) practices by multinational</p>

companies (MNCs) to overseas subsidiaries. By studying the factors that come from the cultural and institutional framework of the host country that affects this transfer Using information gathered from MNC's subsidiaries located in many countries and different in local culture, we examine the level of HRM practices in MNC's subsidiaries that are similar to local practices. Empirical studies have been done on subsidiaries to adjust their HRM practices at a very low and sometimes level. Although some practices are different especially the practices that are not consistent with the culture of each country, or contrary to the rules of low and high level of transfer, depending on the response and the area Multinational companies in each country cannot clearly determine their direction. And cannot explain accurately enough about the nature of the operation But in reality, multinational companies tend to use various strategies to create appropriate, even if the subsidiaries have the same size, cannot be the same if in different areas of culture.

**Keyword: Multinational Corporations, Human Resource Management**



Nadia Isnaini  
ERCICSTR1908077

**Formulation and Investigation of Antioxidant Potential of O/W Lotions Containing Tamarindus Indica L. Fruit Pulp Extract**

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**Abstract**

The fruit pulp extracts of *Tamarindus indica* have been reported to possess several biological activities, especially antioxidant property which is suitable for cosmetic application. Therefore, the aims of this study were to formulate the tamarind fruit pulp extract loaded lotions (o/w emulsions), and to assess the antioxidant activity of tamarind fruit pulp extract loaded lotions. Initially, tamarind fruit pulp extracts were prepared by a solvent extraction method. The solvents used were water or a mixture of water and ethanol (water: ethanol= 1:1). Afterwards, the obtained tamarind fruit pulp extracts were subjected to lyophilization process. The tamarind fruit pulp extracts were tested for antioxidant activity by 2, 2-diphenyl-1-picrylhydrazyl (DPPH) assay to determine suitable concentrations of the extracts to be incorporated into the lotions, which were 2 and 4%w/w in the current study. Apart from the basic ingredients of the oil phase and water phase, ViscOptima SE (2%w/w) was selected as an emulsifier and a thickener of the formulations. The tamarind fruit pulp extract loaded lotions were characterized for physicochemical property and antioxidant potential. The freshly prepared tamarind fruit pulp extract loaded lotions were light brown with homogeneity and no phase separation was observed after centrifugation at 3,000 rpm for 30 min. They had weak acidic pH (4.4-5.1), considered acceptable for skin application. The loaded formulations (F1, 2%w/w) and F2, 4%w/w) exhibited significantly higher conductivity values than that of the unloaded formulation (F0) ( $p < 0.05$ ). The formulations behaved as pseudoplastic flows with low viscosity. The DPPH measurement revealed that the formulations F1 and F2 had potential antioxidant activity. In conclusion, topical o/w lotions containing tamarind fruit pulp extract were successfully prepared. They had substantial antioxidant activities. As a result, tamarind fruit pulp extract loaded lotions displayed a potential use in cosmetic formulations, especially antiaging products.

Keywords: Tamarind Fruit Pulp Extracts, Antioxidant, Lotions, Topical Delivery.

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- 2nd ICSTR Budapest – International Conference on Science & Technology Research, 11-12 July 2019
- 2nd ICSTR Mauritius – International Conference on Science & Technology Research, 21-22 July 2019
- 3rd ICSTR Bangkok – International Conference on Science & Technology Research, 26-27 July 2019
- 2nd ICSTR Barcelona – International Conference on Science & Technology Research, 01-02 August 2019
- ICSTR Istanbul – International Conference on Science & Technology Research, 08-09 August 2019

**2nd ICSTR Malaysia – International Conference on Science & Technology Research, 28-29 June 2019**  
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- 2nd ICSTR Rome – International Conference on Science & Technology Research, 30-31 August 2019
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