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KEYNOTE SPEAKER



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KEYNOTE SPEAKER

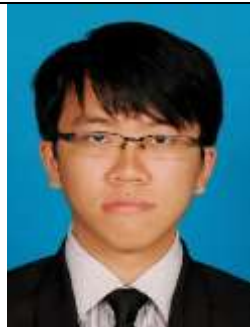


Nader Ale Ebrahim

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<p>Kishore Kumar Reddy. N.G GICECG1603051</p>	<p>Estimation of Durability Of Rice Grains Using Sensors And Mobile Technology</p> <p>Kishore Kumar Reddy.N.G Department Of InformationTechnology, EaswariEngineering College,Chennai, India. kishoregajendran@gmail.com</p> <p>K.Rajeshwari Department Of InformationTechnology, EaswariEngineering College,Chennai, India raje.krishnamoorthy@gmail.com</p> <p>Abstract Ensuring the dryness of Rice Granules is essential for the storage of Rice. The moisture content present in the rice granules deteriorates the quality and toughness that is expected from the the final produce. Existing systems that were put forth to find the moisture content of rice granules are not efficient enough. Their throughput is influenced by a variety of factors such as material density and packing.The official oven method consumes more time .The moisture content present in the rice granules is calculated using the equilibrium relative humidity technique [ERH]. The equilibrium relative humidity, and temperature, of rice granules were measured by using temperature and relative humidity sensors. Sensors are calibrated to improve accurateness and precision. The moisture content was calculated by using an equilibrium moisture content model. The data collected from the sensors are sent to the user which gives intimation about the prevailing conditions in the storage place as a message. According to the message, the prevention methods are listed. The error of the moisture content determined with this method was within 0.5% w.b. at moisture. Keywords: Rice Granules, Equilibrium Relative Humidity, Moisture Content, Storage.</p>
 <p>Abd El-Fatah Abomohra GICECG1603052</p>	<p>Outdoor cultivation of Scenedesmus obliquus in municipal wastewater for biomass production: A case study</p> <p>Abd El-Fatah Abomohra School of Civil and Environmental Engineering, Harbin Institute of Technology Shenzhen Graduate School, 518055 Shenzhen, China Botany Department, Faculty of Science, Tanta University, 31527 Tanta, Egypt. abomohra@yahoo.com, abomohra@hitsz.edu.cn abomohra@science.tanta.edu.eg</p> <p>Wenbiao Jin School of Civil and Environmental Engineering, Harbin Institute of Technology Shenzhen Graduate School, 518055 Shenzhen, China</p> <p>Song-Fang Han School of Civil and Environmental Engineering, Harbin Institute of Technology Shenzhen Graduate School, 518055 Shenzhen, China</p> <p>Renjie Tu School of Civil and Environmental Engineering, Harbin Institute of Technology</p>

	<p style="text-align: center;">Shenzhen Graduate School, 518055 Shenzhen, China.</p> <p style="text-align: center;">Abstract</p> <p>Microalgae have long been considered as a promising feedstock for biomass production. The annual world production of microalgal biomass in 2007 was estimated of about 5000–7500 ton, generating average annual income of US\$ 1.25 billion. The present study aimed to evaluate the climate key parameters for <i>Scenedesmus obliquus</i> outdoor biomass production during all seasons. <i>Scenedesmus obliquus</i> was grown continuously in municipal wastewater using tubular photobioreactors (PBR) made of plastic sleeves arranged vertically in a pilot area of 6 m² with a total working volume of ≈850 L. Biomass productivity showed positive correlation with light intensity and temperature (0.824 and 0.697, respectively). On the other hand, a negative correlation was recorded between biomass productivity and rainfall (-0.520). The average biomass productivity increased directly with the light intensity/temperature from 10 to 23 g dry weight (DW) m⁻² d⁻¹ for a low light/temperature of 4 MJ m⁻²/4 °C and high light/temperature of 22 MJ m⁻²/21 °C, respectively. At high rainfall of 58 mm d⁻¹, the biomass productivity was reduced to 9 g DW m⁻² d⁻¹. The productivity ranged during all seasons from 8.5 up to 22.9 g DW m⁻² d⁻¹ with a mean productivity of 17.9±3.9 g DW m⁻² d⁻¹. Although the used system showed high efficiency for algae cultivation, high light fluctuation in Shenzhen climate requires continuous regulation of the biomass concentration in PBR for optimization of outdoor microalgal production systems.</p> <p>Keywords: Microalgae, outdoor, biomass, photobioreactors, productivity</p>
<p>Lamfu Fabrice Yengong GICECG1603053</p>	<p style="text-align: center;">Development of a simple biogas digester as a source of renewable energy and sustainable livelihood</p> <p style="text-align: center;">Lamfu Fabrice Yengong Department of Environmental Science, Faculty of Science, University of Buea, Cameroon lamfu2035yengong@gmail.com</p> <p style="text-align: center;">Abstract</p> <p>The Majority of Cameroonian living in the rural areas depend on agriculture for their sustainable livelihood. Many have no access to electricity and they use firewood as their major source of energy for cooking. This situation is not sustainable and also has a negative impact on the environment. The biogas digester is not only a cost effective solution to address these concerns but also presents less negative impact to the environment. It is with is in mind that we have developed a biogas digester that is a simple, yet powerful sanitation technology option that is capable of: (i) processing human and animal feces into safe and free fertilizer; (ii) reducing cases of groundwater contamination by processing feces instead of having it discharged untreated; (iii) creating biogas for use in cooking and household lighting; (iv) empowering women and families by reducing their time spent on gathering fuel wood and cooking; (v) reducing indoor air pollution brought about by burning fuel wood; and (vi) eliminating carbon dioxide (CO₂) and methane (CH₄) emissions during fermentation of openly-discharged sewage, thereby helping to reduce the threat of climate change. We therefore present this simple technology that has the potential of transforming lives especially in rural areas.</p>



Cheong Von Fei
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Incorporation of Metal-Organic Framework and Reduced Graphene Oxide into Photoanode of Dye-Sensitized Solar Cells

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Abstract

Dye-sensitized solar cells (DSSCs) have been considered as a promising alternative to conventional silicon-based solar cells due to their low production cost, simple fabrication process, and high efficiency. However, the highest power conversion efficiency reported for DSSCs to date is only 13%, which is far lower than the conventional solar cells (25.6%). In this study, aluminium-based metal-organic framework Al-BDC and reduced graphene oxide were incorporated into photoanode to improve the overall photovoltaic performance of DSSCs. The Al-BDC was incorporated into TiO₂ photoanode to suppress the charge recombination between TiO₂ and electrolyte. The large specific surface area of Al-BDC could enhance the dye adsorption on TiO₂ layer and thus improve the power conversion efficiency of the cell. In addition, Al-BDC could be incorporated as light-scattering layer in DSSC to improve the optical absorption of the incident light. It was fabricated onto TiO₂ through layer-by-layer (LbL) assembly. FTO/TiO₂ interface is another common recombination centre for charge carriers in DSSC. To tackle this problem, reduced graphene oxide was incorporated as compact layer to improve the contact between FTO and TiO₂ and prevent recombination between the FTO and electrolyte solution. This study provides a new insight into the fabrication of photoanode of high performance DSSC devices. It is expected that DSSCs assembled from these combinations could exhibit higher power conversion efficiency compared to Al-BDC and TiO₂ alone.

Keywords: Dye-sensitized solar cells, metal-organic framework, reduced graphene oxide, light-scattering layer, compact layer, photoanode



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Adsorption and Photocatalytic Degradation of Methylene Blue by Ti(IV)-based Metal Organic Framework Composite

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Abstract

MIL-125 is a titanium-based metal organic framework that has high surface area, porosity and photocatalytic properties. However, MIL-125 has a relatively large band

	<p>gap i.e. 3.68 eV which is equivalent to photon energy in UV-A region i.e. 337 nm. Amino functionalization of MIL-125 (NH₂-MIL-125) is able to narrow the energy band gap to 2.6 eV. Both MIL-125 and NH₂-MIL-125 were synthesized through reflux method and used as a catalyst for methylene blue (MB) removal. Preliminary result shows that NH₂-MIL-125 has better photocatalytic efficiency compare to MIL-125. Through this work, we also found that photocatalytic efficiency of NH₂-MIL-125 can be further improved by doping silver ion (Ag⁺) and incorporating of graphene oxide (GO) into the framework, or addition of H₂O₂ into reaction solution.</p>
<p>Dr. Eman Alzahrani GICECG1603056</p>	<p>Colorimetric Detection Based on Localised Surface Plasmon Resonance Optical Characteristics for the Detection of Hydrogen Peroxide Using Acacia Gum-Stabilised Silver Nanoparticles</p> <p>Eman Alzahrani Chemistry Department, Faculty of Science, Taif University, 888-Taif, Kingdom of Saudi Arabia em-s-z@hotmail.com</p> <p>Abstract</p> <p>The use of nanoparticles in sensing is attracting the interest of many researchers. The aim of the present work was to fabricate Acacia gum-stabilised silver nanoparticles (SNPs) using green chemistry in order to use them as a highly sensitive and cost-effective localised surface plasmon resonance colorimeter sensor for the determination of reactive oxygen species that was hydrogen peroxide. In this study, SNPs were fabricated by reduction of an inorganic precursor silver nitrate solution using white sugar as the reducing reagent and Acacia gum as the stabilising reagent and a sonication bath to form uniform silver nanoparticles. Plasmon colorimetric sensing of H₂O₂ solution was investigated by introducing H₂O₂ solution into Acacia gum-capped SNPs dispersion, and the change in the LSPR band in the UV-Vis region of spectra was monitored. In the present study, it was found that the yellow colour of Acacia gum-stabilised SNPs gradually changed to transparent, and moreover, a remarkable change in the LSPR absorbance strength was observed. The calibration curve was linear over 0.1–0.000001 M of H₂O₂ with a correlation estimation of 0.9527. This was due to the aggregation of SNPs following introduction of the H₂O₂ solution. Furthermore, the fabricated SNPs were successfully utilised to detect H₂O₂ solution in a liquid milk sample, thereby demonstrating the ability of the fabricated SNPs to detect H₂O₂ solution in liquid milk samples. This work showed that Acacia gum-stabilised SNPs may have potential for medical and environmental applications as a colour indicator.</p>



Moh Pak Yan
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Adsorption and Photocatalytic Degradation of Methyl Orange and Methylene Blue Using Graphene Oxide-Supported Zeolitic Imidazolate Framework ZIF-67@GO

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Abstract

ZIF-67 is a nanoporous metal-organic compound with sodalite framework topology. ZIF-67 is an effective adsorbent for the removal of some organic pollutants, such as Malachite Green (MG) and Acid Blue 40 (AB40) in water. It also an efficient catalyst in the synthesis of ethyl methyl carbonate. However, adsorption capacity and photocatalytic activity of the modified ZIF-6 remains unclear. Here, we present the adsorption and photocatalytic activity of the GO-supported ZIF-67 (ZIF-67@GO) synthesized by mixing ZIF-67 precursors to certain portion of GO in water. The synthesized ZIF-67@GO showed exceptional adsorption ability towards both anionic Methyl Orange (MO) and cationic Methylene Blue (MB). ZIF-67@GO also significant for degrading MO and MB under visible radiation with an optimum photocatalytic activity at neutral pH. This implies that small amount of GO can significantly alter the surface morphology of ZIF-67 which makes ZIF-67@GO material an effective adsorbent and photocatalyst regardless to the types of pollutant.

Keywords: ZIF-67; Graphene oxide; Adsorption; Photocatalytic degradation; Methyl orange; Methylene blue.



Muhammad Noviansyah
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ACEPER (Analysis Composition of Exhaust Gas From Generator Powered By Charcoal Gasifier) as Gas Recycle for Clean Alternative Energy

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Abstract

The objective of this study is to analysis composition of exhaust gas from generator powered by the charcoal gasifier updraft system as gas recycle to the air inlet in reactor charcoal gasifier for clean alternative energy. Using a simple updraft system on charcoal gasifier the methodology consisting of 7 stages, namely: (1) Designing, (2) Prototyping,

(3) Capacity of Fuel (Charcoal Biomass), (4) Check Syngas, (5) Test Syngas Ignite Generator, (6) Analysis Composition of Exhaust Gas, (7) Test Gas Recycle from Generator to Air Inlet in Reactor Charcoal Gasifier. Charcoal gasifier means incomplete combustion of charcoal biomass resulting in production of combustible gases consisting of Carbon monoxide (CO), Hydrogen (H₂) and traces of Methane (CH₄). This mixture is called Syngas. Syngas can be used to ignite internal combustion engines or generator (both compression and spark ignition). First, made a prototype of charcoal gasifier in accordance with the design and test syngas to ignite generator. With using capacity varied of charcoal biomass, the result has achieved 2 kg charcoal biomass can ignite generator during 3 minutes, 2.5 kg during 6 minutes, and 3 kg during 10 minutes. Power of Generator with 3HP (Horse Power). Next step, analysis composition exhaust gas from generator powered by charcoal gasifier and surely the result composition of exhaust gas reasonable to use as gas recycle to the air inlet in the reactor charcoal gasifier for convert to energy again.

Keyword : Charcoal, Gasifier, Updraft System, Exhaust Gas, Gas Recycle



Sameh Samir Ali
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Screening and Identification of A Novel Yeast Species Associated with Tolerance to Multiple Stresses for Future Bioethanol Production

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Abstract

The actual energy demand, food-versus-fuel conflict and environmental concerns together with replacing the current fossil fuel resources have much public attention to converting the second generation bioethanol into an attractive research goal. The present study aimed to screen a novel yeast species from the gut symbionts of wood-feeding termite as well as to evaluate its tolerance for multiple types of stress conditions associated with second-generation ethanol production for the future biomass industrial application. During a yeast screening from wood-feeding termites in China, a novel strain of basidiomycetous yeast species was isolated from the lower termite gut *Reticulitermes chinensis* (Snyder) collected from WuHan in HuBei Province, Hanzhong Agricultural University, China. The morphological, physiological, biochemical and DNA sequencing characteristics were examined according to standard methods that are employed in yeast taxonomy and it was identified as a novel species in the genus *Rhodotorula*. The name *Rhodotorula lignophila* sp. nov. is proposed to accommodate this strain. The type strain is KU513951T (= CBS 7109T). In order to screen a novel yeast with potential growth properties in the presence of various stresses as a promising

strain to serve as a platform for bioethanol production, many stresses were conducted. It has been reported as potent cellulase and xylanase producing isolate. Pre-treatment of lignocellulosic biomass release C6 (glucose, mannose and galactose) and C5 (arabinose and xylose) sugars. The growth results of the tested strain on various sugars (100 g/l) showed that the sucrose was the most preferred sugar. It showed good growth on glucose, galactose, maltose, and xylose, whereas the strain was failed to grow on mannose and arabinose. The production of toxic compounds during the pre-treatment adversely affects not only the yeast cell growth but also fermentation capabilities. Novel yeast strains with increased tolerance to furfural would make lignocellulosic ethanol production cost-effective. In this concern, KU513951T displayed higher growth at 1.0 g/l furfural. On the other hand, high temperature and high initial ethanol concentration are potent inhibitors on the fermentation performance of yeast strains. Therefore, the investigated strain displayed higher growth when the cells were spotted on YEPD plates containing 10 % ethanol and at 45°C. The use of novel salt-tolerant yeast is of industrial importance for bioethanol production that reduces desalting costs and decreases the possibility of contamination. The results showed that the tested strain displayed higher growth on YPGS plates containing 70 g/l Na₂SO₄. In conclusion, the present study will be beneficial for selection of natural novel yeast strains with multiple stress-tolerant properties for future lignocellulosic bioethanol production under high-stress conditions. **Keywords:** Termite associated yeasts, second-generation biofuels, multi-stress-tolerant yeast, lignocellulosic biomass.



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Adsorption of Cr (Iii) Onto Kaolin: Alginate Composite Adsorbent

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Abstract

Chromium is a toxic heavy metal used in industries such as tannery, alloy preparation and electroplating. Direct discharge of chromium retentive effluents from these industries can contaminate the environment and cause chronic diseases as well as mutations, birth defects and cancers in human being. Hence, it is important to remove Cr(III) from the contaminated environment. In this study, a polymer layer silicate composite was developed, using kaolin (a layered silicate) and alginate (a biopolymer

	<p>from seaweeds) to enhance the adsorption capacity of each material. Sodium alginate (A) was dissolved in 100 mL distilled water at 80 °C for 3 h. Thereafter, thoroughly cleaned kaolin (K) was added to the solution (A:K=1:20) and stirred for 5 h and the mixture was cooled to room temperature. The mixture was then added dropwise to 1% CaCl₂ solution. The beads formed were washed with distilled water and dried at 70 °C for 2 days. The dried composite was ground and sieved to obtain 250 - 350 µm size particles. All the experiments were conducted using 0.20 g of the composite and 100 mL of 5.0 mg L⁻¹ except for isotherm study where the concentration of Cr(III) varied from 0.5-30 mg L⁻¹. Suspensions were shaken on an orbital shaker at a constant speed of 100 rpm. The effect of pH on adsorption efficiency was determined by varying the initial pH of the solution.</p> <p>The dried composite material adsorbed 97% (2.02 g m⁻¹) of the Cr(III) from aqueous system within 120 min. The pH of the metal solution influenced the adsorption process where the maximum adsorption of 97% was observed within pH range 4-6. The kinetic data were fitted to pseudo first order and pseudo second order kinetic model. Adsorption system followed pseudo second order kinetic model with a rate constant of 0.03276 g mg⁻¹ min⁻¹. The Langmuir isotherm model was found to fit the isotherm data with a monolayer capacity of 6.14 mg g⁻¹ and a RL value of 0.05-0.65. The adsorption is a homogeneous adsorption process, which forms a monolayer of Cr(III) on the adsorbent surface. This study indicates that the kaolin:alginate composite could be used as a cost-effective and environmentally friendly green adsorbent to remove Cr(III) from contaminated aqueous environments. Financial assistance from National Research Council- (Grant No13-087) is acknowledged.</p> <p>Keywords: Adsorption, Alginate, Cr(III), Kaolin, Pseudo-second order kinetics</p>
<p>Mohammed Ayuba GICECG1604060</p>	<p>Risk Analysis in Fadama Farming Prospects and Challenges of Farming Livelihood in the Sahel Zone of North-Eastern, Nigeria</p> <p>Mohammed Ayuba Department of Curriculum, Jigawa State College of Education, P.M.B 1002, Gumel, Nigeria muhammadayubahadejia@gmail.com</p> <p>Mus`Abu Shu`Aibu Department of Curriculum, Jigawa State College of Education, P.M.B 1002, Gumel, Nigeria musabshuaiburingim@gmail.com</p> <p>Abstract</p> <p>The paper attempts to investigate the risk types in Fadama farming, as well as the strategies for risk management utilized by Fadama farmers in Jigawa state. Over 75% of the state landmass is considered arable which make it one of the most agriculturally endowed states in Nigeria. However, the area is confronted by multiple natural, ecological, social and economic problems. This research focus mainly on the challenges and prospects of Fadama agricultural production as well as rural livelihood in the area under study. Three null hypotheses were formulated, and tested at 0.05 level of significance. The sample comprised of 150 professional farmers selected from the total population of 350 through simple random sampling procedure. The instrument used in the research was the self assessment questionnaire (SAQ) developed by the researcher. The data collected were analyzed using rank ordered. The findings revealed that, the major risk encountered by Fadama farmers are market related, natural/social and</p>

	<p>whether related risks. Market related risk constitutes the major peril to Fadama farming with glut as its major features. The strategies for managing risk by Fadama farmers essentially help to minimize probable losses from current production or to manage the consequences of inevitable losses. Keywords: fadama farming, management, irrigation and risk analysis.</p>
 <p>Mus`Abu Shu`Aibu GICECG1604061</p>	<p>Risk Analysis in Fadama Farming Prospects and Challenges of Farming Livelihood in the Sahel Zone of North-Eastern, Nigeria</p> <p>Mus`Abu Shu`Aibu Department of Curriculum, Jigawa State College of Education, P.M.B 1002, Gumel, Nigeria musabshuaiburingim@gmail.com</p> <p>Mohammed Ayuba Department of Curriculum, Jigawa State College of Education, P.M.B 1002, Gumel, Nigeria muhammadayubahadejia@gmail.com</p> <p>Abstract</p> <p>The paper attempts to investigate the risk types in Fadama farming, as well as the strategies for risk management utilized by Fadama farmers in Jigawa state. Over 75% of the state landmass is considered arable which make it one of the most agriculturally endowed states in Nigeria. However, the area is confronted by multiple natural, ecological, social and economic problems. This research focus mainly on the challenges and prospects of Fadama agricultural production as well as rural livelihood in the area under study. Three null hypotheses were formulated, and tested at 0.05 level of significance. The sample comprised of 150 professional farmers selected from the total population of 350 through simple random sampling procedure. The instrument used in the research was the self assessment questionnaire (SAQ) developed by the researcher. The data collected were analyzed using rank ordered. The findings revealed that, the major risk encountered by Fadama farmers are market related, natural/social and whether related risks. Market related risk constitutes the major peril to Fadama farming with glut as its major features. The strategies for managing risk by Fadama farmers essentially help to minimize probable losses from current production or to manage the consequences of inevitable losses. Keywords: fadama farming, management, irrigation and risk analysis.</p>
<p>W.M.K.E.H Wijesinghe GICECG1604062</p>	<p>Removal of phosphate from contaminated water by feldspar-agar-alginate composite</p> <p>W.M.K.E.H Wijesinghe Plant Biology Laboratory, National Institute of Fundamental Studies, Hanthana Road, Kandy, Sri Lanka Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka sithy55iqbal@gmail.com</p> <p>D.M.R.E.A. Dissanayake National Institute of Fundamental Studies, Hantana Road, Kandy, Sri Lanka</p>

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Abstract

Phosphates are widely used in water- based paints, plastics, cleaning solutions and fertilizers. Phosphate enters the water body as human and animal waste, industrial effluents, and mainly fertilizer run-off. At low concentration, phosphates are not toxic to human health. However, it can stimulate the growth of aquatic plants and algae leading to eutrophication. In this study removal of phosphate from aqueous system was investigated using a composite material prepared by sol-gel method using agar, alginate and feldspar.

Feldspar (20 g) was added to an agar solution (10%) in water and the mixture was stirred for 2 h. A freshly prepared solution of sodium alginate (2.5%) in water was added to the mixture of agar and feldspar and the resultant mixture was stirred for 6 h. Thereafter mixture was added drop- wise to a mixture of 3% Ca²⁺ and 0.5 % Fe³⁺ solutions. The beads formed were allowed to stand for 48 h to complete solidification. The beads were filtered and washed with distilled water until the filtrate was neutral. Synthetic phosphate stock solution was used for all the experiments and the residual phosphate concentration was determined using UV-Vis spectrophotometer by Ascorbic acid method. The kinetic study was conducted with the adsorbent dosage of 20.0 g L⁻¹ and 25.0 mL of 5.0 mg L⁻¹ phosphate solution at pH 6.5 at 27 °C and the data were fitted to kinetic models. The adsorption was further studied with varying initial pH values (i.e. pH 1.0 – pH 12.0) and a series of initial phosphate concentrations (i.e. 1.0 – 50.0 mg L⁻¹). The adsorption data were fitted to isotherm models.

In this study, the equilibrium time was found to be 570 min and the maximum phosphate adsorption was 81.0%. The adsorption process followed pseudo 2nd order kinetic model with the rate constant of 0.10 L mg⁻¹ min⁻¹. The optimum pH for the adsorption process was pH 8 with 91.0% adsorption. Adsorption isotherm data fitted the Sips isotherm model with a high R². This study indicates that feldspar-agar-alginate composite can be used as environmentally- friendly adsorbent to remove phosphate from contaminated aqueous environment.

Acknowledgement – Financial assistance from National Research Council (Grant 15-022) is acknowledged.

Key words: Adsorption, Agar, Alginate, Feldspar, Phosphate

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Eco-Friendly Treatment of Chloroethylenes-Contaminated Water using Physically Treated Lignocellulosic Agro-Food-Waste

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NorKartini Abu Bakar

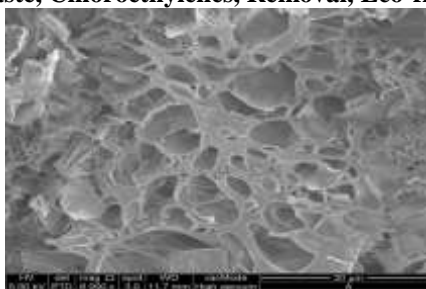
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Abstract

In this study, a novel cost-effective eco-friendly sorbent was developed from a lignocellulosic agro-food-waste abundantly available in Malaysia (*Artocarpus Integer* peel waste) through a total ecologically benign production route. The sorbent preparation parameters were optimized and the optimal sorbent was characterized by N₂ adsorption-desorption, FTIR, XPS, FESEM, TEM, XRD, EDX, TGA and DSC instrumental analyses. This newly produced sorbent was evaluated for the removal of carcinogenic chloroethylenes (tetra-, tri- and dichloroethylene) from polluted water. The effects of sorbent dosage, pH, temperature, initial concentration of chloroethylenes and agitation time on removal of chloroethylenes were examined by GC-MS. Our findings indicated that the produced sorbent is highly micro-mesoporous (BET surface area ~853 m² g⁻¹, t-plot micropore surface area ~506 m² g⁻¹, t-plot mesopore surface area ~346 m² g⁻¹ and average pore width 2.9 nm) with amorphous nature and mainly basic surface functional groups, which are all beneficial features for adsorption applications. EDX spectra revealed the presence of chloride peak and elemental mapping analysis showed a high distribution of chlorine in the sorbent after sorption experiments, proving that the sorbent is capable of effectively extracting chloroethylenes from contaminated water. The maximum removal of tetra-, tri- and dichloroethylene was obtained at pH 8 as 87%, 85% and 82% respectively for bio-sorbent dose of 5 g L⁻¹ and 50 mg L⁻¹ initial chloroethylene concentration at 40 °C. This judicious transformation of agro-food-waste not only addresses the disposal issue, but also generates value-added functional material from the discard, which will be highly beneficial for low- and middle-income countries. Widening the applicability of the novel eco-friendly sorbent will be the platform of our future investigations.

Keywords: Agro-food-waste, Chloroethylenes, Removal, Eco-friendly, Water treatment



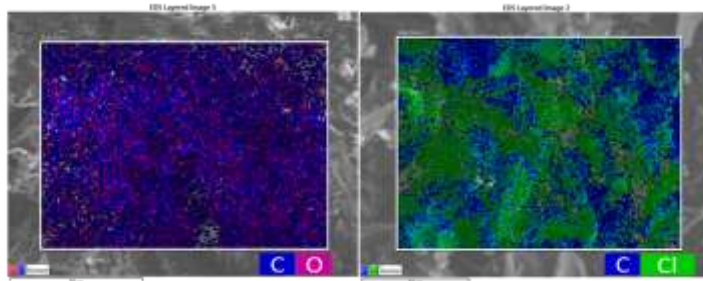


Figure 1: Surface morphology of optimal sorbent obtained by Scanning Electron Microscopy (SEM) showing high porosity.

Figure 2: Elemental mapping analysis of sorbent (a) before and (b) after sorption experiments proving the capability of the sorbent to remove chloroethylenes from



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Stability Enhancement of Nano-NiO Catalyst with SiO₂ Support to Get Improved Hydrogen Yield from Methane Decomposition

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Abstract

Building of the nanoparticle from their precursors by bottom-up method is a very fascinating practice in nanotechnology. Most promising two bottom-up methods are experimentally unveiled in this research contribution; i) controlled precipitation of Ni nanoparticles and their reinforcement with silicate by modified Stöber method and ii) chemical vapor deposition of nano-carbon from methane over silicate supported nano-Ni catalyst. We found that the silicate addition results in the formation of single crystal NiO nanoparticles which exhibited catalytic activity enhancing features, such as low particle size and high surface area and porosity. The single-point surface area was increased from 62.22 m²/g to 91.50 m²/g for n-NiO nanoparticles, after silicate incorporation. Preliminary catalytic activity was also analyzed in a fixed-bed pilot plant. n-NiO/SiO₂

	<p>nanoparticles generated 57.28% hydrogen at 730 °C. Isothermal methane decomposition were conducted at 625 °C to examine the stability of catalyst. Keywords: Nano-catalysts; Modified Stöber method; Thermocatalytic Methane decomposition; Hydrogen; Nano-carbon; Bottom-up method.</p>
<p>Paria Saadatjoo GICECG1605064</p>	<p style="text-align: center;">Effect of Courtyard Proportion on Natural Ventilation Efficiency</p> <p style="text-align: center;">Paria Saadatjoo Ph.D Candidate of Architecture, Tarbiat Modares University, Faculty of Art and Architecture, Jalal Ale Ahmad Highway, 14115-111, Tehran, Iran, paria.saadatjoo@modares.ac.ir.</p> <p style="text-align: center;">Mohammadjavad Mahdavinejad Associate Professor, Tarbiat Modares University, Faculty of Art and Architecture, Jalal Ale Ahmad Highway, 14115-111, Tehran, Iran mahdavinejad@modares.ac.ir.</p> <p style="text-align: center;">Shiva Najaf Khosravi Master of Energy and Architecture, University of Tehran , Faculty of Fine Arts, 16th Azar St., Enghelab Sq., 14155-6619, Tehran, Iran Shiva.khosravi@alumni.ut.ac.ir.</p> <p style="text-align: center;">Nader Kaveh Master of Architecture, Tehran Art University, Faculty of Architecture, Sakhai St., Hafez Ave, 1136813518, Tehran, Iran Nader672002@yahoo.com.</p> <p style="text-align: center;">ABSTRACT</p> <p>Natural ventilation is considered as one of the most fundamental low cost passive cooling strategies. A major part of building potential in terms of using natural energy resources such as wind depends on its physical characteristics, so architectural decisions at the first step of design process can influence the buildings energy efficiency significantly. Courtyards are just one of the numerous passive cooling strategies in ancient buildings that are currently enjoying great popularity. However various configurations of these components will influence their efficiency in terms of receiving natural ventilation. The main objective of this paper was to investigate the influence of courtyard proportions on their natural ventilation efficiency and to introduce the most effective features in this field. The outcome of these researches could be used as a guideline for architects at the first steps of design process. Investigations indicated that reducing the length of windward side would result in better airflow pattern both inside the courtyard and interior space of a building. So it is suggested to design a courtyard with elongation in the wind direction and minimum windward side length to receive maximum airflow rate and take advantage of natural ventilation.</p> <p>Keywords: Wind, Natural Ventilation, Architecture, Courtyard.</p>
<p>Muhammad Ayuba Hadejia GIC16051052</p>	<p style="text-align: center;">Risk Analysis in Fadama Farming Prospects and Challenges of Farming Livelihood in the Sahel Zone of North-Eastern, Nigeria</p> <p style="text-align: center;">Muhammad Ayuba Hadejia Department of Psychology, Jigawa State College of Education, P.M.B 1002, Gumel, Nigeria</p>

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Abstract

The paper attempts to investigate the risk types in Fadama farming, as well as the strategies for risk management utilized by Fadama farmers in Jigawa state. Over 75% of the state landmass is considered arable which make it one of the most agriculturally endowed states in Nigeria. However, the area is confronted by multiple natural, ecological, social and economic problems. This research focus mainly on the challenges and prospects of Fadama agricultural production as well as rural livelihood in the area under study. Three null hypotheses were formulated, and tested at 0.05 level of significance. The sample comprised of 150 professional farmers selected from the total population of 350 through simple random sampling procedure. The instrument used in the research was the self assessment questionnaire (SAQ) developed by the researcher. The data collected were analyzed using rank ordered. The findings revealed that, the major risk encountered by Fadama farmers are market related, natural/social and whether related risks. Market related risk constitutes the major peril to Fadama farming with glut as its major features. The strategies for managing risk by Fadama farmers essentially help to minimize probable losses from current production or to manage the consequences of inevitable losses.

Keywords—fadama farming, management, irrigation and risk analysis.



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GIC16051054

Biodegradation of 2, 4-Dichlorophenoxyacetic acid by local bacterial isolates and use of one of this isolates in bioremediation test of contaminated soil.

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Abstract

The objective of this study was the biodegradation of 2,4-Dichlorophenoxyacetic acid (2,4-D) by bacterial isolates from three Algerian agricultural soils (45IB , 46BM and 47AA) previously treated with this herbicide and use of one of this isolates in

bioremediation test of contaminated soil (49MC).

Using the selective enrichment procedure conducted in a mineral salt medium added with 663 mg of 2,4-D per liter (mineral medium) as sole source of carbon, 49 2,4-D degrading isolates were isolated. These isolates were characterized by two tests of degradation and by restriction fragment length polymorphism (RFLP) analysis of 16S rDNA genes amplified by PCR.

Based on the sequences of 16S rDNA genes obtained and by comparison to databases, isolates were grouped in four microbial groups: *Achromobacter xylosoxidans*, *Cupriavidus respiraculi*, *Ralstonia* sp and beta-proteobacterium.

The compilation of these results with results of the 24-well microplate mineralization procedure helped to identify 2,4-D degrading bacterial populations which can be used for 2,4-D bioremediation.

To propose solutions allowing to limit the resistance time of pesticides in the studied soils, inoculation of 49MC soil with one of this isolates adapted to the degradation of 2,4-D (bioremediation test) led to a significant increase in the degradation rate of this herbicide.

Key words: 2, 4-D, soil, microorganisms, mineralization, PCR-RFLP, Bioremediation.

Mary Grace Medrano
GICW16051052

Landmark-based geometric morphometric analysis of body shape variation within population of Ibis fish, *Ambassis interrupta*, collected from Masao River, Agusan del Norte, Philippines

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Abstract

Masao River, located in Agusan del Norte, Mindanao, Philippines is home to many organisms especially those associated with the freshwater communities. Fishes were abundantly present including one of the commercially important fishes, the *Ambassis interrupta*, locally known as "ibis". This study describes the variations in body shapes of *A. interrupta* using landmark-based geometric morphometric analysis. A total of 100 fish samples, collected from Masao River were digitized using sixteen landmark points. The Procrustes ANOVA showed differences in the patterns of asymmetry between sexes of the fishes. Three factors were analyzed for fluctuating asymmetry (FA) and these were: individuals, sides, and interaction of individuals and sides. The individual symmetry among the fish samples showed no significant differences, while the sides and interaction of individuals and sides showed a highly significant difference ($P < 0.0001$). The results implied asymmetry in the left and right side of each sample, also in the interaction of individuals and sides. However, the individuals were symmetrical with each other. Principal Component Analysis revealed that the five significant principal components (PC1-PC5) contribute most to the variation that exist among individuals. A total of 71.46% of the variation exist in the FA interaction in female fish and a total of 62.04% is observed in the FA interaction in male fish. The results however indicate that fluctuating asymmetry are higher compared to individual variation in females, but individual variation is higher compared to fluctuating asymmetry in males.

Keywords: *Ambassis interrupta*, ibis, fish shape, geometric morphometrics, fluctuating asymmetry, landmarks, Masao River



Maricris I. Abuan

Species Composition and Distribution of Freshwater Crustaceans (Crustacea) of Lake Oro, Esperanza, Agusan del Sur, Mindanao, Philippines

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Abstract

The study assessed the species composition and abundance of crustaceans and its implications towards the water quality of Lake Oro, Esperanza, Agusan del Sur. Selected physico-chemical parameters were determined to support the presence of bioindicator freshwater crustaceans. Low species richness and abundance were

<p>GICICRST1605053</p>	<p>recorded in the Lake. Three species of decapods- Palimonidae sp. (Palimonidae), Pandalus borealis (Pandalidae), and Cambarellus sp. (Cambaridae) were collected. These species were benthopelagic, swimming and burrowing freshwater shrimps and crayfish. Palaemonid sp. was most abundant and Cambarellus sp. was least abundant. All the physico-chemical parameters were within the acceptable range except for pH. Soil pH was within optimum range. Organic matter and phosphorus (P) were very deficient and deficient respectively. Only potassium (K) was sufficient compared to standards. Freshwater species such as crustaceans were under a greater level of threat. The patterns of threat were due to anthropogenic activities, pollution, degradation, and overexploitation. Keywords: benthopelagic, bioindicator, crustaceans, decapods, diversity, physicochemical</p>
 <p>Nanette L. Samson GICICRST1605055</p>	<p>The Importance of Geometric Morphometric in determining environmental stress using Fluctuating Asymmetry in the Body Shape of Banak Mugil cephalus (Linnaeus 1758) from Masao River of Butuan City, Agusan del Norte, Philippines</p> <p>Nanette L. Samson Department of Biology, Caraga State University, Philippines nnet97@yahoo.com</p> <p>Abstract</p> <p>Fluctuating asymmetry has widely used as an indicator of an ecological stress of an organism's population. Stress can increase the phenotypic difference in a population thereby affecting the stability of an individual. Thus, increased in stress may result to the asymmetry of each bilateral traits, especially during development. In this study, Mugil cephalus was used because this fish is capable in surviving brackish, salt, and freshwater environments. Thin plate spline (TPS) series was used for landmark analyses of each sample and were subjected to Symmetry and Asymmetry in Geometric Data (SAGE) software. Results of the Procrustes ANOVA showed that individual symmetry of L-R sides presented in males were not significant. However, in females the individual symmetry were not statistically significant. The results of Principal Component (PC) scores presents high percentage FA of male (73.9541%) and female (82.6848%), respectively. In males, all the principal components has its fluctuating asymmetry which means that there is a difference in the samples body shape which it has its affected landmarks. In females, their FA gives a hint that there is a difference between the individuals' body shape. Wherein the highest percentile was in PC1 which means that all landmarks are affected. This study aimed to determine the fluctuating asymmetry in the body shapes of M. cephalus as an indicator of the water quality of Masao River, Butuan City, Philippines.</p>
 <p>Dr. Eng. Moh'd El</p>	<p>Influence of Concrete Parameters on local fracture energy and failure mode of Concrete</p> <p>Dr. Eng. Moh'd El Khatieb. Assistant Prof. Civil Engineering Department Zarqa University, Zarqa, Jordan mohd62@libero.it mkhatieb@zu.edu.jo</p> <p>Abstract</p> <p>Experimental observations and numerical simulations are compared with theoretical results based on RILEM recommendation [1]. The intention of this paper is to determine the influence of concrete parameters on local fracture energy and failure</p>

<p>Khatieb. GICICRST1605056</p>	<p>mode of concrete beams. Three-point-bending test on notched concrete beams have been performed using two most known methods available in literature for determining the failure mode dependent on fracture energy of concrete beams, taking in consideration the relationship between the applied load and the crack opening displacement during different loading stages. The existing fracture models for concrete and the testing methods for fracture energy are reviewed, some new results on relationship between failure mode from one side and fracture energy and size effect from the other side are presented, the value of critical fracture load has been checked during the crack propagation process, also it has been noticed that in both test and analytical model results, the critical fracture load disappears as the notch length increases and finally the results obtained were confronted with other results [2] Keywords : Fracture Energy, Concrete Parameters, Cohesive Crack, Size effect</p>
 <p>Hend Mandour GICICRST1605057</p>	<p>Genetic analysis an in vitro selection for drought tolerance in wheat (Triticum aestivum L.)</p> <p>Hend Mandour National Research centre,Dokki,Giza,Egypt hanoda_roky@yahoo.com</p> <p>Abstract</p> <p>Selection for drought tolerance of fifteen wheat genotypes (five parents and their ten F1 hybrids) was performed under laboratory .Three different callus induction media were used to determine the optimum hormone balance for callus induction from mature embryos of wheat genotypes and also to study the genetic response of the studied wheat genotypes to callus induction. MS media supplemented with different concentrations of poly ethylene glycol (PEG) were used to evaluate the obtained calli for drought tolerance. Then the drought stressed calli were then transferred to plant regeneration medium for studying their ability to regenerate. M2 medium (2mg/l 2,4D+300 mg/l casein hydrolysate) gave the highest callus induction frequency (85.5%) followed by M1 (2mg/l 2,4D) medium (85%) and M3 (2mg/l 2,4D +4 mg/l AgNo3) medium (81.6%). The differences between the three callus induction media were significant for all characters except callus induction frequency (CIF %) and M2 medium was the best media for callus induction. Regeneration was obtained in all genotypes under 0, 5 and 10% PEG, and in most genotypes under 15% PEG, but was completely absent under 20% PEG. Data obtained revealed that the parental cultivars, Giza168 and Sids13 and their hybrid (Giza168 xSids13) were the most drought tolerant genotypes, while the parent Misr1 was the most sensitive to drought. A set of ISSR markers for drought tolerance and (BSA) approach were used in molecular studies. Five tolerant molecular markers appeared in positive molecular markers for drought tolerance.</p>
	<p>Bacterial Toxin antitoxin system-Characterization of Hha-TomB toxin-antitoxin system and its role in Biofilm and persister cell formation in Salmonella enterica Serovar Typhimurium</p> <p>Prajita Paul KIIT School Of Biotechnology,Bhubaneswar ,Odisha-751024,India prajitapaul92@gmail.com</p>

<p>Prajita Paul GICICRST1605058</p>	<p style="text-align: center;">Abstract</p> <p>Toxin-antitoxin (TA) modules are two components “addictive” genetic elements found on both plasmids and bacterial chromosome. The most common function of plasmid encoded system is to provide stability while the genomic TA system has been shown to perform a wide range of functions. TA systems are more prevalent in pathogenic bacteria as compared to their non-pathogenic counterparts. Salmonella has been reported to contain several type I and type II TA system. The hemolysin expression modulating protein Hha and its adjacent protein TomB (previously known as YbaJ) have been proposed to form TA module in E. coli. However, in Salmonella this TA system is not characterized. In this study, the Hha-TomB TA system from S. Typhimurium was characterized in detail and their role in various cellular processes were elucidated. The described study found that Hha and TomB pair bears all the characteristic features of a bonafide type II TA system. This TA system was found to play an important role in bacterial persistence against antibiotics. Furthermore, the TA system repressed biofilm formation. Interestingly, the toxin components i.e. Hha showed conditional toxicity and was found to cause cell death under acid stress. On the other hand, its counterpart, i.e. TomB provided survival fitness to S. Typhimurium under acid stress conditions. In addition, Hha-TomB TA locus was also found to be present on a plasmid; however, the function of plasmid copy of this TA system still remains to be elucidated.</p>
<p>Prof.C.Chandrasekhar GICICRST1605059</p>	<p style="text-align: center;">Design and Implementation of 3D – DWT for video coding</p> <p style="text-align: center;">Prof.C.Chandrasekhar Affiliation: Department of ECE, S.V College of Engineering, Tirupati, Andhra Pradesh, India umashekar_2000@yahoo.com</p> <p style="text-align: center;">Dr.N.Sudhakara Reddy Principal, S.V College of Engineering, Tirupati , Andhra Pradesh, India sudhakarreddy.n@svcolleges.edu.in</p> <p style="text-align: center;">Abstract</p> <p>Video delivery through heterogeneous networks over new multimedia devices of varying capabilities requires scalable coding. In recent years, scalable video coding using the 3-D wavelet transform has gain a lot of attention. Wavelet based 3-D video coding systems use spatial-temporal analysis of a group of frames (GOF) followed by coefficients encoding.</p>
 <p>Asnor Nadirah Ishak GICICRST1605060</p>	<p style="text-align: center;">Preliminary Analysis of Radio Frequency Interference (RFI) using CALLISTO at Banting, Selangor, Malaysia</p> <p style="text-align: center;">Asnor Nadirah Ishak National Space Agency of Malaysia, Malaysia asnor23@gmail.com asnor@angkasa.gov.my</p> <p style="text-align: center;">Abstract</p> <p>In this paper, we have investigate the Radio Frequency Interference (RFI) affecting using Compact Astronomical Low-Frequency, Low-Cost Instrument for Spectroscopy in Transportable Observatories (CALLISTO) at Banting, Selangor, Malaysia. CALLISTO is a global network of spectrometer system with the purpose to observe</p>

	<p>the solar activities. Many CALLISTO spectrometer have been deployed around the world. Keywords — Radio Frequency Interference (RFI), solar activities</p>
 <p>Mukaila Kadiri GICICRST1605061</p>	<p>Physiological amelioration of deleterious effect of drought on sorghum bicolor (L) moench</p> <p>Mukaila Kadiri Department of Pure and Applied Botany, Nigeria mukailakadiri@yahoo.com</p> <p>Abstract</p> <p>The present study was carried out to evaluate physiological treatments of stressed compounds and soil <i>Mycorrhiza</i> that will minimize the negative effects of drought on sorghum. Results indicated that drought affected sorghum plants had least height, crude fibre and starch contents, amylase and proteinase, and as well as yields. Drought amelioration was best recorded with <i>Mycorrhizal</i> drought amelioration, followed by 15% trehalose drought amelioration.</p> <p>Key word: Sorghum bicolor, Mycorrhiza, amelioration, Vegetative growth, proximate.</p>
 <p>Noor Hidayah Tauhid Ahmad GICICRST1605062</p>	<p>Measurement of the High Intensity Acoustic Chamber Performance for Satellite's Mechanical Testing</p> <p>Noor Hidayah Tauhid Ahmad National Space Agency (ANGKASA), National Space Centre, Lot 2233, Jalan Turi, Sg.Lang, 42700 Banting, Selangor, Malaysia noorhidayah@angkasa.gov.my</p> <p>Karthigesu Thanarasi National Space Agency (ANGKASA), National Space Centre, Lot 2233, Jalan Turi, Sg.Lang, 42700 Banting, Selangor, Malaysia karthi@angkasa.gov.my</p> <p>Asmaliza Zulkifli National Space Agency (ANGKASA), National Space Centre, Lot 2233, Jalan Turi, Sg.Lang, 42700 Banting, Selangor, Malaysia asmaliza@angkasa.gov.my</p> <p>Maszlan Ismail National Space Agency (ANGKASA), National Space Centre, Lot 2233, Jalan Turi, Sg.Lang, 42700 Banting, Selangor, Malaysia maszlan@angkasa.gov.my</p> <p>Abstract</p> <p>Assembly, Integration and Test Centre at National Space Agency (ANGKASA) consist of Reverberation Acoustic Test Facility (RATF). The Reverberation chamber with internal volume chamber 999.5m³, capable to simulate high intensity acoustic noise environment that will experience during launch by satellite or spacecraft structures and components. The characteristic of the chamber and the noise generating capabilities for high-intensity acoustic testing are described in this paper.</p>

	<p>The test configuration for chamber performance are discussed and this paper recommends the measurement setting for low, medium and high spectrum level. The frequency range of interest includes the one-third Octave Band (OB) with centre frequencies from 31.5 Hz to 1250 Hz.</p> <p>Keywords: High intensity acoustic, reverberation chamber, noise generation system</p>
 <p>S Revathi. GICICRST1605063</p>	<p>Cloud Security: Adoption of Differential Fault Analysis on AES Encryption Algorithm for Data Transmission Based Fuzzy Intrusion Detection System</p> <p>S Revathi Assistant Professor, Dr.N.G.P Arts and Science College, Coimbatore, India revathisujendran86@gmail.com</p> <p>Dr.A.Malathi Assistant Professor, Dr.N.G.P Arts and Science College, Coimbatore, India revathisujendran86@gmail.com</p> <p>Abstract</p> <p>To handle a large scale administrative control of data security in cloud, a new hybrid encryption based cloud intrusion detection system model has been proposed in this paper. Our proposed cloud Intrusion Detection System (IDS) handles large flow of data packets, analyse them and generate alerts by integrating knowledge and behavior analysis to detect intrusions. Differential Fault Analysis (DFA) attacks on Advanced Encryption Standard (AES) key schedule has been used to generate encryption keys for data security in end to end transmission. The security algorithms used for encrypted/decrypted data are essential for cloud computing, which will maintain the confidentiality of the data. In addition fuzzy based rule generation are to detect attacks and protect data/ application in cloud. Performance of this cloud IDS system is evaluated for various sizes of text files, on the basis of encryption/decryption processing time and memory. The cloud IDS security levels has also been analysed and compared with other existing encryption techniques.</p> <p>Keyword: Cloud Security, Intrusion Detection System, Differential Fault Analysis, Advanced Encryption Standard and Fuzzy Logic.</p>
 <p>Jamilu GICICRST1605064</p>	<p>The Effects of Biodegradation on Asphaltenes Bound Biomarkers</p> <p>Jamilu Affiliation: Department Of Computer Science, India Department of Chemistry, Sokoto state University, Sokoto, Nigeria jamcee4real@gmail.com</p> <p>Abstract</p> <p>Two oils were separated using Thin Layer Chromatography (TLC) and initial characterisation of the aliphatic and aromatic fraction was carried out by GC and GC/MS analysis. Asphaltenes from the crude oil were then extracted and subjected to ruthenium ion catalysed oxidation (RICO) in order to investigate the hydrocarbon and biomarkers occluded onto the asphaltenes. The asphaltene-bound hydrocarbons were compared with the maltene-derived hydrocarbon to evaluate the effect of biodegradation on asphaltene-bound biomarkers. The biodegraded maltene-derived hydrocarbons show depletion of n-alkanes, acyclic isoprenoids and alteration to sterane and hopane biomarkers. However, asphaltene-bound hydrocarbon shows n-</p>

	<p>alkanoic acid distribution from C7 – C34 which corresponds to n-alkanes suggesting protection of the hydrocarbons from biodegradation. The steranoic acids of non-degraded sample show similar distribution to corresponding steranes in the maltenes. This is different for biodegraded samples which have different distribution of steranoic acids with the steranes counterparts in the maltenes suggesting secondary oil charging from different source. Hopanoic acids distribution for both samples show similar distribution as compared to their hopane counterparts in maltenes. The distribution of asphaltene-bound biomarkers is suggested to represent two oil samples which is protected from biodegradation as a result of being occluded onto asphaltenes. This result shows the possibility of using asphaltene-bound biomarkers as an alternative oil-source correlation technique especially in biodegraded oil samples where the biomarkers from the maltenes fraction have been altered.</p>
<p>Juliana Jumal GICICRST1605065</p>	<p>1,4-Bis(N⁷-Benzoylthioureido)Benzene And 1,4-Bis(N⁷-Benzoylthioureido)Cyclohexane As Ionophores For Lead(II) Ion-Selective Electrode With Self-Plasticizing Poly(N-Butylacrylate) Membrane</p> <p>Juliana Jumal Faculty of Science & Technology, Universiti Sains Islam Malaysia (Usim), Malaysia juliana.j@usim.edu.my</p> <p>Bohari M. Yamin 2School of Chemical Sciences & Food Technology, Universiti Kebangsaan Malaysia, 43600 Bangi, Malaysia</p> <p>Musa Ahmad 1Faculty of Science & Technology, Universiti Sains Islam Malaysia, 71800 Nilai, Malaysia</p> <p>Lee Yook Heng 2School of Chemical Sciences & Food Technology, Universiti Kebangsaan Malaysia, 43600 Bangi, Malaysia</p> <p>Abstract</p> <p>Two compounds of bis-benzoylthiourea derivatives were synthesized and their ionophore potential in Pb(II) ion-selective electrodes (ISEs) with self-plasticizing poly(n-butylacrylate) (poly-nBA) membrane was examined. As ionophores, 1,4-bis(N⁷-benzoylthioureido)benzene (p-BTB) gave the best results in Pb(II) ISE compared to 1,4-bis(N⁷-benzoylthioureido)cyclohexane (p-BTCH). The p-BTB based electrode resulted in Nernstian response (28.38 mV/dec) over a wide concentration range with low detection limit, while the p-BTCH based ones showed near-Nernstian responses. The proposed electrodes show good discrimination toward Pb²⁺ ion with</p>

	<p>respect to several selected cations. The p-BTB-based electrode was also successfully used to determine Pb²⁺ ions in real samples.</p> <p>Index Terms— bis-benzoylthiourea, ionophores, poly(n-butylacrylate) membrane, Pb(II) ion-selective electrode.</p>
 <p>Nur Tsiqah Binti Mohd Nasir YRSICRST1605051</p>	<p>Response Surface Methodology towards Optimization of Ultrasound-Assisted Extraction of Lutein from Chlorella Vulgaris</p> <p>Nur Tsiqah Binti Mohd Nasir University of Uludag, Faculty of Science and Arts, Department of Chemistry, 16059, Bursa, Turkey cqahsan@gmail.com</p> <p>Saliha Şahin University of Uludag, Faculty of Science and Arts, Department of Chemistry, 16059, Bursa, Turkey salihabilgi@uludag.edu.tr</p> <p>Abstract</p> <p>Microalgae has been on demand for naturally occurring bioactive compounds since the world facing global challenges such as climate changes, shortage in renewable sources and increasing populations. The ability of microalgae to survive in a harsh environment makes them vulnerable and potential new renewable sources. Bioactive compound such as carotenoids could be one of the alternative renewable sources in application of functional foods, cosmetic and pharmaceutical industries. Green unicellular microalgae <i>Chlorella vulgaris</i> once was known as the most exciting nutritional was used in this study. <i>Chlorella vulgaris</i> produced high amount of lutein and β-carotene. Lutein, a novel carotenoid and have benefit human in term of its function in precursor for vitamin A. In this present study, we only investigated optimization of ultrasonic-assisted extraction of lutein via response surface methodology. Green extraction technology, ultrasonic-assisted extraction was applied on lutein due to its ability to enhance the production of carotenoid. The effect of extraction time (15-155 min), ethanol volume (35-95%, v/v), extraction temperature (15-75oC) and liquid/solid ratio (30-150 mL/g) of <i>Chlorella vulgaris</i> on lutein was examined using central composite design. The optimum conditions for lutein production was: extraction time (81 min), ethanol volume (88%, v/v), extraction temperature (69oC) and liquid/solid ratio (114 mL/g). A 3D response plot was constructed to show the interaction effect between the parameters and R² value approaching unity indicates the accuracy of the model. The experimental value under the optimum conditions for lutein was 4.844 mg/g which is very significant showing that the value are in good consistent with the predicted value. The high production of lutein showed that <i>Chlorella vulgaris</i> can be considered as a reliable renewable sources in industrial scale.</p>

	Keywords: lutein, carotenoid, green extraction technology, optimization, central composite design, chlorella vulgaris
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GRDS



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GICICRST1605066

Transition Metal Containing Mesoporous Silica as Effective Catalysts Support for Hydrodeoxygenation of Dibenzofuran to Transportation Fuels Molecules.

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Abstract

In continuation of our previously published researches in Fuel Journal, we move ahead to explore the potential of metal doped mesoporous silica for hydrodeoxygenation of dibenzofuran to fuel graded molecules. To actualized that, titanium containing Ti-MCM-41 and MCM-41 as catalysts supports, were synthesized and their physicochemical properties were examined through XRD, FTIR, UV-VIS, NH₃-TPD, and N₂ isothermal adsorption analysis. These support were co-impregnated with Ni(NO₃)₂·6H₂O and Cu(NO₃)₂·3H₂O solutions, dried, calcined and reduced with H₂. Prior to calcination, the dried samples were analysed by TPO and after calcinations by TPR then further characterized by XRD, Raman, BET, FESEM and XPS and. The XRD and BET analysis of supports disclose the formation of hexagonal structures with larger surface area of 983m²/g and 705m²/g and with smaller pore size distribution in MCM-41 as compared to Ti-MCM-41 support. The FTIR and UV-Visible spectroscopic analysis described the existence of tetrahedrally co-ordinated titanium species in the silica matrix which generated strong Lewis sites and resulted to emanation of weak Bronsted sites as indicated by NH₃-TPD. On the other hand, The Raman and XRD of supported catalysts revealed the existence of cubic phase of NiO. H₂-TPR and XPS results show that, Cu²⁺ and Ni²⁺ were simultaneously reduced to Cu⁰ and Ni⁰, to formed bimetallic Cu-Ni alloy. A high dispersion of Cu-Ni particles were obtained, as evidenced by FESEM studies. The supported catalysts were tested for hydrodeoxygenations of Dibenzofuran at reaction temperature of 250°C, hydrogen pressure of 10MPa and 4hrs reaction time. Also the effect of reaction time from 4hr, 3hr, 2hr and 1hr have been checked. The NiCu/Ti-

	<p>MCM-41 proved to be highly active with 95% conversion than NiCu/MCM-41 with 42% conversion and highly selective to bicyclohexane with the yield of 69.60% than NiCu/MCM-41 with the yield of 8.7%. The Products distribution showed that, hydrogenolysis pathway predominate over Ti-MCM-41 supported catalysts via C(SP2)-O cleavage while hydrogenation pathway predominates over MCM-41 supported catalysts via aromaticity lost. According to effect of time, both conversion and selectivity increase with increase of reaction time.</p> <p>Key word: Ti-MCM-41, Hydrodeoxygenation, Dibenzofuran, Reaction time, transition metals</p>
<p>UGWU K.T GICICRST1605067</p>	<p>A Study Of Factors Influencing Field Dependent/Independent Cognitive Style Of Students In The South East Of Nigeria</p> <p>UGWU K.T Department Of Social Sciences and Humanities, Institute of Management and Technology (Imt), Enugu State, Nigeria officialktu@yahoo.com</p> <p>Abstract This study investigated the influence of socio-cultural background and gender on the adopted cognitive style (field dependent/independent) of students using a sample of five hundred junior secondary school students drawn from four secondary schools in rural and urban areas of Enugu state, Nigeria. The group embedded figure test (GEFT) was applied to measure the field dependent/independent cognitive style of the participants. The result showed that urban students were more significantly more field independent than their rural counterparts. The result also revealed the significant influence of socio-cultural background on field dependent/independent cognitive style. Gender as a factor showed no significant influence on field dependent/independent cognitive style. Conclusions, implications, and recommendations were discussed based on the findings. Key Words: cognitive style, gender, socio-cultural, field dependent/independent.</p>
<p>Nabeel Iqbal GICICRST1605068</p>	<p>Snapchat: Hype and Concerns in Pakistan</p> <p>Nabeel Iqbal Department of Fast School of Management, National University of Computer and Engineering Sciences, Islamabad, Pakistan nabeel_2@hotmail.com tehreem.mubasher@live.com</p> <p>Abstract We investigated the impact of Snapchat usage on academic performance, privacy and procrastination. Data collected from a diverse sample (N = 98) from students of different universities of Islamabad and the young users of this application provided good support for the hypotheses. The results indicate that Snapchat usage has a positive relationship with privacy and procrastination and negative relationship with academic performance. The positive relation shows I) the more people inclining towards usage of Snapchat increases their concerns of privacy, we found that individuals are not sure whether their personal data is safe or not. II) Increased Snapchat usage increases procrastination. We found out that almost all individuals use Snapchat before doing any other task. III) The excess use of Snapchat impacts</p>

	<p>academic performance negatively. The more people spend time socializing on Snapchat, the less their academic performance enhances. Keywords: Snapchat usage, academic performance, procrastination, privacy, youth.</p>
<p>Tahreem GICICRST1605069</p>	<p>Snapchat: Hype and Concerns in Pakistan</p> <p>Tahreem Fast School of Management, National University of Computer and Emerging Sciences, Islamabad, Pakistan tehreem.mubasher@live.com nabeel_2@hotmail.com</p> <p>Abstract</p> <p>We investigated the impact of Snapchat usage on academic performance, privacy and procrastination. Data collected from a diverse sample (N = 98) from students of different universities of Islamabad and the young users of this application provided good support for the hypotheses. The results indicate that Snapchat usage has a positive relationship with privacy and procrastination and negative relationship with academic performance. The positive relation shows I) the more people inclining towards usage of Snapchat increases their concerns of privacy, we found that individuals are not sure whether their personal data is safe or not. II) Increased Snapchat usage increases procrastination. We found out that almost all individuals use Snapchat before doing any other task. III) The excess use of Snapchat impacts academic performance negatively. The more people spend time socializing on Snapchat, the less their academic performance enhances.</p>
 <p>Akila TK GICICRST1605070</p>	<p>Analysis on Test Case Prioritization Techniques for Regression Testing Using Modified Hybrid Genetic Algorithm and Ant Colony Optimization</p> <p>Akila TK PhDResearch Scholar, Government Arts College, Coimbatore, India akila.tk23@gmail.com</p> <p>Dr. Malathi Arunachalam Assistant Professor, Government Arts College, Coimbatore, India malathi.arunachalam@yahoo.com</p> <p>Abstract</p> <p>Inspite of availability of various techniques, software testing has been always a tedious task in software industry as it consumes more money, time and effort. Regression testing is one such important phase of testing which ensures that there is no impact in the functionality of the previously working software segments. For this, entire set of test cases of already existing program segments along with the test cases for the modified segment should also be run which consumes more cost and testers'</p>

	<p>effort. This problem can be solved by using test case prioritization technique. This paper gives a deep analysis on test case prioritization techniques and a method has been proposed which uses the modified combination of genetic algorithm and ant colony optimization which significantly reduces the cost, time and effort.</p> <p>Keywords: Regression test, Test case, Genetic algorithm, Ant colony, Fitness function.</p>
<p>Saman Babaie-Kafaki GICICRST1605071</p>	<p>Adaptive Choices for Parameter of the Dai-Liao Class of Nonlinear Conjugate Gradient Methods for Unconstrained Optimization</p> <p>Saman Babaie-Kafaki</p> <p>Department of Mathematics, Faculty of Mathematics, Statistics and Computer Science, Semnan University, Semnan, Iran</p> <p>sbk@semnan.ac.ir</p> <p>Abstract</p> <p>For solving large-scale unconstrained optimization problems, methods with the important feature of low memory requirement are helpful. Specifically, in the case where the objective function is smooth and analytic expression of its gradient is available, conjugate gradient (CG) methods are among the most useful techniques because of strong global convergence properties and simple iterative formula [6,7]. As known, the methods are iterative in the sense of generating a sequence of successively better approximations to the solution. In a recent effort to employ quasi-Newton aspects in the CG methods [8], based on an extended conjugacy condition a one-parameter class of nonlinear CG methods has been proposed by Dai and Liao (DL) [5]. Although the methods have been shown to be globally convergent and they can be practically promising [6], their performance is very dependent to the DL parameter for which there is no any optimal choice [1]. To the best of our knowledge, a constant choice for the DL parameter may not lead to an appropriate numerical behavior. Conducting some eigenvalue and singular value analyses, here we discuss several adaptive choices for the DL parameter. One of them ensures the (sufficient) descent property [2] which plays an important role in global convergence of the CG methods. The other choices obtained in a way to decrease some upper bounds of condition number of the DL search direction matrix [3,4] and so, they may enhance numerical stability of the DL method. Computational experiments are done using standard benchmarks; they provide numerical support for our theoretical arguments.</p> <p>Keywords: Unconstrained optimization, Large-scale optimization, Conjugate gradient algorithm, Line search, Global convergence.</p>
<p>Perichiappan Subbiah GICICRST1605072</p>	<p>Machinability Issues in Turning Hybrid MMC (Al/SiNp/B4Cp) by Taguchi Experimental Technique and S/N-ANOVA Analysis</p> <p>Perichiappan Subbiah</p> <p>Graduate students in Mechanical Engineering, Sri Venkateswara College of Engineering, Pennalur, Sriperumbudur – 602 105, Tamil Nadu, India</p> <p>Saikrishna.M</p>

	<p>Graduate students in Mechanical Engineering, Sri Venkateswara College of Engineering, Pennalur, Sriperumbudur – 602 105, Tamil Nadu, India</p> <p>Nimoshraj Rajasekar Graduate student in Mechanical Engineering, Manipal Institute of Technology, Manipal - 576104 , Karnataka, India.</p> <p>Mohanakrishnan.R Graduate student in Mechanical Engineering, Panimalar College Of Engineering, Chennai, Tamilnadu, India.</p> <p>Abstract This paper presents the application of Taguchi experimental technique and the S/N-ANOVA analysis approach for optimizing the surface roughness in machining of fabricated aluminium hybrid metal matrix composite (Al/SiNp/B4Cp) during continuous turning of composite rods by Poly Crystalline Diamond (PCD 1600 Grade) inserts. The volume fraction of SiNp is 7% and that of B4Cp is 5%. Machining of Hybrid MMC's with good surface finish is very difficult and in open literature survey proves that PCD inserts are best suited. The experiments have been conducted using Taguchi's experimental design technique. The machining parameters used are cutting speed, feed and depth of cut. The effect of machining parameters on surface roughness is evaluated and the optimum cutting condition for minimizing the surface roughness is determined using S/N ratio. Analysis of Variance (ANOVA) technique is used to find the most influencing machining parameter for surface roughness. It is concluded that most influencing parameter is feed followed by cutting speed for the hybrid aluminium metal matrix composite (Al/SiNp/B4Cp). Key words: Machining, Hybrid MMC, PCD, Surface roughness, Taguchi method, S/N ratio. ANOVA.</p>
 <p>Nur Faradila Anuar GICICRST1605073</p>	<p>Chicken Fats Pyrolysis Using a Series of Zeolite Catalysts: Production and Analysis of Bio-Oil and Bio-Char</p> <p>Azman Ma'amor Chemistry Department, Faculty of Science, University Malaya 50603 Kuala Lumpur, Malaysia azman2111@um.edu.my</p> <p>Nur Faradila Anuar Chemistry Department, Faculty of Science, University Malaya 50603 Kuala Lumpur, Malaysia</p> <p>Muhammad Adli Badiou Zaman Chemistry Department, Faculty of Science, University Malaya 50603 Kuala Lumpur, Malaysia</p> <p>H.N.M. Ekramul Mahmud Chemistry Department, Faculty of Science, University Malaya 50603 Kuala Lumpur, Malaysia</p>

	<p style="text-align: center;">Rusmi Alias Faculty of Chemical Engineering, University Technology Mara, Jalan Ilmu 1/1, Universiti Teknologi Mara, 40450 Shah Alam, Selangor, Malaysia</p> <p style="text-align: center;">Mohibah Musa Faculty of Chemical Engineering, University Technology Mara, Jalan Ilmu 1/1, Universiti Teknologi Mara, 40450 Shah Alam, Selangor, Malaysia</p> <p style="text-align: center;">Abstract</p> <p>Chicken fat waste pyrolysis using a series of zeolite (ZSM-5, mordenite, ferrierite) was performed in a laboratory scale of fluidized bed reactor. The pyrolysis process produced a significant amount of liquid bio-oil with solid bio-char and syn-gas as by-products. The aim of this research is to produce and characterize bio-oil and bio-char obtained from pyrolysis of chicken fat waste in the presence of zeolite. The advantage of using zeolite is the process can be performed under atmospheric pressure with no hydrogen gas is required. Zeolite can react with pyrolysis bio-oils to reduce the oxygen content and improve bio-oil thermal stability. The pyrolysis process using zeolite usually involves the reaction of dehydration, cracking, polymerisation, deoxygenation and aromatization in the bio-oil. The feed: zeolite ratio and reaction temperature were varied and different type of zeolites were used. The chemical analysis using GC-MS and FTIR for spectroscopic analysis demonstrated different classes of organic compounds and complex mixture such as hydrocarbons (alkanes, alkenes, cyclic compounds), aldehydes, ketone, esters, carboxylic acids and other compounds in liquid bio-oil. The presence of zeolite increases the formation of alkanes, alkenes and carboxylic acids compounds and reduced alcohol compounds. The spent zeolite can be regenerated for reproducibility of pyrolysis process. Bio-char produced contain high ash composition and low carbon composition which make them irrelevant to other chemical application.</p> <p>Keywords: Pyrolysis, chicken skin waste, bio-oil, zeolite</p>
<p>Maryam Amanpour GICICRST1605075</p>	<p style="text-align: center;">The Effect of Urban Tourism on Economic Sustainable Development of Sari City</p> <p style="text-align: center;">Maryam Amanpour Faculty member of Islamic Azad University in Garmsar unit, Semnan Iranamanpour.giau@gmail.com</p> <p style="text-align: center;">Abstract</p> <p>Today, tourism is one of the most dynamic activities in the socio-economic change in the area of the world that has increasingly become important. Because Information technology, cultural, political, social and economic infrastructures that create in the twenty-first century, tourism is an inevitable phenomenon of human behavior and action which would satisfy his curiosity spirit. Tourism as one of the sources of income and job creation at the local level which could be a strategy for economic development and in other economic sectors, especially at a time when profits are falling attractive alternative for them and a strategy for development. Sari city is one of the oldest cities in northern of Iran, which in addition to historically valuable and lively nature has perfect texture. Because of underdevelopment in recent years, the central part of the</p>

	<p>city that features one of traditional cities is included in decline. The subject matter in present study is evaluating the potential of city tourism in sustainable development. From the perspective of a problem, an imbalance in space could be expressed toward intervention in Space. In this article, we describe the precise definition of sustainable development and its role in the sustainable development of tourism in the Sari city and in addition to introducing and identifying the capabilities of the Sari city, the impacts of tourism development on urban development should be considered. In this view, the development of tourism by using existing resources in such a way that we respond to the needs of economic, social, cultural and legal norms and expectations of tourists to the unity of integrity, cultural identity, environmental health, economic balance and welfare of the people. To achieve this goal, we must promote local development and improve the quality of life of host; we should promote cultural, local and historical features and coordination between mutual needs of tourists and residents.</p> <p>Key words: Urban Tourism, Local economy, Sustainable, Development, Sari City</p>
<p>Naimah Binti Haron GICICRST1605076</p>	<p>Microstructures, Interactions and Dynamics Properties Studies of Nmethyl diethanolamine + Guanidinium Triflate Ionic Liquid + Water Tertiary System at the Standard Temperature</p> <p>Naimah Binti Haron Department of Chemistry, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia naimaharon@gmail.com</p> <p>Abstract</p> <p>Molecular dynamics simulations with an all-atom force field have been carried out in order to understand the phase equilibrium behaviour of ternary aqueous mixtures containing guanidinium triflate ionic liquid [gua][OTf] and water mixed with N-methyl diethanolamine (MDEA) in different function composition at the standard temperature of 298.15 K. A very good numerical agreement has been obtained for the prediction of the mixture densities. The analysis of structural and dynamic properties showed that the molecular level of ternary mixtures is slightly affected by the presence of MDEA and [gua][OTf] molar fractions. For MDEA–water interactions in [gua][OTf] media, we found that MDEA prefers to be surrounded by water molecules rather than by MDEA molecules even at a high MDEA molar fraction. While for [gua][OTf]–water interaction in MDEA media, as [gua][OTf] molar fraction increases, water molecules replace counterions in the coordination shell of both ions, thus weakening their interaction. On the other hand, for MDEA– [gua][OTf] interactions in water media, we have found that as the molar fraction of [gua][OTf] increases, a sulfonate group from anion appears to have a stronger association by making hydrogen bonding with MDEA molecules. The chemical process using ionic liquids (ILs) as solvents is commonly limited by their high viscosity. Based on their physical properties such as viscosities, these ternary solvents can be applied in natural gas industry, such as removing carbon dioxide using aqueous MDEA and IL at high pressure.</p>
	<p>Quality Framework on Contextual challenges in Online Distance Education for Higher Education Institutions in the Philippines</p> <p>Raymund E. Dilan University of the Cordilleras, Philippines</p>



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Abstract

A quality framework is a conceptual structure that identifies the factors impacting quality in a particular context. The purpose of a quality framework is to ensure that the full range of factors known to impact quality is taken into consideration in managing quality assurance and quality improvement. Quality frameworks include quality assurance and quality improvement processes to ensure comprehensive coverage of the factors affecting students' experiences of learning. Aligning these towards an e-learning design framework can benefit the administrators, designers, developers, and students as well as improve the overall success and effectiveness of the program. Over the past fifteen years a number of evaluation frameworks have been developed for use in relation to e-learning. Most published frameworks have been designed and validated in the context of developed countries. Thus, there is a need for a quality framework in the context of developing countries, such as the Philippines. While there are factors that are universal, there are also many factors that are specific to developing countries. The categories where developing countries were found to be facing much greater challenges were technological and contextual. The technology category included infrastructure, costs, usability and appropriateness of technology, while contextual challenges included organizational, and cultural or societal challenges. This proposed quality framework in this study is focused on contextual challenges that were identified in a previous study. In this study, the Design and Development Research approach was used due to the use of qualitative and quantitative methods. Qualitative method was used in the determination of quality criteria and quantitative methods were used in the reliability and validity tests. The main problem in this study was to design and develop a quality framework that focuses on the contextual challenges in online distance education for higher education institutions in the Philippines.



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Hypolipidemic Effect of the Lyophilized Fruit Pulp of Guyabano , Annona Muricata Linn. (Fam. Annonaceae) in Atherogenic Diet-induced Hyperlipidemia in Albino Rats

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Abstract

Introduction: In 2011 Coronary Heart Disease (CHD) caused 57,864 or 13.73% of total deaths in the Philippines according to WHO. The age adjusted death rate of 121.63/100,000 population ranks Philippines at number 79 in the world. Projected deaths by CHD may reach 11.1 million globally by 2020. Hyperlipidemia is a significant risk factor in the development of CHD. Any significant reduction in mortality and/or disability from this disease will come from prevention and not cure. Therefore increased awareness and reduction of risk factors maybe the best lines of defense. Guyabano (*Annona muricata* Linn.) has been found to contain sterols and triterpenoids, constituents which have been attributed lipid lowering properties. The fruit pulp extract is lyophilized and the hypolipidemic property is explored through

	<p>comparison with atorvastatin (Lipitor). Experimental:In this study the phytochemical constituents of the Guyabano fruit-pulp extract was determined using standard tests. The hypolipidemic effect was evaluated against atorvastatin (Lipitor) as standard drug using albino rats as test animals. Hyperlipidemia was induced using an atherogenic diet of cholesterol. Three concentrations of the fruit-pulp extract were used based on mg/kg body weight; 500, 1000 and 2,000. Results were obtained by comparison of total cholesterol (TC), triglycerides (TG), Low density lipoprotein cholesterol (LDL-c), high density lipoprotein cholesterol (HDL-c) and atherogenic index of plasma (AIP). After the tests the test animals were sacrificed and histopathological evaluation of the liver, heart and blood vessels of the atherogenic-diet fed albino rats were conducted. Results and discussion: Bioassay findings show that the Guyabano fruit pulp can control in a dose dependent manner the increase in TC, TG, LDL-c and AIP. It can also decrease HDL-c caused by high fat and high cholesterol diet. Although results were remarkable Guyabano fruit pulp did not prove to be superior to the hypolipidemic effect produced by Atorvastatin. Histopathological analysis of the liver, heart and blood vessels also revealed that the fruit pulp is effective in curtailing the deposition of fats in the liver, heart and blood vessels which indicates potential ability to prevent the recurrence of hyperlipidemia. Phytochemical screening confirmed the presence of diverse constituents such as alkaloids, condensed tannin, polyphenols, reducing sugars, fixed oils, unsaturated steroids, deoxy-sugars and flavonoids which potentially might be responsible for the hypolipidemic effects. Conclusion: Although atorvastatin proved to be superior in lowering TC, TG, LDL-c and AIP and decreasing HDL-c the lyophilized fruit pulp of Guyabano showed a significant lipid-lowering activity which increased as the dose is increased. It is recommended that higher doses be used as the lyophilized fruit pulp extract is relatively safe. The use of Guyabano however is suggested to be taken as a supplement to the diet as the fruit is easily available in the Philippines. Guyabano to some extent is effective in preventing the deposition of fats in the liver, heart and blood vessels. A follow up study should be done wherein the induction of hyperlipidemia is prolonged to thoroughly establish the hypolipidemic property of the fruit. Further studies to investigate the possible mechanisms of action of the hypolipidemic property are hereby recommended.</p>
<p>Korsah, G.M GICICRST1605082</p>	<p>Nutritional Evaluation of Samanea Saman Whole Pods and Empty Pods as Non-Conventional Feed Resources for Farm Animals Using Pleurotus Ostreatus in A Solid State Fermentation Process</p> <p>Korsah, G.M Department of biochemistry and biotechnology, Kwame Nkrumah University of Science and Technology mkorsahgh@gmail.com</p> <p>Dzogbefia, P. V Department of biochemistry and biotechnology, Kwame Nkrumah University of Science and Technology</p> <p>Alemawor, F Department of Food Science and Technology, Kwame Nkrumah University of Science and Technology</p>

	<p style="text-align: center;">Attoh-Kotoku, V. Department of Animal Science, Kwame Nkrumah University of Science and Technology</p> <p style="text-align: center;">ABSTRACT</p> <p>Feed is the major input cost in production of animals in Ghana and other developing countries. The need to search for an alternative source of feed to replace the usual conventional ones is worthwhile. The rain tree (<i>Samanea saman</i>) pods are abundant and lie as wastes when they mature and fall. Though their use as animal feed is challenged with digestibility and anti-nutritional problems through biotechnological means, these wastes could be turned into valuable animal feeds. This study was carried out on the degradation of <i>Samanea saman</i> whole pods (SSWP) and <i>Samanea saman</i> empty pods (SSEP) using <i>Pleurotus ostreatus</i> in a solid state fermentation (SSF) for a period of eight (8) weeks. The fungus was able to improve the protein content significantly ($P < 0.05$) above the control samples and protein enhancement was highest in SSEP (23.86%), whereas SSWP recorded (13.90%). The crude fibre significantly reduced ($P < 0.05$) in both substrates fermented, with SSEP recording the highest of 24.37% and SSWP 18.36%. The ash content improved significantly ($P < 0.05$) with SSWP recording 41.42% and SSEP 22.95% at the end of the fermentation period for 8 weeks. The tannin levels in SSWP reduced by 58.54% and 50.72 % in SSEP. The study demonstrated that SSF of these agro wastes with <i>P. ostreatus</i> increased the level of limiting nutrients e.g. proteins and minerals while at the same time decreasing the fibre levels to enhance their digestibility for monogastrics and ruminants.</p> <p>Keywords: Biotechnology, Bioconversion, <i>Samanea saman</i>, Solid state fermentation, <i>Pleurotus ostreatus</i>,</p>
<p>Nura Abba Unguwar Alkali GICICRST1605084</p>	<p style="text-align: center;">A SURVEY OF KNOWLEDGE AND ACCESSIBILITY OF ONLINE SUBSCRIBED DATABASES BY ACADEMICS IN UNIVERSITY LIBRARIES IN KATSINA STATE</p> <p style="text-align: center;">Nura Abba Unguwar Alkali Department of Library and Information Sciences, Hassan Usman Katsina Polytechnic, Katsina Email: nuraabba7@gmail.com</p> <p style="text-align: center;">ABSTRACT</p> <p>This paper examined the Knowledge and Accessibility among academics on Online Databases Subscribed to by University Libraries in Katsina State. Objectives of the study were to find out the extent of academics knowledge about the online subscribed databases, access points of online subscribed databases by academics and how academics search and obtains downloads from online subscribed databases in the university libraries in Katsina state. Survey research method was used and the instrument used for data collection was questionnaire. Ninety nine (99) copies of questionnaire were distributed to respondents in which a total of eighty five (85) copies were duly completed and found usable. Responses were analyzed using descriptive statistics. The findings revealed that most academics were aware of the online databases subscribed, majority of the academics access online databases in their Offices and mostly search by themselves. It is therefore, recommended that management of the libraries should introduce user education and training opportunities aimed at improving the accessibility of online subscribed databases</p>

	<p>among academics in the university libraries in Katsina state. Key words: Knowledge, Accessibility, Online databases, Academics, University libraries.</p>
 <p>S.M. PHYOE GICICRST1605083</p>	<p>An Air Traffic Forecasting Study and Simulation</p> <p>S.M. PHYOE School of Mechanical and Aerospace Engineering, Nanyang Technological University, 50 Nanyang Ave 639798, Singapore</p> <p>R. GUO School of Mechanical and Aerospace Engineering, Nanyang Technological University, 50 Nanyang Ave 639798, Singapore</p> <p>Z.W. ZHONG School of Mechanical and Aerospace Engineering, Nanyang Technological University, 50 Nanyang Ave 639798, Singapore</p> <p>ABSTRACT This paper analyzes the forecasting performance for air traffic movement by comparing different models. The econometric models are emphasized, and a long term forecast is concentrated in this air traffic forecasting study. The aim is to find the suitable methods and variables to be applicable to the situation similar to Singapore FIR and also to improve the forecasting accuracy.</p>

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- » 9th International Conference on Envirotech, Cleantech and Greentech (ECG), 29-30 Dec 2016, Bangkok, Thailand
- » 10th International Conference on Envirotech, Cleantech and Greentech (ECG), 21-22 Feb 2017, Dubai
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