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CONFERENCE PROCEEDINGS

**22nd International Conference on Researches in Science & Technology
(ICRST), 13-14 Sept 2017, London, UK**

13-14 Sept 2017

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KEYNOTE SPEAKER



Ralph Hammann
PhD RA, LEED A.P., Thomas D. Hubbard Endowed Professor in
Architecture at The University of Illinois at Urbana-Champaign, USA



Assoc. Prof. Dr. Asan G. A. Muthalif
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Ghufran Aulia
GICICRST1711051

Utilization Of Briquette Charcoal From Mixture Biomass Fuel As Alternative Energy Sources In Small Industries

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Abstract

In line with the increasing demand of energy, the development of alternative energy resources must continue be done. Although that function is to overcome the previous energy, even verified and varied of oil or fuel with seek new alternative energy resources. Average price of small industry make the primary energy source of kerosene and firewood, which is in its production process requires considerable energy and fuel costs are high. Therefore, the needed to find green energy sources as alternative energy that can reduce the industry's dependence on petroleum industry and firewood that could have a negative impact on the planet. One of them comes from a mixture of biomass fuels, such as waste coconut shells, rice husk / straw, corn cobs, sawdust and chainsaw. Hazardous waste is often thrown away. When so many benefits, one of which could be used innovation as a raw material for making charcoal briquettes. The charcoal briquettes will be used as an alternative energy for small industries as the main energy source. The mixture of waste BIOMASS, such are formed from molecules of glucose, form cellulose molecules which are large, thus forming a structure that is bonded by a substance called lignin, a substance which is expected in addition to a resin. It is also to make the composition of a fuel that is not much different from other fuels.

Keyword: Biomass fuels, green energy, alternative energy, lignin, resin



Yuni Syafitri
GICICRST1711053

Utilization Of Methane Gas From Organic Waste To Manufacture Fuel Cell

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Abstract

Many people who live on plantation areas are still ignoring the organic waste

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generated from their plantations. If the waste is left for too long, it can produce methane gas which is harmful to the atmosphere and causes acid rain. Therefore, it is necessary to manage that organic waste. Previous studies utilize hydrogen gas as a main ingredient in order to manufacture fuel cells. However, these studies are not effective yet because hydrogen is relatively expensive and difficult to obtain. Fuel cells will produce up to 500 kilowatts of energy if the main ingredient is methane gas. This number of energy can be used for everyday needs such as; air conditioner (700Watt), 2-door refrigerator (120Watt), rice cooker (395Watt), board (300Watt) and microwave (800Watt). The methane gas is the result of anaerobic respiration of organic waste. Manufacturing fuel cell with methane gas has adopted the concept of redox reactions, using carbon rods as the catalyst. Then a flow of electrons will be generated to turn the power supply on. With methane gas, we can reduce environmental pollution, keep the cost cheaper than using hydrogen gas, and produce greater power.

Keywords : green energy; methane; fuel cells



Dr. I. A. Ezenwa
GICICRST1711055

Optical, Solid State, Morphological and Structural Properties of Cadmium doped Copper Oxide (CuO/Cd) Thin Films Fabricated by Solution Growth Techniques

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Abstract

Copper oxide CuO thin films doped with cadmium Cd were fabricated on glass substrates using solution growth technique. The films growth was based on the reaction between copper (II) chloride dehydrate which served as the precursor of Cu²⁺, Cadmium chloride hemi(pentahydrate) which served as precursor for Cd²⁺ in the presence of ammonium hydroxide which was used as a pH stabilizer. EDTA disodium salt acted as complexing agent for slow precipitation of the ions in the solution. The deposited films were annealed at a temperature of 400 K for 3 hours. Optical and morphological investigations were performed. The films were found to have strong absorption between 0.56 a. u. to 0.82 a. u., at wavelength range of 300 nm. Absorbance of the films decreases as wavelength increases and decreases as concentration of cadmium ion increases. Transmittance increases slightly as wavelength and concentration of cadmium ions increased. The films are of low reflectivity power of the order of 0.2. Refractive index ranges from 1.40 to 2.64. Optical band gap energy values of the deposited films were found to be between 1.80 eV to 2.52 eV. Our result shows that the presence of cadmium ions in copper oxide structure alter the optical, solid state and surface morphology of the films. Using ImageJ software for image analysis, average particle sizes between 0.76 nm to 1.64 nm were obtained from the micrographs.

Keywords: Copper oxide, Solution growth techniques, optical properties, micrograph, imageJ software, band gap

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An Automatic Milking Tool Using Membrane Nano Chitosan/Pva to Kill And Filter Bacterias on The Milk

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Abstract

Pure milk is the one of the product from animal husbandry. The people generally consume milk in the form of processed products from the plant or processed products own by boiling to kill bacteria from pure milk. However, that methods can damage the nutrients in milk so that people can't get the maximum nutrition. Chitosan is a polymer compound derivative of chitin. These compounds have the amine functional group (-NH₂) are positively charged and highly reactive so as to bind to the cell wall of bacteria that are negatively charged. Chitosan is widely used as an anti-bacterial. AC MART was an innovative milkmaid modified chitosan membranes porous nano to take milk from the farm animals that produce milk without bacteria. Based on this innovation, the bacteria in the milk can be killed and filtered by nano chitosan membrane without damaging the nutrient content. Pores chitosan itself was made to the size of 10-150 nm with the aid of doping polyvinyl alcohol. chitosan membrane porous nano used to kill bacterias and filter bacterias that have size of 0.5-5µm. AC MART beneficial to produce milk which contains optimum nutrition and improve the economy of farmers.

Keywords: Chitosan, Nano Membrane, Milk, Polyvinyl Alcohol, filtration



Ajay Kumar Mittal
GICICRST1711057

An Efficient technique for solution of adsorption problems with steep moving profiles

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Abstract

A numerical technique of orthogonal collocation on finite elements method using Hermite basis is applied to problems with steep gradients. The applicability of the method is shown for the solution of adsorption in solids with bidisperse pore structures. The results are shown in good agreement with the analytic ones when adsorption isotherm is linear. Comparison is made with the results of fitted mesh finite difference method and fitted collocation method. The technique is simple to apply and can be applied to widely applied to the models of adsorption and desorption in bidisperse solids with nonlinear isotherms.

Keywords: Collocation, steep moving profiles, adsorption problems

Dr Okereke Ngozi
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Thickness Dependent Properties of Copper Aluminium Selenide (CuAlSe₂) Thin Films

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	<p style="text-align: center;">Odumegwu Ojukwu University, Uli, Nigeria</p> <p style="text-align: center;">Abstract</p> <p>CuAlSe₂ thin films were deposited onto glass substrate by chemical bath technique. The dependence of film thickness on the structural and optical properties of the film has been studied. The phase identification and surface morphology of the films were investigated by X-ray diffraction and optical microscope respectively while the optical characterization was done by means of UV-VIS spectroscopy. XRD study confirms the chalcopyrite cubic structure of CuAlSe₂ films. The XRD peak at $2\theta = 30^\circ$ showed the preferential orientation along (111) with bath temperature of 333K. With the increase in bath temperature up to 354K, the films gradually grew thicker along with the film increase in crystallite size. The optical band gap of CuAlSe₂ thin films were estimated and found that the band gap energies decreased from 2.5 eV to 2.2eV as the thickness of the film increased from $1.05 \times 10^{-7} \text{ nm}$ to $2.10 \times 10^{-7} \text{ nm}$. The optical constants were investigated and found increased with the increased in film thickness. Keywords: Thin Films, Chemical Bath Deposition, Chalcopyrite, Grain Size, Band Gap</p>
<p>Anam Iqbal GICICRST1711060</p>	<p style="text-align: center;">Language, Culture, and History: A Stylistics Analysis of language in multicultural context in some selected poems OF Bin Okri and Usman Ali</p> <p style="text-align: center;">Anam Iqbal Department of English, University of Sargodha Mandi Bahuddin campus New Rasool Road, Punjab, Pakistan</p> <p style="text-align: center;">Abstract</p> <p>The present study aims at investigating Bin Okri's poem "A New Dream of Politics" and Usman Ali's poem "Standing Under the Neem tree" in the play "The Odyssey" and other selected poems from the view point of stylistics analysis. Bin Okri is a Nigerian poet and novelist and Usman Ali is an eminent Pakistani poet and dramatist. The objective of this study is to show that how formal stylistics feature are used by Bin Okri and Usman Ali that has helped the reader to infer the meanings. The analysis covers the different aspects such as the lexico syntactic patterns and choices, semantically, grammatically, graphological and phonological patterns. This analysis is helpful in understanding the basic concept of the poems that the most simple words belies the extraordinary hidden meaning which contain profound philosophical meditation. The language of the poems is simple, courtly, but it created unique and beguiling world of his own imagination. This research is helpful to analyze the structure and style of Bin Okri's and Usman Ali's poetry. Both poet conveys the intrusion of humanity's and inhumanity, imaginative generosity and the darkness of the world. The researcher has used Linguistic description in order to interpret and suggest the significance of the poems that explores a tender thread, alive to human frailty... (Okri, Ali) seduces the reader with a rapt recounting of the infinite within the particular. Stylistics features are crossrespondence between thought and expression. The researcher explores them Okri's and Ali's poems sweeps across the whole of the mythical world and each phrase is pregnant with possibility and magic. Each sentence is like a magical capsule breaking open with a burst of colored light. Okri's and Ali's poems carries off a remarkably difficult balancing act in which reality is transfigured into poetry that inspires to readers because of its hallucinatory quality. Apart from the hallucinatory quality these poems enriched with the exploration of freedom, regeneration and complex themes. On the other hand, both poets displaying the history of the generations, the result is the obtuse socio political context and with future held in abeyance. These poem are also analyzed under the model of Jacksbn's poetic function of language in order to</p>

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 <p>Peerzada Shariq Shaheen Khaki GICICRST1711061</p>	<p>find out the process of poetic practice. Keywords: Culture, History, language, Poetic function, qasam pursi, phonological, semantics, grammatical, lexico-semantic</p> <p>Structural and functional studies on a variant of cystatin purified from brain of Capra hircus</p> <p>Peerzada Shariq Shaheen Khaki Department of Biochemistry, Faculty of Life Sciences, AMU, Aligarh, U.P. India</p> <p>Anna Feroz Department of Biochemistry, Faculty of Life Sciences, AMU, Aligarh, U.P. India</p> <p>Fakhra Amin Department of Zoology, Faculty of Life Sciences, AMU, Aligarh, U.P. India</p> <p>Bilqees Bano Department of Biochemistry, Faculty of Life Sciences, AMU, Aligarh, U.P. India</p> <p>Abstract</p> <p>Cystatins, known for their ubiquitous presence in mammalian system are thiol protease inhibitors serving important physiological functions. Here, we present a variant of cystatin isolated from brain of Capra hircus (goat) which is glycosylated but lacks disulphide bonds. Caprine brain cystatin (CBC) was isolated using alkaline treatment, ammonium sulphate fractionation (40–60%) and gel filtration chromatography on Sephacryl S-100HR column with an overall yield of 26.29% and 322-fold purification. The inhibitor gave a molecular mass of ~44 kDa as determined by SDS-PAGE and gel filtration behaviour. The Stokes radius and diffusion coefficient of CBC were 27.14 Å and $8.18 \times 10^{-7} \text{ cm}^2 \text{ s}^{-1}$, respectively. Kinetic data revealed that CBC inhibited thiol proteases reversibly and competitively, with the highest inhibition towards papain ($K_i = 4.10 \text{ nM}$) followed by ficin and bromelain. CBC possessed 34.7% α-helical content as observed by CD spectroscopy. UV, fluorescence, CD and FTIR spectroscopy revealed significant conformational change upon CBC-papain complex formation. Isothermal titration calorimetry (ITC) was used to measure the thermodynamic parameters – ΔH, ΔS, ΔG along with N (binding stoichiometry) for CBC-papain complex formation. Binding stoichiometry ($N = .97 \pm .07$ sites) for the CBC-papain complex indicates that cystatin is surrounded by nearly one papain molecule. Negative ΔH ($-5.78 \text{ kcal mol}^{-1}$) and positive ΔS ($11.01 \text{ cal mol}^{-1} \text{ deg}^{-1}$) values suggest that the interaction between CBC and papain is enthalpically as well as entropically favoured process. The overall negative ΔG ($-9.19 \text{ kcal mol}^{-1}$) value implies a spontaneous CBC-papain interaction.</p> <p>Key Words: Caprine brain cystatin, thiol proteinase inhibitor, mammalian cystatin, purification, immunodiffusion, spectroscopy, isothermal titration calorimetry</p>
 <p>Ajay Kumar Mittal GICICRST1711062</p>	<p>An Efficient technique for solution of adsorption problems with steep moving profiles</p> <p>Ajay Mittal Department of Mathematics, Aryabhata College, Barnala (Punjab) India</p> <p>V.K. Kukreja Department of Mathematics, Sant Longowal Institute of Engineering and Technology, Longowal (Punjab) India</p> <p>Abstract</p>

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	<p>A numerical technique of orthogonal collocation on finite elements method using Hermite basis is applied to problems with steep gradients. The applicability of the method is shown for the solution of adsorption in solids with bidisperse pore structures. The results are shown in good agreement with the analytic ones when adsorption isotherm is linear. Comparison is made with the results of fitted mesh finite difference method and fitted collocation method. The technique is simple to apply and can be widely applied to the models of adsorption and desorption in bidisperse solids with non linear isotherms. Keywords: Collocation, steep moving profiles, adsorption problems.</p>
<p>Inderbir Kaur GICICRST1711063</p>	<p>The Deployment of Cloud in Blended Learning Environment to enhance Academic Quality: An Indian Perspective</p> <p>Inderbir Kaur Assistant Professor, GSSDGS, Khalsa College, Patiala, Punjab, India</p> <p>Abstract</p> <p>In India, the academic sector has been conventionally always thoughtful to accept new emergence in technology due to various challenges. But now a days, educational institutions are allowing themselves to agree upon the innovative teaching and learning techniques to satisfy the student sector which as cited as most important entity in educational sector. Blended learning process refers to “mixing of different learning environment”. It combines the traditional face to face classroom method with online learning method supported by advanced technology. Blended learning is considered to be an emerging teaching practice of mixed learning environments for educational transfer. The technological backbone of Blended learning is Cloud computing. Blended learning with cloud enables the learner to access all the resources and applications as services anywhere and anytime. Cloud Computing is becoming an adoptable technology in the field of education with its active scalability and virtualization. Implementing Blended learning approach under the umbrella of Cloud platform can reduce cost and provides security and compatibility. The proposal tries to put a light on the implementation of Cloud in Blended learning environment by discussing the studies in India. Keywords: IAAS, SAAS, PAAS, DWARA, Edu-cloud</p>
<p>Nermin Merve Yalçinkaya GICICRST1711066</p>	<p>Sustainable Energy for Sustainable Cities: A Sample from Turkey</p> <p>Nermin Merve Yalçinkaya Çukurova University, Department of Landscape Architecture, Turkey</p> <p>Nuriye Say Çukurova University, Department of Landscape Architecture, Turkey</p> <p>Abstract</p> <p>International organizations, movements and membership networks associated with sustainability take an active role in improving the social, economical and ecological aspects of sustainability in the settlements. For local authorities, this sort of non-governmental organizations is the instrument for motivation and raised awareness to develop sustainable plans, policies and approaches. Besides, the obligation of preparing sustainable action plans which is needed by the membership is the significant instrument for the practical applications of ecological planning and design. Seferihisar, a case study area in this study, is the member of both “International Cittaslow Union” which aims to protect local values of the settlements; and “Energy Cities” which promotes the settlements developing policies regarding sustainable energy. Besides, local authority in</p>

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	<p>Seferihisar has negotiated Covenant of Mayors on a volunteer basis and within this framework, “Sustainable Energy Action Plan” has prepared. In this study, it is examined the studies and practical applications in Seferihisar regarding efficient usage of current energy and renewable energy use which is conducted after being an official member of the organizations associated with sustainability. Furthermore, it is discussed the contributions of these studies and practical applications to sustainability of Seferihisar. As a result of the study, it could be worded the sustainable energy policies and their implementations promoted by the local authority in Seferihisar could set a good example for other local authorities in Turkey.</p> <p>Key Words: Sustainable energy, sustainable city, cittaslow</p> <hr/> <p>Examination of the Urban Transportation Problems in Adana City and Assessment the Environmentally Friendly Transportation Options</p> <p>Nermin Merve Yalçınkaya Çukurova University, Department of Landscape Architecture, Turkey</p> <p>Nuriye Say Çukurova University, Department of Landscape Architecture, Turkey</p> <p>Abstract</p> <p>In this study, it is aimed to examine the urban transportation problems in Adana city which is one of the biggest city in Turkey and propose the solutions. The urban transportation problems has increasingly continued in Adana where 1,5 million people live in. Besides the increase in spent time in traffic, the problem about lack of parking area, public transportation system and environmentally friendly transportation options has become ordinary in daily life for the city-dwellers. The methodology of study has three stages. In the first stage, the transportation network mapped according to urban development plan and current satellite image. Then, the traffic volume in the main axes was analyzed, thereby the highly demanded transportation lines, transportation points and transportation directions are determined. In the final stage of the study, the transportation alternatives were discussed according to the current situation and needs. These alternatives involve pedestrian zones, bicycle roads and light rail systems in the scope of the plans, policies and approaches prepared by the municipality. The results obtained in study shows that the environmetally friendly transportation systems are not used effectively however, current physical conditions are acceptable and communal demand is sufficient.</p> <p>Key Words: Sustainable transportation, urban transportation problems, sustainable city</p>
<p>Hafiz Awofe Akinyele GICICRST1711068</p>	<p>Purification and Characterisation of Thermostable Cellulase from Species of Anoxybacillus rupiensis and Roseomonas sp. Isolated from Sawdust</p> <p>Hafiz Awofe Akinyele Department of Microbiology, Federal University Oye-Ekiti, Ekiti, Nigeria Abiodun A. Department of Microbiology, University of Ibadan, Ibadan, Nigeria</p> <p>Sherifat M. Wakil Department of Microbiology, University of Ibadan, Ibadan, Nigeria</p>

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	<p style="text-align: center;">Abstract</p> <p>Extracellular cellulase produced by species of <i>Anoxybaacillus rupsiensis</i> and <i>Roseomonas</i> sp. was purified using ammonium sulphate precipitation, dialysis and affinity chromatography to 1.9, 1.67 and 1.21 folds for A1, E1 and 5H respectively and 60, 60.45 and 70 yields for A1, E1 and 5H respectively. The optimum pH and temperature of the enzymes activity were 7.0 and 70°C for <i>Roseomonas</i> sp. and 65°C for the <i>Anoxybaacillus rupsiensis</i>. The enzymes were stable at pH range 7-9 while their stabilities for temperature was up to 60°C for <i>Roseomonas</i> sp. A1 and <i>Anoxybaacillus rupsiensis</i> E1 and was up to 65°C for <i>Anoxybaacillus rupsiensis</i> 5H. Km values of <i>Roseomonas</i> sp. A1, <i>Anoxybaacillus rupsiensis</i> E1 and <i>Anoxybaacillus rupsiensis</i> 5H cellulase on CMC were found to be 12.5mg/ml, 9.3mg/ml and 5.9 respectively while the Vmax values of 1.5U/mg, 0.65U/mg and 0.82U/mg were obtained for <i>Roseomonas</i> sp. A1, <i>Anoxybaacillus rupsiensis</i> E1 and <i>Anoxybaacillus rupsiensis</i> 5H respectively. Hg²⁺, Zn²⁺ and EDTA are inhibitory to enzymes A1 and 5H while Hg²⁺, Zn²⁺ urea and SDS are inhibitory to enzyme from E1.</p> <p>Key words: <i>Anoxybaacillus rupsiensis</i>, <i>Roseomonas</i> sp. Cellulase, Electrophoresis Purification</p>
<p>Dr. P. V. S. Machiraju GICICRST1711069</p>	<p style="text-align: center;">A Study on Hydro Geochemistry of Ground Water using Factor Analysis; Quality with respect to Metal Toxicity and Microbial Contamination</p> <p style="text-align: center;">P.V.S. Machiraju Department of Chemistry, Pragati Engineering College (A), Surampalem, A.P. India</p> <p style="text-align: center;">P.Satyanarayana Department of Chemistry, Pragati Engineering College (A), Surampalem, A.P. India</p> <p style="text-align: center;">M.Krishnamurty Department of Chemistry, S.V.R.M. College (A), Nagaram, A.P. India</p> <p style="text-align: center;">Abstract</p> <p>Water is a significant natural resource which is vital for the survival of all ecosystems on the planet of the earth. Agricultural activities with their intensive utilization of agro chemicals pose a significant potential for negative impact on the quality of ground water. Expansion and intensification of cultivation are among the predominant global changes of this century. The purpose of the present study is aimed at evaluating the ground water quality in rural habitations near agricultural activity in East Godavari District, Andhra Pradesh, India. Impacts have been assessed through the systematic collection of ground water samples in the study areas and characterized for a range of physicochemical parameters viz., pH, EC, TDS, TH, Ca²⁺, Mg²⁺, TA, Na⁺, K⁺, Cl⁻, SO₄²⁻, PO₄³⁻ and NO₃⁻ for assessing chemical contamination. Irrigation parameters are determined to evaluate the water quality for assessing their potentials for application. Multivariate Factor analysis is performed for the parametric data set. This provides an insight into the source of parameters which are responsible for the water quality changes that occur in ground waters. The waters are further characterized for metal ions to assess toxicity and microbial analysis to estimate the bacterial contamination. The present study elucidated the effectiveness of factor analysis in evaluating the changes in ground water quality which is dominated by natural and anthropogenic activities. The research results revealed that water though IS free from metal toxicity, chemical contamination make the water unsuitable for drinking and domestic purposes. Presence of pathogenic</p>

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	<p>bacterial species confirms that the water can cause waterborne diseases and concern on human health. Key words: Ground water, Agriculture, Characterization, Parameter, Metal toxicity, Bacteria.</p>
<p>Mezaache-Aichour Samia GICICRST1711070</p>	<p>In vitro antagonism of rhizobacteria from semi-arid soils against Fusarium oxysporum f. sp. albedinis the causal agent of bayoud</p> <p>Benslim Asma Laboratoire d'Écologie Microbienne, Université Abderrahmane Mira, Bejaïa, Algérie</p> <p>Mezaache-Aichour Samia Laboratoire de Microbiologie Appliquée. Université Ferhat ABBAS Sétif 1, Sétif, Algérie</p> <p>Haichour Noura Laboratoire de Microbiologie Appliquée. Université Ferhat ABBAS Sétif 1, Sétif, Algérie</p> <p>Zerroug Mohamed Mihoub Laboratoire de Microbiologie Appliquée. Université Ferhat ABBAS Sétif 1, Sétif, Algérie</p> <p>Abstract Fusarium wilt of date palm or "Bayoud" is a permanent threat to many phycultural countries in North Africa, including Algeria. The progressive extension of the bayoud poses ecological problems and enormous economic damage due to the importance of dates exports for the Algerian economy. This disease caused by Fusarium oxysporum f. sp. albedinis (FOA), a telluric phytopathogenic fungus, is manifested by the total decline of the date palm. Several methods are used to control this pathogen, especially by crossing and generating resistant palm varieties. This resistance is linked either to the plant itself or to microbiological interactions at ground level, and this is where the idea of biocontrol was born. The present work was devoted to the in vitro study of the antagonistic activity of rhizobacteria isolated from potato and wheat rhizospheres from a semi-arid region "Sétif" against FOA; first by direct confrontation and secondly by evaluation of the anti-fungal capacity of bacterial filtrates. Of the fiftieth isolates tested (isolated ones and two referenced strains: Ps. 30-84 and CHA0), four isolates inhibited it with a rate higher than 50% during the confrontation test. While using bacterial filtrates shows variability; the disc diffusion test shows inhibition zones ranked from 7-8mm (for eleven isolates) to 11mm(three isolates), but only two isolates one identified as Bacillus sp. and another as Pseudomonas sp. completely inhibited (100%) spore germination. The results obtained are very promising when controlling the pathogen especially in the soil of crops associated with palm. Key words: Date palm, Bayoud, Rhizobacteria, Biological control, Antagonism</p>
<p>Zerroug Mohamed Mihoub GICICRST1711071</p>	<p>Evaluation Of Anti-Fungal And Anti-Germinative Activities Of Rhizospheric Bacterial Supernatants</p> <p>S. Mezaache-Aichour Laboratoire de Microbiologie Appliquée, Département de microbiologie, Faculté des Sciences de la Nature et de la Vie, Université Ferhat Abbas Sétif 1, Algérie</p> <p>N. Haichour, S. Chebel Laboratoire de Microbiologie Appliquée, Département de microbiologie, Faculté</p>

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	<p>des Sciences de la Nature et de la Vie, Université Ferhat Abbas Sétif 1, Algérie</p> <p>A. Bouabdallah Et M.M. Zerroug Laboratoire de Microbiologie Appliquée, Département de microbiologie, Faculté des Sciences de la Nature et de la Vie, Université Ferhat Abbas Sétif 1, Algérie</p> <p>Abstract</p> <p>The use of biological control of plant diseases represented a good alternative for the chemical control. The aim of our work is to evaluate the effect of bacterial filtrates on the fungal growth and fungal spores germination of telluric phytopathogens fungi: <i>Fusarium oxysporum</i> f. sp. <i>albedinis</i> (Foa), <i>Fusarium solani</i> var. <i>coeruleum</i> (Fsc) and <i>Phytophthora infestans</i> (Pi), causing Bayoud, dry rot and mildew diseases respectively. Bacterial filtrates of 15 strains were obtained by filtration of a bacterial suspension incubated for 72h with stirring. The results showed that these bacterial extracts inhibit both fungal growth (the inhibition zones vary from 0 to 18mm) and spore germination (some filtrates gave a total inhibition of 100%).</p> <p>Keywords: bacterial secondary metabolites, fungal growth, inhibition, phytopathogenic soil fungi, spores germination.</p>
<p>Wenjing Wang GICICRST1711073</p>	<p>Novel amine impregnated graphene/SBA-15 composite with good stability for CO2 capture</p> <p>Wenjing Wang The University of Queensland, Australia</p> <p>Abstract</p> <p>Carbon dioxide (CO₂) is the major greenhouse gas that makes the largest contribution to global warming. Worldwide research activities have focused on developing different types of physical and chemical adsorbents for CO₂ capture. Amine functionalized mesoporous silica combining the merits of physisorption and chemisorption is one of the most promising materials for CO₂ capture. However, due to the low thermal conductivity of mesoporous silica coupled with high adsorption heat of chemisorption, the thermal stability and cycle stability are severe issues that should be considered for practical CO₂ capture. The introduction of graphene with superior properties, large theoretical specific surface area of 2630 m² g⁻¹ and excellent thermal conductivities, could be an effective way to solve the problem of stability. SBA-15 is a mesoporous silica, which has well-ordered hexagonal mesopore structure. However, to the best of our knowledge, the feasibility of graphene introduction to SBA-15 for CO₂ capture need further explore. In this work, novel nanocomposites of graphene(G) /SBA-15/hyperbranched polymer(HBP) were synthesized and tested as CO₂ adsorbent. A capacity of up to 1.50 mmol g⁻¹ was obtained by G/SBA-15/HBP (50), indicating the presence of graphene within the system increased the capacity of conventional SBA-15/HBP to adsorb CO₂ by 51.51%. SEM images and N₂ sorption analyse indicate the introduction of graphene reduced the agglomeration and HBP could disperse more evenly into G/SBA-15. What's more, G/SBA-15/HBP (50) was relatively stable for 10 thermal cycles. The presence of graphene in the nanocomposite efficiently stabilize HBP, improving cycle stability and adsorbent longevity.</p> <p>Keywords: CO₂ capture, mesoporous silica, graphene, amine functionalization</p>

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Jamilu Usman
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The Effects Of Biodegradation On Asphaltenes Bound Biomarkers

Jamilu Usman

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Abstract

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-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.



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Maintaining Day To Day Employees Performance In Different Organization

Nwobike Innocent Owakah

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Abstract

Maintaining day to day performance of employees in different organization is a very huge responsibility because you are laden with the task of bringing out the best in your employees. More than ever, this endeavour requires a lot of effort in the area of encouraging employee performance improvement, in other to help the organization grow in its aim of establishment. If you're a manager and your goal is to change an employee's behavior, you might have to make some adjustments in the manner of dealing with some employees. For instance, when you place someone on disciplinary action, managers frequently make the mistake of concentrating only on documenting negative employee behavior rather than focusing more on guiding the employee. Although documentation is important when the behavior is not amended and additional steps in the discipline process are necessary, managers should also hope that their employee can successfully improve rather than expect the worst. This academic piece therefore focuses on how employee performance can improve in various organizations today. This is important because poor performance of employees can easily destroy the value of business, thereby causing low production rate, which in turn creates loss of customers and degradation of brand name and these is a threat to the success of any organization today.

Keyword: Management, Performance, Employees, Organization, Maintenance.

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Reverse Engineering Approach for Optimum Material Evaluation and to suggest Material substitutes for locomotive applications

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Abstract

Railways are one of the significant sector and plays an important role in the development of any country's GDP. The effective function of a diesel locomotive is dependent on the efficiency of the cooling system. Diesel locomotive rail engine is equipped with a wide radiator (66") fan to drive away the excess heat from the engine jacket cooling liquid. Material Aluminum will be employed for the blades of the radiator fan. The present study is focused on the optimum material evaluation of the blade material to explore the causes of failure at junction of a blade and flange in order to suggest a material as a substitute for the manufacture of blade. Static, dynamic and thermal analyses have been carried out for the generation of design data related to the Aluminum blade by using reverse engineering technique. By using the data the solid model of the radiator blade is created in ANSYS. Considering the blade as a cantilever beam, the axial thrust and torque loads are applied uniformly at several cross sections of the blade. Investigation studies have been carried out by dynamic analysis under pre stress conditions at full speed of the radiator fan. Different load variations and material vibrations are employed to suggest a suitable material to withstand dynamic loads. Fibre reinforced plastic (FRP) composite material is suggested to the authorities concerned and the investigations are well under consideration and are in test studies.

Key words: Material, Radiator blade, Aluminum, Reverse engineering, Analysis



Oladipupo Oladejo
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Treatment of Brackish water by Three Macrophytes in Constructed Wetlands

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Abstract

A series of investigations was conducted to evaluate the feasibility of using constructed treatment wetland to remove pollutants from saline wastewater. Three emergent plants; Pistia stratiotes, Typha orientalis and Eichhornia crassipes were planted in an experimental plot and fed with fresh saline water diluted with distilled water to simulate a brackish water concentration of 8.7 $\mu\text{S}/\text{cm}$. A pilot-scale free water surface-flow constructed wetland was set up at the Department of Civil Engineering; Ladoke Akintola University of Technology (LAUTECH) Ogbomoso, Nigeria to demonstrate the performance of sand-based constructed wetland. The experiment was carried out to demonstrate removal efficiency for Pistia stratiotes, Typha orientalis and Eichhornia crassipes in treating brackish water, from diluted saline water. Treatment performances of planted units were found to be 54.5–66% for electrical conductivity, 72.4–89.4% for Chloride, 33.3–75% for Total Hardness and 66.2–95.4% for Coliform counts. The most satisfactory plant with salt removal efficiency was Pistia stratiotes though the plant growth was limited by salt concentrations. The wetland plants were non-resistant to brackish water under the tested conditions during the 20-day retention period, with notable percentage increase in concentrations of some parameters. Salt enriched wastewater inhibited nutrients flourishing, which tended to reduce treatment performance. The final effluent was non-potable for human consumption, but satisfied conditions for irrigation and livestock watering.

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	<p>The treatment system was found to be economical; cost of construction only was involved and maintenance cost very minimal. It was environmentally friendly as it was free from offensive odour and insect invasion. Keywords- Brackish water, Constructed wetland, Electrical conductivity, Retention period, Non- tolerant plants, Removal efficiency</p>
 <p>Melissa Shahrom GICICRST1711078</p>	<p>A Captology Study on Behavior Model for Persuasive Ubiquitous Technology</p> <p>Melissa Shahrom Faculty of Business and Management, Universiti Teknologi MARA Selangor, Malaysia</p> <p>Erne Suzila Kassim Faculty of Business and Management, Universiti Teknologi MARA Selangor, Malaysia</p> <p>Norshima Humaidi Faculty of Business and Management, Universiti Teknologi MARA Selangor, Malaysia</p> <p>Norol Hamiza Zamzuri Faculty of Business and Management, Universiti Teknologi MARA Selangor, Malaysia</p> <p>Abstract</p> <p>This is a conceptual paper to study the role of privacy in the behavior model for persuasive ubiquitous technology. The study reviews the literature on the factors of persuasive technology, particularly in ubiquitous and pervasive computing. These factors are motivation, ability and trigger. The paper goes on to analyze privacy factor that also plays important role in ubiquitous technology. In theory, although there are some models that explain persuasive technology, including Fogg Behavioral Model that is highly referenced, the inclusion of the privacy, especially in the area of location-based services (LBS) is almost none. Therefore, building on the importance of upholding user privacy, the research is proposed to extend Fogg's model. Several methods will be deployed. First, a quantitative survey to assess the current users' awareness of the persuasive and manipulative part of the technology. Second, a qualitative technique to gather more inclusive understanding of the issue from the viewpoints of users, developer and government agencies. Third, based on the findings, a model will be developed and tested via a quasi-experiment that deploys an intervention module. The research is significant and important for the society and national development in several aspects; 1) it will promote for a comprehensive data protection policy development of cyber security, 2) providing rules to persuasive technology developer on the dos' and don'ts, and 3) educating the society about cyber ethics and privacy.</p> <p>Index Terms—Privacy, ubiquitous technology, behavior model, persuasive technology, captology.</p>
<p>Roufia Mezaache GICICRST1711079</p>	<p>Copper (II) bromide as an efficient catalyst for the selective protection and deprotection of alcohols</p> <p>Rofia Mezaache Laboratoire de Chimie et Chimie de l'Environnement, Département de Chimie, Faculté des Sciences, Université de Batna, Batna, Algeria</p> <p>Yénimégué Albert Dembelé Laboratoire de chimie, FMPOS, Université de Bamako, Mali</p>


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	<p>Yann Bikard Laboratoire de synthèse et réactivité organiques, associé au CNRS, Institut de Chimie, Université de Strasbourg, France</p> <p>Jean-Marc Weibel Laboratoire de synthèse et réactivité organiques, associé au CNRS, Institut de Chimie, Université de Strasbourg, France</p> <p>Aurélien Blanc Laboratoire de synthèse et réactivité organiques, associé au CNRS, Institut de Chimie, Université de Strasbourg, France</p> <p>Patrick Pale Laboratoire de synthèse et réactivité organiques, associé au CNRS, Institut de Chimie, Université de Strasbourg, France</p> <p>Abstract The syntheses of highly functionalized molecules usually require several steps dealing with the protection and deprotection of those functional groups.^{1, 2} The choice of protecting groups is often critical for synthesis success, specially for the total synthesis of complex natural products and analogs.^{2,3} Benzyl type protecting groups are among the most commonly used, due to their deprotection conditions orthogonal to other protecting and functional groups¹⁻³, and they have been applied to the protection of alcohols, thiols, amines, and acids. ^{1, 2} Nevertheless, their introduction is not always simple due to the basic or acid condition required,² in order to solve this problem, we recently described a convenient and efficient method based on Copper bromide catalyst (CuBr₂) has been developed for the protection of Primary and secondary alcohols with bis(4-methoxyphenyl)méthanol (BPMOH) in good yield using CuBr₂ as catalyst in acetonitrile at room temperature.⁴ Deprotection could easily be achieved using the same catalyst but in ethanol. Both Cu-catalyzed protection and deprotection were orthogonal to other methods and fully compatible with other functional groups. The mildness of these protection and deprotection methods as well as their selectivity render them very useful tools for total synthesis. Key words : alcohols, ethers, protection, déprotection, BPMOH, CuBr₂, CH₃CN</p>
<p>Nelson Enrique Vera Parra GICICRST1711080</p>	<p>Computational Performance Assessment Of K-Mers Counting Strategies: Minimizers Vs Bloom Filters</p> <p>Vera-Parra N. E. International Research Group of Informatics Communication and Knowledge Management (GICOGE), Universidad Distrital Francisco José de Caldas, Bogotá, Colombia.</p> <p>Gutierrez-Ramirez L. M. International Research Group of Informatics Communication and Knowledge Management (GICOGE), Universidad Distrital Francisco José de Caldas, Bogotá, Colombia</p> <p>Rojas-Quintero C. A. Linux Group (GLUD), Universidad Distrital Francisco José de Caldas, Bogotá, Colombia</p> <p>Abstract</p>


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	<p>Objectives: This article presents an evaluation of the impact about the use of minimizer and Bloom filters based techniques in different k-mers counting tools, with the purpose to create a framework for bioinformatics researchers to identify computational requirements, advantages, disadvantages, bottlenecks and challenges on each of the minimizer and Bloom filters based algorithms proposed in these tools. Methodology: The counters assessed were divided into two groups: - Minimizers based tools: KMC2, MSPK-mersCounter. – Bloom filters based tools: BFCounter, KHMer and Turtle. The parameters measured were the following: RAM occupied space, processing time, parallelization and read and write access to disk. A dataset comprised of 36.504.800 short reads corresponding to the 14th human chromosome. The assessment was performed for two k-mers sizes: 31 and 55. Results: Minimizers based tools had a lower execution time, those did not make difference regarding to the RAM use (their consumption was equal or slightly higher than the majority), they showed a disk access in average less than the most of the Bloom filter tools and showed a high parallelization with regard to other tools.</p> <p>Keywords: Bioinformatics; Bloom filter; K-mers counting; Minimizers.</p>
<p>Arab Loubna GICICRST1711081</p>	<p>Characteristics of Gold Nano-Particles Supported on Nickel-Containing Hydroxalcite Catalysts in Co Oxidation</p> <p>L. Arab Laboratoire de Génie des Procédés Chimiques, Département de Génie des Procédés, Faculté de Technologie, Université de Sétif-1 (19000), Algérie. Département de technologie, Université de A/MIRA de Bejaia 0600, Algérie,</p> <p>M. Boutahala LGPC, Laboratoire de Génie des Procédés Chimiques, Département de Génie des Procédés, Faculté de Technologie, Université de Sétif-1 (19000), Algérie</p> <p>V. Pitchon ICPEES, Institut de Chimie et Procédés pour l’Energie, l’Environnement et la Santé - UMR 7515 du CNRS - Université de Strasbourg, ECPMI, 67087 Strasbourg, France</p> <p>Abstract</p> <p>This thesis is devoted to the development of gold catalysts supported on a basic matrix derived from Layered Double Hydroxides in controlled morphologies for catalytic applications in oxidation of CO and for future applications in catalysis. The strategy is based on using the direct anionic exchange process, called DAE, as a synthesis method [1]. More generally, this study illustrates the need to adapt the operating conditions the method envisaged in order to obtain an active catalyst. Initially, some of the very succinct work is primarily concerned with the study of the optimization of certain operating conditions at the HT preparation step. Following these results, this part was therefore complemented by the study of the composition of the lamellar structure with various divalent metal inserted in the sheet in order to get as close to the target material. The selection of target support will be made from their physical properties (particularly their crystallinity and surface area), and their enhanced activity in CO oxidation. Obtaining gold NPs very well dispersed requires control of many operating parameters, which are then, optimized (nickel content, pre-reduction, content of Au, gold concentration, solvent washing ...). The goal is then to control the best morphology (size, dispersion) of NPs on the support in which we will detail the proposed characterizations and their oxidation activities. In summary, we have demonstrated through the chosen preparation method; DAE, it was possible to boost successfully active in oxidation gold species on a basic</p>

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	<p>phase; known to be less active and unfavorable to deposit gold. The deposition of gold NPs success obtained on this solid family and is supported on the optimization of various operating parameters and the positive selection of this synthetic strategy. The results are very promoters. After this study, doping and stabilization of NPs nanoscale were successfully achieved and the goal is reached; satisfactory result [2]. Keywords: Gold catalyst ; Gold nanoparticles ; Direct anionic exchange ; CO oxidation ; Layered Double Hydroxides.</p>
<p>Chika Asogwa GICICRST1711082</p>	<p>An Assessment Of Womens Utilization Of Information And Communication Technologies (Icts) In Lokoja, Kogi State</p> <p>Chika Asogwa Department Of Mass Communication, Federal University Oye-Ekiti, Ekiti State, Nigeria</p> <p>Samuel Oluwakemmi Department Of Mass Communication, Kogi State University, Anyigba. Nigeria</p> <p>Abstract Information and Communication Technologies are very important tools for development; women cannot be ignored in the train of development since they constitute the largest population in Nigeria. This study tried to assess the level of women utilization of ICTs in Lokoja, Kogi state- Nigeria. The survey research method was employed with the sample size of 400. Data were analyzed using the frequency table and simple percentages while the questionnaire served as the instrument for data collection. Findings revealed that many of them use cellular phones; internet services etc but are not much aware of many other things that one can do with ICTs. That study recommends that women should be encouraged to acquire more skills on the use of ICTs through workshops, seminars, trainings etc. The government should establish more centers for such trainings. Key Words: Information and Communication Technologies; Women; Access; Use; Nigeria</p>
 <p>Muhammad Sanaullah GICICRST1711083</p>	<p>Optimizing Agricultural Benefits Of Partial And Complete Lining Scenarios Using Indus Basin Model Revised (IBMR): Case For Greater Thal Canal, Punjab Pakistan</p> <p>Muhammad Sanaullah Institute of Geology, University of the Punjab, Lahore, Pakistan</p> <p>Abdul Rehman Water and Power Development Authority (WAPDA), Lahore, Pakistan</p> <p>Sadaf Iman College of Earth and Environmental Sciences, University of the Punjab, Lahore, Pakistan</p> <p>Zafar Iqbal Raza Water and Power Development Authority (WAPDA), Lahore, Pakistan</p> <p>Abstract This paper encompasses the studies conducted to evaluate the agricultural benefits of Greater Thal Canal, Punjab Pakistan. The agriculture system in the Greater Thal Canal command area is rainfed and crop water requirements are accomplished by rainfall as well as the ground water pumpage. Cropping intensity in Kharif (The summer crop season) is about 6% and the crop yields are quite low</p>

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	<p>in the study area. Indus Basin Model Revised (IBMR) has been adopted and a separate canal command was built to the model for assessing the prospective agricultural benefits of the canal. The annual net recharge to ground water system has been estimated as 0.150 MAF which is causing water table to rise by 0.5 ft./annum. The results for non-perennial system at 80% canal efficiency under partial lining scenario posed net water requirements at canal head as 2.368 MAF with 45% Kharif cropping intensity, which are 0.128 MAF less than canal water availability of 2.496 MAF. Under the complete lining option at 85% canal efficiency and Kharif cropping intensity of 48%, the net water requirement at canal head is estimated as 2.46 MAF which is near to the canal water availability of 2.496 MAF. The annual net recharge to the ground water system has been estimated as 1.226 MAF, which is higher than partial lining option (1.026 MAF). The increased annual recharge is an attribute of increase in seepage from watercourses and farm fields by 4%, increase in crop area and a decrease in groundwater pumpage by 30%. This rapid rise of groundwater table in complete lining system may result in creating water-logging conditions while partial lining system can be adopted under increased cropping intensity.</p> <p>Key words: water logging, canal lining, Indus Basin Model Revised (IBMR), cropping intensity</p>
<p>Dr Ibrahim M. Magami GICICRST1711084</p>	<p>Survey of Waste Disposal and Its Perception Among Residents of Sokoto Metropolis, North-Western Nigeria</p> <p>Magami, I.M. Department of Biological Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria</p> <p>Maishanu, H.M. Department of Biological Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria</p> <p>Shamaki, S.B. Dept. of Forestry and Environment Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria</p> <p>Abstract</p> <p>Sokoto metropolis is located at extreme Northern Nigeria with a population of 4,244,399 people. This survey was conducted to evaluate the pattern of waste disposal and regularity of sanitation. Waste samples from the five LGAs that makeup the metropolis was collected for analysis and questionnaire was distributed to residents around the collected waste dumpsites. Biodegradables waste dominated the categories of waste collected. There was lack of waste collecting centres in the metropolis. Majority of the residents disposed off waste at any available space or inside drainages around their houses. Respondents were also aware of diseases associated with waste disposed around their residential area. The government of the State is aware of this environmental problem and willing to take corrective measures. There is need for proper enlightenment on the efficient waste disposal and management system.</p> <p>Keywords: Biodegradable, Disposal, Metropolis, Residents, Sokoto, Waste</p>
 <p>G.S Ojewola GICICRST1711087</p>	<p>Preliminary Investigation Of Nutritive Potential Of Umucass 36 Cassava Root Meal As Substitute For Maize In Broiler Diets</p> <p>Ojewola, G.S. Department of Non-Ruminant Animal Production, College of Animal Production and Health, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria</p> <p>Adedokun, O.O.</p>


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<p>Budi Hastuti GICICRST1711088</p>	<p>Adsorption of Pb(II) Metal Ions onto a Low-Cost Biosorbent based on Pectin-Chitosan: Kinetic and Equilibrium Studies</p> <p>Budi Hastuti Department of Chemistry Education, Faculty of Faculty of Teacher Training and Education, Universitas Sebelas Maret, Jl. Ir. Sutami 36A Surakarta, 57126, Indonesia</p> <p>Mudasir Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Sekip Utara, Yogyakarta 55281, Indonesia</p> <p>Dwi Siswanta</p>

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	<p>Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Sekip Utara, Yogyakarta 55281, Indonesia</p> <p>Triyono Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Sekip Utara, Yogyakarta 55281, Indonesia</p> <p>Abstract</p> <p>Development of synthesis adsorbent materials at recent was focused on finding the stable films adsorbent of chemical and physical. Biosorbent such as pectin and chitosan usually produced with low physical stability, thus the material needs to be modified. In this research the physical characteristic of adsorbent increased by grafted chitosan using acetate carboxymethyl chitosan (CC). Further CC and Pectin (Pec) were crosslinked using crosslinked agent BADGE (bis phenol A diglycidyl ether) to get CC-Pec-BADGE film adsorbent. The crosslinked processes was targeted to formed stable structure and resistance on acidic media. Furthermore to increase of the adsorption capacity in removing Pb(II), the adsorbent were added with NaCl particle to formed macroporous adsorbent named CC-Pec-BADGE-Na. The characterization structure and the morphology of the resulting adsorbent were characterized by Fourier transform infrared spectroscopy (FT-IR) and scanning electron microscopy (SEM). The parameter adsorption of CC-Pec-BADGE-Na film to adsorb Pb (II) ion was determined. The kinetics and thermodynamic of the bath sorption of Pb(II) on CC- Pec-BADGE-Na adsorbent have been investigated with chitosan and pectin as comparison.</p> <p>The result of this study showed that the CC-Pec-BADGE-Na biosorbent stable on acidic media, had a rough and porous surface area, heat resistance increased and gived higher capacity sorption capacity for remove Pb(II) ion. The CC-Pec-BADGE-Na adsorbent adsorbted Pb(II) ion follow Langmuir isotherm curve models. The ΔG of porogen adsorbent of CMC-Pec-BADGE-CMC-Na on ratio CMC-Pec-BADGE:Na = 1:1 and 1:3 was 23.83 and 22.08 kJ/mol respectively while pectin and chitosan 16,6 and 19,54 kJ/mol. The kinetics of the bath sorption of Pb(II) on CC- Pec-BADGE-Na indicated that the adsorbent adsorbent followed pseudo-second order kinetic equation.</p> <p>Keywords: porogen, Pb(II), Pectin, Chitosan, Carboxymethyl Chitosan (CC) and CC- Pec-BADGE-Na</p>
 <p>Dr. Karam Adly GICICRST1711092</p>	<p>Synthesis and study of some physical properties for La_{1-x}Cr_xFeO₃ perovskites</p> <p>Y. M. Abbas Department of Physics, Faculty of Science, Suez Canal University, Ismailia, Egypt</p> <p>M. A. Ahmed Department of Physics, Faculty of Science, Cairo University, Giza, Egypt</p> <p>A. Bakry Department of Physics, Faculty of Science, Suez Canal University, Ismailia, Egypt</p> <p>K. Adly Department of Physics, Faculty of Science, Suez Canal University, Ismailia, Egypt</p> <p>Abstract</p> <p>The multifarious material La_{1-x}Cr_xFeO₃ (x =0.0, 0.15 and 0.25) were successfully prepared by the citrate-nitrate auto combustion method. The structural and magnetic properties were characterized by using X-ray diffraction (XRD), Fourier transforms infrared spectroscopy (FTIR) and the faraday method. The tolerance factor as a function of different ratio for ionic radii of the Cr element</p>

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	<p>was evaluated. The results reveal that, all the samples crystallized in pure orthorhombic perovskite structure with space group (Pbnm). The unit cell volume was decreased with increasing the Cr element. The changes in magnetic properties are correlated to changes in structural features resulting from Rietveld structural refinement.</p> <p>Keywords: XRD, Magnetic Properties, Orthoferrite, Rietveld.</p>
 <p>Saptono Hadi GICICRST1711094</p>	<p>An improved and validated cleanup method for analysis of emerging endocrine disruptor compounds (EDCs) in sewage sludge</p> <p>Saptono Hadi Department of Pharmacy, Faculty of Mathematics and Natural Sciences, Sebelas Maret University, Indonesia</p> <p>Abstract</p> <p>The procedures of clean-up were developed for the determination of hormonally active endocrine disruptor compounds (EDCs) in sewage sludge. Four compounds were selected which are classified as brominated flame retardants (BFRs). Samples were extracted by soxhlet, and the extracts were purified with direct acid treatment and different multilayer silica gel chromatographic columns and analyzed with high performance liquid chromatography (HPLC) with a DAD detector. Among the five methods used in clean-up step, the multi layer silica column was the most satisfactory. Under the optimized conditions, the recoveries in the range of 105% to 90% for a spiked matrix, were obtained for the BFRs under study.</p> <p>Keywords: EDCs, BFRs, sludge, cleanup, high performance liquid chromatography</p>
<p>Iloani Isaac Chigozie GICICRST1711095</p>	<p>Fundamentals Of Fluid Mechanics For Engineering Sustainability</p> <p>Iloani Isaac Chigozie Department Mechanical Engineering ,Institute Of Management And Technology (Imt),Enugu, Nigeria</p> <p>Abstract</p> <p>Fluid mechanics is concerned with the behavior of materials which deform without limit under the influence of shearing forces. Even a very small shear-ing force will deform a fluid body, but the velocity of the deformation will be correspondingly small. Fluid is when a shear stress is first applied to a rigid material it deforms slightly, but then springs back to its original shape when the stress is relieved. In other words, a small fluid element is unable to withstand any tendency of an applied shear stress to change its shape. This does not preclude the possibility that such an element may offer resistance to shear stress. However, any resistance must be incapable of preventing the change in shape from eventually occurring, which implies that the force of resistance vanishes with the rate of deformation. An obvious corollary is that the shear stress must be zero everywhere inside a fluid that is in mechanical equilibrium. Fluids are conventionally classified as either liquids or gases. The most important difference between these two types of fluid lies in their relative compressibility. To be more exact, gases can be compressed much more easily than liquids. Consequently, any motion that involves significant pressure variations is generally accompanied by much larger changes in mass density in the case of a gas than in the case of a liquid. The science of flow has been classified into hydraulics, which developed from experimental studies, and hydrodynamics, which developed through theoretical studies. In recent years, however, both have merged into the single discipline called fluid mechanics. Hydraulics developed as a purely empirical science with practical techniques beginning in prehistoric times. As it was then</p>

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	<p>possible to compute a value near the actual value, hydrodynamics was re-evaluated by hydraulics scholars. Presently, with the progress in electronic computers and the development of various numerical techniques in hydrodynamics, it is now possible to obtain numerical solutions of the Navier-Stokes equation. Keywords: Flow control, Fluid mechanics, Navier-Stokes equation, liquids and gases</p>
<p>Abdulaziz Alsultan GICICRST1711096</p>	<p style="text-align: center;">Developing Electronic Courses at Buraidah College of Technology</p> <p style="text-align: center;">Abdulaziz A Alsultan Faculty of Computer Science, Buraidah College of Technology, Buraidah , Saudi Arabia</p> <p style="text-align: center;">Abstract</p> <p>In the last 15 years, the education sector has evolved at light speed regarding technology. Whether you are involved in elementary, secondary, tertiary or special education, there is a need to keep up with fast-moving computer-based technology. The education sector has moved from the conventional blackboard, and now it requires the use more sophisticated gadgets such as computers, tablets PCs, and Wireless laptops. In addition, there is World Wide Web scanners, USB drivers, CD burners, digital video cameras and digital cameras, PDAs as well as DVD and video players. As computer and associated technologies continue to evolve, educators must strive for excellence in their teaching jobs. This technology advancement calls for the teachers in Burydah College of Technology to possess these skills to improve on their teaching methods. That being said, this research paper seeks to investigate which skills should college trainers acquire to enhance electronic courses at Buraydah College of Technology. To accomplish the study objective, this research study intend to interview 40 trainers from the college. Each participant will be interviewed for at least 30 minutes to 60 minutes using a semi-structured questionnaire. The research will apply qualitative descriptive method and thematic approach to analyzing participants' point of views</p>
<p>Ohakwe Johnson GICICRST1711097</p>	<p style="text-align: center;">The Kumaraswamy G Exponentiated Gumbel Type-2 Distribution</p> <p style="text-align: center;">Ohakwe J Department of Mathematics and Statistics, Faculty of Science, Federal University Otuoke, Bayelsa State, P.M.B. 126 Yenagoa, Bayelsa State Nigeria</p> <p style="text-align: center;">Idika E. Okorie School of Mathematics, University of Manchester, Manchester M13 9PL, UK</p> <p style="text-align: center;">Abstract</p> <p>There is no question that the inability of the existing of the existing standard probability distributions to appropriately model the complex life phenomena data-sets that evolve in practice has resulted in tremendous efforts by Statisticians and Reliability Engineers to develop various classes of probability distributions such as; generalized, truncated, transmuted exponentiated and extended distributions. In this paper, the Exponentiated Gumbel type – 2 distribution is extended to a wider family of distribution called the Kumaraswamy Generalized Exponentiated Gumbel (KGEG) type – 2 distribution. Twenty two distributions are established as subclasses of the KGEG type – 2 distribution. Furthermore, the two important functions in reliability analysis of the KGEG type – 2 distribution namely: Reliability and hazard rate functions are derived. Asymptotics and shapes of the probability density, cumulative density, reliability and hazard rate functions of the distribution are given. Finally the method of maximum likelihood estimation is proposed for the estimation of the parameters of the distribution. Key words: Gumbel type – 2, Kumaraswamy, Weibull, Fréchet, Inverse</p>


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<p>Lilya Boudriche GICICRST1711098</p>	<p>Exponential and Rayleigh distributions</p> <p>Degradation kinetics of sulfaquinoxaline sodium by sulfate radical-based oxidation process under UV-C irradiation</p> <p>L. Boudriche Centre de Recherche Scientifique et Technique en Analyses Physico-Chimiques, BP 384 Bou-Ismaïl, RP 42004 Tipaza, Algeria</p> <p>Z. Safaei Laboratory of Green Chemistry, Lappeenranta University of Technology, Sammonkatu 12, FI-50130 Mikkeli, Finland</p> <p>D. Ramasamy Laboratory of Green Chemistry, Lappeenranta University of Technology, Sammonkatu 12, FI-50130 Mikkeli, Finland</p> <p>M. Sillanpää Laboratory of Green Chemistry, Lappeenranta University of Technology, Sammonkatu 12, FI-50130 Mikkeli, Finland</p> <p>A. Boudjemaa Centre de Recherche Scientifique et Technique en Analyses Physico-Chimiques, BP 384 Bou-Ismaïl, RP 42004 Tipaza, Algeria</p> <p>Abstract</p> <p>Sulfonamides are a group of antibiotic drugs widely used in veterinary medicine [1, 2]. After animal medication, they are excreted in high percentages of the administered amount, either as active substance or as acetyl conjugate. In manure, these sulfonamides are persistent, inducing environmental contamination. The present work evaluates the feasibility of UV-C driven advanced oxidation process induced by sulfate radicals in degrading sulfaquinoxaline (SQ-Na) sodium in water. The results show that sulfaquinoxaline was decomposed at 90% within 5 hours of irradiation under the optimum concentration (200 mg L⁻¹) of sulfates anions. The SQ-Na decay exhibited a pseudo-first-order kinetics when the initial sulfate radical anion concentration varied from 0 to 240 mg/L. The decomposition of sulfaquinoxaline via UV/sodium persulfate process was strongly favorable under acidic conditions but was slowed down at inherent pH (6.8) and almost inhibited under alkaline conditions (pH 9). The contribution of SO₄⁽⁻⁾ alone, and both radicals HO₂⁽⁻⁾, SO₄⁽⁻⁾ on SQ-Na degradation was found to be 69% and 81%, respectively. UV/sodium persulfate was more efficient than UV/H₂O₂, meaning that sulfate radical anion generation has made UV/persulfate a kinetically effective process in removing sulfaquinoxaline from water.</p> <p>Keywords: Sulfaquinoxaline sodium, UV-C, degradation, pH effect, ions efficiency.</p>
<p>Wara Dyah Pita Rengga GICICRST1711099</p>	<p>Adsorption/Oxidation of Formaldehyde by Silver Nano-particles attached on Activated Carbon</p> <p>Wara Dyah Pita Rengga Department of Chemical Engineering, Universitas Negeri Semarang, Semarang, 50229, Indonesia</p> <p>Achmad Chafidz Department of Chemical Engineering, Universitas Islam Indonesia, Yogyakarta 55584, Indonesia</p>

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	<p style="text-align: center;">Abstract</p> <p>Air pollution is one of major topics in the environmental science, especially indoor air pollution. One of its sources is formaldehyde, which is usually emitted from various building materials, such as furniture household products and wall paint. Formaldehyde can give serious problem to human health e.g. nasopharyngeal cancer, damage to liver and kidney, etc.). Therefore, an appropriate air-processing technology is needed to control indoor air pollution especially by formaldehyde. A well-known method to remove formaldehyde is by using adsorbents, such as activated carbon (AC). Normally, adsorption capability of formaldehyde by AC is limited. Therefore, it is necessary to modify the AC by adding/attaching silver (Ag) nano-particles on the AC (Ag-AC), thus can induce an oxidation reaction of formaldehyde into CO₂ and H₂O, and has antimicrobial properties as well. The activated carbon itself and the addition of Ag nano-particles is a combination of adsorption and catalytic oxidation process, which expectedly can increase the formaldehyde reduction rate. In this work, the carbon was prepared from a local bamboo and was activated with KOH at a ratio of 1:3 at 800 °C for 1 hour with the help of sonication. The AC has a surface area of approximately 1019 m²/g. The adsorption experiments were conducted in a fixed bed column (glass tube ID = 10 mm; length = 50 mm). The column was filled with either AC or Ag-AC to a bed height of 3 cm. The formaldehyde adsorption capability is approximately 93 mg/g for AC and 157 mg/g for Ag-AC. Additionally the formaldehyde oxidation reaction rate was approximately 51 g/mmol.min. The oxidation reaction on the Ag nano-particles is predicted to be a bimolecular reaction based on Langmuir-Hinshelwood mechanism. Products that come out of the column are CO₂ and H₂O and some formaldehyde adsorbed in activated carbon.</p> <p>Keyword: formaldehyde, activated carbon, silver nano-particle, adsorption, oxidation</p>
<p>Ademola Akande GICICRST1711101</p>	<p style="text-align: center;">Application of Arduino in Science and Technology</p> <p style="text-align: center;">Akande Ademola Department of Physics, The Polytechnic, Ibadan</p> <p style="text-align: center;">Adesina Fatimat Department of Physics, The Polytechnic, Ibadan</p> <p style="text-align: center;">Kolawole Tolulope Department of Science Laboratory Technology, The Polytechnic, Ibadan</p> <p style="text-align: center;">Ashim.I.O. Department of Science Laboratory Technology, The Polytechnic, Ibadan</p> <p style="text-align: center;">Fawole Ayobami Department of Electrical Engineering, The Polytechnic, Ibadan</p> <p style="text-align: center;">Abstract</p> <p>This paper presents the concept of Arduino microcontroller and its application and the approach was to openly share details of microcontroller-based hardware design platforms to stimulate the sharing of ideas and promote innovations. The visionary Arduino team of Massimo Banzi, David Cuartielles, Tom Igoe, Gianluca Martino and David Mellis launched a new innovation in microcontroller hardware in 2005, the concept of open source hardware. Arduino is a platform for prototyping interactive objects using electronics. It consists of both hardware and software: a circuit board that can be purchased at low cost or assembled from freely-available plans; and an open-source development environment and library</p>

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	<p>for writing code to control the board. Arduino comes from a philosophy of learning by doing and strives to make it easy to work directly with the medium of interactivity. It extends the principles of open source to the realm of hardware, supporting a community of people working with and extending the platform. Some recommendations were made at the concluding chapter of this work.</p>
 <p>Akindele Sherifat Tolulope GICICRST1711102</p>	<p>Prevalence Of Typhoid Fever And Anaemia (Low Pcv) Among Patients Attending University College Hospital Ibadan, Oyo</p> <p>Sherifattolulopekindele Department Of Science Laboratory Technology, Abraham Adesanya Polytechnic, Ijebu-Igbo, Ogun State Nigeria</p> <p>Abiola Omolara Awoderu Department Of Medical Microbiology And Parasitology, Lagos University Teaching Hospital, College Of Medicine, Idi – Araba, Lagos State Nigeria</p> <p>Jumoke Bukunola Bilesanmi–Awoderu Department Of Science Laboratory Technology, Abraham Adesanya Polytechnic, Ijebu-Igbo, Ogun State Nigeria</p> <p>Abstract</p> <p>This study was carried out to determine the prevalence of Salmonella typhi and changes in Packed Cell Volume (PCV) for its possible implication in anaemia among patients attending University College Hospital (UCH) Ibadan, Oyo state, Nigeria. Two hundred participants (100 males and 100 females inpatients and outpatients) were used for the study; their blood samples were examined for the presence and level of Salmonella typhi antibodies by widal agglutination technique. Out of the 200 blood samples analyzed, 68 % were positive while 32 % were negative among males, and 46% were positive while 54% were tested negative among females. This study also shown that typhoid fever decreased significantly the PCV levels of the patients with the highest range obtained as 24 - 35% compare to normal healthy adult PCV level 40 – 48%. The implication of the result is that typhoid fever could lead to anaemia. Therefore, this study calls for better personal hygienic living, improved environmental sanitation, and to provide adequate health education programmes to the general public on the prevalence of Salmonella typhi and anaemia.</p> <p>KEYWORDS: Typhoid fever, Anemia, Hygienic, Blood samples and Implication</p> <p>Microbial Evaluation Of Dry Garri Sold In The Three Towns Of Ijebu – North, Ogun State, Nigeria</p> <p>Jumoke Bukunola Bilesanmi–Awoderu Department Of Science Laboratory Technology, Abraham Adesanya Polytechnic, Ijebu-Igbo, Ogun State Nigeria</p> <p>Sherifat Tolulope Akindele Department Of Science Laboratory Technology, Abraham Adesanya Polytechnic, Ijebu-Igbo, Ogun State Nigeria</p> <p>Abstract</p> <p>The sale and distribution of garri in local markets is associated with practices such as display of product in open buckets, bowls and mats at points of sale and the use of bare hands during handling and sales. These unhygienic practices may lead to the microbial contamination of garri. This study was carried out to evaluate the microbial quality of garri sold in Ijebu community. Six garri samples were randomly collected from six retail sellers in three towns of Ijebu-igbo, Ago-</p>

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	<p>Iwoye and Oru Ijebu in Ijebu-North Local Government Area of Ogun State. Samples were serially diluted to 10-2 and inoculated by pour plate method onto Nutrient agar, MacConkey agar and Potato-Dextrose agar plates for Total aerobic plate count (TAPC), Coliform count (CC) and Fungal count (FC) respectively. The Coliform counts of garriranged from 3.0 x 10² to 3.0 x 10³CFU/ml while Fungal counts ranged from 3.0 x 10³ to 4.0 x 10³ CFU/ml. The pH ranged from 4.78 to 4.90. A total number of fourteen (14) bacterial isolates belonging to five genera were isolated. The occurrences were Escherichia coli (4) ,Staphylococcus aureus (3), Klebsiella pneumoniae (3), Bacillus spp.(2) and Pseudomonas aeruginosa (2). Nine (9) fungal organisms: Aspergillus flavus 1(11.11%), Aspergillus niger 2(22.22%), Penicillium sp. 2(22.22%), Fusarium sp. 1(11.11), Candida albican 2(22.22) and molds 1(11.11%) were also identified. Application of good manufacturing practices (GMP) in garri handling post-processing is important. Key words: Garri samples, Coliform counts, Fungal counts, Contamination and GMP</p>
<p>Er. Amar Nath Bhadra GICICRST1711104</p>	<p>Clean Power For Sustainability Of Environment Through Advanced Technology</p> <p>Er. Amar Nath Bhadra, F.I.E. Former Dy. Director Of Boilers, W.B., India</p> <p>Er. Subhendu Poddar, F.I.E Vice President, Jspl, India</p> <p>Abstract</p> <p>India after recovery from demonetizations of high currency notes is slowly recovering and delivering the strong economic growth is however comforting with major challenges of environment of sustainability, rapid depletion of natural resources and emission from the power sector and pollution from the transport sector. The situation has aggravated considerably due to global warming and strong evidences of climate change as established by IPCC. To resolve the fuel scarcity, the government has taking proactive measure initiatives to MAKE in India and IGITAL India s mission for attainment of inclusive growth to cleaner power and the situation has taken a new dimension after the Paris agreement has been entered into force from 4th th November 2016. In this context clean technology options have become the most prominent tool for sustainable approach of economic activity to the advanced technologyultrasupercritical cycle boilers, which operates above critical pressure and temperature.parametrtrs. The concern of climate change the nature has generated thrust on the ecology and urges for striking a balance between economic growth and environmental management, which is aimed for the protection of ecology. With a view to optimal utilization of natural resources owing to their rampant used in the power sector to generate power, attention has been focused by the Government for greater use of clean coal technologies, as it is a sustainable sources of energy and he tries to restore ecological balance of the Planet Earth. . The Paris agreement has evolved the strategic road map to contain the rise of temperature should be well below 2 degree centigrade and restriction of carbon foot prints to 450 P.P.M.to avoid catastrophe. In the present scenario, the environmental management system has gain considerable priority for sustainable power generations for entry into the orbit of developed nation and green steps are cynosure. In today's age of climate change and fluctuations of weather patterns, it is most crucial, that the electrical power generation would be form non-carbon fuel resources. In this context, the advanced technology ultra super critical boiler offers beckon of light to reduce the less fuel because of increased efficiency of the Ranking cycle. The clean technology options are designed to reduce the impact of climate change along with paving the</p>

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	<p>way for optimal utilization for natural resources due to their finite stocks on Earth. The authors deal areas that our techno economic feasible, effective use of Clean power generation integrating with C C S Tech, and to involve approach for environmental management systems with a focus through several initiatives and clean path. as India has committed to implementing INDC document committed to Paris Summit to hold the temperature to well below 2 degree centigrade.</p>
<p>Ufuoma Onavwie GICICRST1711106</p>	<p>Fuzzy Logic Expert System for Diagnosis of Typhoid Fever in Nigeria</p> <p>Onavwie U.A. Physics Department, College of Education, Warri, Delta State, Nigeria Atajeromavwo E.J Delta State Polytechnic Ogwachukwu, Delta State, Nigeria</p> <p>Omasheye G.A.J Delta State Polytechnic Ogwachukwu, Delta State, Nigeria</p> <p>Abstract This research proposed a Web Based Fuzzy Expert System for the diagnosis of Typhoid Fever. The proposed system consists of a Knowledge Base, which is made up of a Database and a Fuzzy Logic component, a Fuzzy Inference Engine, and a Decision Support Engine composed of cognitive filter and emotional filter. The system was implemented using Hypertext Preprocessor (PHP), JavaScript and Hypertext Mark-up Language (HTML) programming languages with My Structured Query Language (MySQL) as the Database Management System. Data of typhoid fever patients were collected from the Delta State Polytechnic Health Centre, Ogwashi-uku and used to test the functionality of the proposed system. Standard statistical metrics were used to evaluate the performance of the proposed system and the results of the evaluation showed that the system is efficient in the diagnosis and management of typhoid fever disease with efficiency of 75%.</p>
<p>Mahdi Ajami GICICRST1711107</p>	<p>Inadequacies in the Process of Vehicle Inspection in Iran</p> <p>Mahdi Ajami Baran Mechanized Vehicle Inspection Center, Saveh, Iran</p> <p>Masoud Masih-Tehrani School of Automotive Engineering, Iran University of Science & Technology, Tehran, Iran</p> <p>Abstract The present study was aimed to examine the reasons why people are dissatisfied with vehicle inspection process, based on data collected from 10 thousand cars visiting Baran vehicle inspection center (Saveh). A group of car owners did not continue processes because their car problems were not solved. Another group of car owners manage to solve their problems and get safety inspection certificate despite repeated and tiring visits. The two groups mentioned, which are 17 percent of the cars visiting the center, have become dissatisfied with the process due to high repair costs and repeated visits. In such cases, the results of technical tests show that car problems are not solved, which stems from two important factors: a) mechanics, who work in illegal and even legal shops, are inexperienced; b) low-quality spare parts. The findings of the present study refer to the fact that it is necessary to control the way illegal and legal repair shops present passes, to prevent the production of low-quality car spare parts in the country and the importation of spare parts from foreign countries. Keywords: vehicle inspection, citizens' dissatisfaction, inexperienced mechanics,</p>

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 <p>Bilesanmi - Awoderu Jumoke GICICRST1711111</p>	<p>low-quality spare parts</p> <p>Microbial Evaluation Of Dry Garri Sold In Three Towns Of Ijebu - North, Ogun State, Nigeria</p> <p>Jumoke Bukunola Bilesanmi–Awoderu Department of Science Laboratory Technology, Abraham Adesanya Polytechnic, Ijebu-Igbo, Ogun State Nigeria</p> <p>Sherifat Tolulope Akindele Department of Science Laboratory Technology, Abraham Adesanya Polytechnic, Ijebu-Igbo, Ogun State Nigeria</p> <p>Abstract</p> <p>The sale and distribution of garri in local markets is associated with practices such as display of product in open buckets, bowls and mats at points of sale and the use of bare hands during handling and sales. These unhygienic practices may lead to the microbial contamination of garri. This study was carried out to evaluate the microbial quality of garri sold in Ijebu community. Six garri samples were randomly collected from six retail sellers in three towns of Ijebu-igbo, Ago-Iwoye and Oru Ijebu in Ijebu-North Local Government Area of Ogun State. Samples were serially diluted to 10⁻² and inoculated by pour plate method onto Nutrient agar, MacConkey agar and Potato-Dextrose agar plates for Total aerobic plate count (TAPC), Coliform count (CC) and Fungal count (FC) respectively. The Coliform counts of garri ranged from 3.0 x 10² to 3.0 x 10³CFU/ml while Fungal counts ranged from 3.0 x 10³ to 4.0 x 10³ CFU/ml. The pH ranged from 4.78 to 4.90. A total number of fourteen (14) bacterial isolates belonging to five genera were isolated. The occurrences were Escherichia coli (4) ,Staphylococcus aureus (3), Klebsiella pneumoniae (3), Bacillus spp.(2) and Pseudomonas aeruginosa (2). Nine (9) fungal organisms: Aspergillus flavus 1(11.11%), Aspergillus niger 2(22.22%), Penicillium sp. 2(22.22%), Fusarium sp. 1(11.11), Candida albican 2(22.22) and molds 1(11.11%) were also identified. Application of Good Manufacturing Practices (GMP) in garri handling post- processing is important.</p> <p>Key words: Garri samples, Coliform counts, Fungal counts, Contamination and GMP</p>
<p>Awoderu Abiola GICICRST1711112</p>	<p>Prevalence Of Typhoid Fever And Anaemia (Low Pcv) Among Patients Attending University College Hospital(Uch), Ibadan, Oyo</p> <p>Sherifat Tolulope Akindele Department of Science Laboratory Technology,Abraham Adesanya Polytechnic, Ijebu-Igbo, Ogun State Nigeria</p> <p>Abiola Omolara Awoderu Department of Medical Microbiology and Parasitology, Lagos University Teaching Hospital, College of Medicine, Idi – Araba, Lagos State Nigeria</p> <p>Jumoke Bukunola Bilesanmi–Awoderu Department of Science Laboratory Technology,Abraham Adesanya Polytechnic, Ijebu-Igbo, Ogun State Nigeria</p> <p>Abstract</p> <p>This study was carried out to determine the prevalence of Salmonella typhi and changes in Packed Cell Volume (PCV) for its possible implication in anaemia among patients attending University College Hospital (UCH) Ibadan, Oyo state, Nigeria. Two hundred participants (100 male and 100 female inpatients and</p>

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	<p>outpatients) were used for the study; their blood samples were examined for the presence and level of Salmonella typhi antibodies by widal agglutination technique. Out of the 200 blood samples analyzed, 68 % were positive while 32 % were negative among male, and 46% were positive while 54% were tested negative among female. This study also shows that typhoid fever decreased significantly the PCV levels of the patients with the highest range obtained as 24 -35% compare to normal healthy adult PCV level 40 – 48%. The implication of the result is that typhoid fever could lead to anaemia. Therefore, this study calls for better personal hygienic living, improved environmental sanitation, and to provide adequate health education programmes to the general public on the prevalence of Salmonella typhi and anaemia.</p> <p>Keywords: Typhoid fever, Anemia, Hygienic, Blood samples and Implication.</p>
<p>Amel Boudjemaa GICICRST1711113</p>	<p>TiO₂@Carbon spheres as photo-catalysts for hydrogen generation under visible irradiation</p> <p>A. Boudjemaa Centre de Recherche Scientifique et Technique en Analyses Physico-Chimiques, Bou-Ismaïl CP 42004, Tipaza, Algeria</p> <p>I. Beas DST-NRF Centre of Excellence in Strong Materials and the Molecular Sciences Institute, School of Chemistry, University of the Witwatersrand, Johannesburg, 2050, South Africa</p> <p>B. Mutuma DST-NRF Centre of Excellence in Strong Materials and the Molecular Sciences Institute, School of Chemistry, University of the Witwatersrand, Johannesburg, 2050, South Africa</p> <p>B. Motsoso DST-NRF Centre of Excellence in Strong Materials and the Molecular Sciences Institute, School of Chemistry, University of the Witwatersrand, Johannesburg, 2050, South Africa</p> <p>K. Bachari Centre de Recherche Scientifique et Technique en Analyses Physico-Chimiques, Bou-Ismaïl CP 42004, Tipaza, Algeria</p> <p>N.J. Coville DST-NRF Centre of Excellence in Strong Materials and the Molecular Sciences Institute, School of Chemistry, University of the Witwatersrand, Johannesburg, 2050, South Africa</p> <p>Abstract Carbon spheres, including solid carbon spheres (CSs), core-shell and hollow carbon spheres (HCSs), exhibit excellent properties when used in energy and environment fields [1, 2]. For these potential applications, extensive efforts have recently been devoted to the exploration of various synthesis approaches for CSs with emphasis on chemical vapor deposition (CVD), physical vapor deposition (PVC), template assisted and solvothermal methods. Generally, the CVD method is the preferred method of preparation for different kinds of carbon nanostructures. These materials can be used as catalyst supports [3], biomaterials [4], and electrode materials [5] ...etc. The aim of the present work was to synthesize HCSs by a catalytic chemical vapor deposition (CCVD) method, in the presence of a catalyst and using toluene as hydrocarbon source for use as a photo-catalyst in hydrogen generation applications. The materials prepared were</p>

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	<p>characterized using X-ray diffraction (XRD), Transmission electron microscopy (TEM) and Raman spectroscopy thermogravimetric analysis (TGA), infra-red (FTIR) and diffuse reflectance (DR) spectroscopy and others techniques. Hydrogen production from water using semiconductors based on TiO₂@carbon sphere as photo-catalysts provides a potential way to obtain hydrogen. This is a clean, low cost and environmentally friendly production process achieved by irradiation. In the reaction under study the redox couple to produce H₂ involves the oxidation of SO₃²⁻ and the reduction of H₂O. These photo-catalysts are an improved photo-activity under visible light irradiation and the enhanced activity is attributed to the light absorption behavior of the carbon spheres, the TiO₂ as well as the intimate contact between TiO₂ and the HCSs.</p>
<p>Eyong Ubana Eyong GICICRST1711117</p>	<p>In-vitro Antioxidant Activity and Possible Protective Effect of Methanol and N-Hexane Fractions of Vernoniacalvoana against STZ induced Hepatotoxicity in Wistar Rats</p> <p>Eyong Ubana Eyong Department of Biochemistry, Faculty of Basic Medical Sciences, University of Calabar, P.M.B 1115, Calabar, Nigeria</p> <p>Iwara Arikpo Iwara Department of Biochemistry, Faculty of Basic Medical Sciences, University of Calabar, P.M.B 1115, Calabar, Nigeria</p> <p>Ofonime Eve Mbose Department of Biochemistry, Faculty of Basic Medical Sciences, University of Calabar, P.M.B 1115, Calabar, Nigeria</p> <p>Godwin Oju Igile Department of Biochemistry, Faculty of Basic Medical Sciences, University of Calabar, P.M.B 1115, Calabar, Nigeria</p> <p>Bob Mgbeje Department of Biochemistry, Faculty of Basic Medical Sciences, University of Calabar, P.M.B 1115, Calabar, Nigeria</p> <p>Friday Effiong Uboh Department of Biochemistry, Faculty of Basic Medical Sciences, University of Calabar, P.M.B 1115, Calabar, Nigeria</p> <p>Patrick. Ekong Ebong Department of Biochemistry, Faculty of Basic Medical Sciences, University of Calabar, P.M.B 1115, Calabar, Nigeria</p> <p>Abstract</p> <p>Aim: The study assessed the in vitro antioxidant activity and possible protective effect of extracts of Vernonia calvoana (V.C) on Streptozotocin (STZ)-induced hepatotoxicity in rats. Method: The in- vitro antioxidant activity of the fractions was evaluated using 1, 1-diphenyl-2-picrylhydrazyl (DPPH), ferric reducing antioxidant power (FRAP), superoxide radical and anti-lipid peroxidation scavenging methods. Thirty-six (36) albino wistar of mixed sexes rats weighing (100-150g), were divided into 6 groups of 6 animals each. Groups 1 and 2 representing normal and diabetic controls (NC and DC) respectively, received placebo, while groups 3-6 represented diabetic treated, received 500 mg/kg b.w metformin, 400 mg/kg b.w crude extract, 400 mg/kg b.w n-hexane and 400 mg/kg b.w methanol fractions of V.C, respectively. Drug and extract administration</p>


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	<p>lasted for 28 days. Aminotransferase activity of AST and ALT, total protein, albumin and globulin were also assayed on sera obtained from animals. Histopathology of liver section was also done. Result: The DPPH, FRAP, superoxide and anti-lipid peroxidation free radical scavenging activities of the fractions showed free radical scavenging activity in both n-hexane and methanol fraction with dose dependent responses and was closely compared to control. The results showed no significant ($p>0.05$) change in ALT activity in all treated groups, compared to DC; but closely related to NC. Significant decrease ($P<0.05$) in AST activity of metformin, crude extract and methanol fraction treated groups were also observed, compared to DC. Ratio of AST:ALT activity in treated groups were significantly ($p<0.05$) decreased, compared to DC and NC groups. Total protein, albumin and globulin concentration was observed be increased in all treated groups compared to DC. Histopathological changes were observed to corroborate the biochemical findings. Conclusion: The result validates the protective effect of extracts of Vernonia calvoana</p>
<p>Li Qin GICICRST1711118</p>	<p style="text-align: center;">Wind Field Reconstruction using NMF and PCA Algorithms</p> <p style="text-align: center;">Li Qin School of Energy Power & Mechanical Engineering, North China Electric Power University, China</p> <p style="text-align: center;">Muhammad Ali Shahzad School of Nuclear Science & Engineering, North China Electric Power University, China</p> <p style="text-align: center;">Xin Yuan Pan School of Energy Power & Mechanical Engineering, North China Electric Power University, China</p> <p style="text-align: center;">Shan Xun Sun School of Control and Computer Engineering, North China Electric Power University, China</p> <p style="text-align: center;">Shi Liu School of Control and Computer Engineering, North China Electric Power University, China</p> <p style="text-align: center;">Teng Long Electrical Engineering Division of the Department of Engineering, University of Cambridge, UK</p> <p style="text-align: center;">Abstract</p> <p>For the purpose of selecting the best sites for installation of wind farms and for increasing the net yield of wind energy, the wind speed is required to be determined at different positions, within a domain of interest. This helps to determine the natural variance/uncertainty in the wind speed, which is very useful for predicting the wind power potential in an area. For this, a huge amount of data is required to be processed (from wind speed sensor measurements) and mathematical algorithms are required for rapid reconstruction of the wind field. The Non-negative Matrix Factorization (NMF) and Principal Component Analysis (PCA) have been presented, which can be applied for reconstructing the wind field around obstruction models with a fair amount of accuracy. The absolute reconstruction error tends to increase with an increase in the inlet velocity. The relative accuracy of NMF and PCA are subject to the sampling rate of the measurement, but there is no influence on the distribution of the wind speed</p>

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	<p>sensors around the obstructions model (above a sampling rate of 0.05%). Gaussian noise has been introduced in the wind speed measurements, and the accuracy of the reconstruction models are not subject to the noise. By application of these reconstruction models using WSRECON, it has been concluded that the NMF and PCA can be adequately used to reconstruct the wind field around an obstruction model.</p>
<p>Nanik Wijayati GICICRST1711120</p>	<p>The Effectivity of Catalysts on Terpinyl Acetate Synthesis through Esterification Reaction of α-Pinene</p> <p>Wijayati N Department of Chemistry, Semarang State University, Indonesia</p> <p>Supartono Department of Chemistry, Semarang State University, Indonesia</p> <p>Kusumastuti.E. Department of Chemistry, Semarang State University, Indonesia</p> <p>Abstract Terpinyl acetate is a natural flavor that can be synthesized by esterification reaction of α-pinene. In this study, the goal was to determine the most effective type of catalyst used in the esterification reaction of α-pinene with acetic acid anhydride. Characterization of the catalysts include crystallinity is observed by X-Ray Diffraction (XRD), surface morphology by Scanning Electron Microscopy (SEM), acidity by gravimetric method and tested with Front Transmittance InfraRed (FTIR). The esterification reaction is conducted with variation of catalyst natural zeolite (ZA), Zr-natural zeolites (Zr-ZA) and HY zeolite (ZHY), 1, 2, 3, and 4 h at 40oC. The most effective catalysts used in the synthesis of terpinyl acetate is catalyst H/ZY with the largest concentration product yield is 52.83% at 4 h with a selectivity of 61.38%. Keywords: catalyst, terpinyl acetate, esterification, α-pinene</p>
<p>Filipus Adimas GICICRST1711121</p>	<p>Antioxidant Perfume from Essential Oils Solutions Reduces Free Radical Content in the Air</p> <p>Filipus Adimas Faculty of Science, University of Brawijaya, Malang, Indonesia</p> <p>Abstract Free radical contamination is harmful to health because free radicals can enter the body and will quickly attract biological electrons of biological macromolecules such as proteins, nucleic acids and DNA that can interfere with the body's metabolic processes and cause chronic diseases such as heart attacks, strokes and cancer. Perfume contains essential oils whose components are potential as antiradical. Antioxidant perfume is a perfume made from essential oil with a certain concentration is very effective to reduce free radicals diudara. This study aims to determine the effectiveness of essential oils as antiradical compounds. The method used is the preparation of essential oil as the main ingredient of making perfume by maseration method on fruit with propylene glycol solvent then made solution of fruit extract containing terpenoid component as source of antioxidant and source of aroma with concentration 5%, 10%, 15%, 20% and 25% (v / v) in glycol pearlut. Free radical compound used is DPPH. DPPH concentration changes in the air followed by using electronic nose (E-Nose) equipped with multisensory gas. The experimental results showed that the critical concentration of fruit extract which effectively decreased free radicals ie apples, oranges, grapes, melons, and lemons were 7,47%, 6,21%, 15,61%, 7,58%, and 6, 22%. The greater</p>


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	<p>concentration of these critical concentrations of fruit extracts is potential as a prooxidant Keywords: free radicals, antioxidants, essential oils, electronic nose, air pollution</p>
<p>James Olawale Faleye GICICRST1711123</p>	<p>Primary and Secondary Deviance: When Insider Behaviour become a threat to Information System Security</p> <p>Mr Faleye James Olawale Olabisi Onabanjo University, Ogun State, Nigeria</p> <p>Abstract</p> <p>There has been an increased reliance on the use of information systems by many organisations across the globe. These systems remain the life-blood of many of these organisations. Studies have shown that organisational systems have been vulnerable to insider employee attacks. Henceforth there is an increased need for these systems to be protected against any unauthorised access and retrieval particularly from insiders. Researchers have used different methodologies, techniques and technologies to examine system vulnerabilities and the threats from insider employees to these systems. Most Research reviewed has focused on organisation's employees as insiders but few have identified business partners as a potential threats. This study uniquely seeks to investigate the behavioural motive behind business partners as insider threats. In order to elicit the behavioural motive of insider business partner threat, this study adopts social bonding and involvement theories. The study looks at behaviour primarily from two aspects namely primary and secondary deviance of insider business partners. The study proposes to build a conceptual framework and to test the framework in order to best represent the threat posed to systems by business partners. The research is quantitative in nature and will involve the formulation and the testing of research hypotheses. Close ended questionnaire will be used to collect respondents' data. The research population is envisioned to be the organisation's business partners and Information Technology professionals. Data processing and analyses procedures will be done using SPSS prediction analytics software. The outcome of the proposed model will be used to provide insights as to how management would mitigate information security risks from business partners. Keywords: Lifeblood, Deviance, Behavioural motive, Insider threats, Vulnerability</p>
 <p>Salah-ddine Krit GICICRST1711127</p>	<p>Design And Realization Of A CMOS Charge-pump for Mobile Systems Engineering</p> <p>Salah-ddine Krit Laboratory of Engineering Sciences and Energies, Polydisciplinary Faculty of Ouarzazate C.P 638, Ibn Zohr, University, Agadir, Morocco</p> <p>Abstract</p> <p>This paper present a new switched capacitor voltage (Charge-pump) and highlight the topologies and the advantages of the charge pump comparing with the DCDC converters, this integrated circuits are considered as an ideal solution in low power on-chip applications for their compact sizes and low cost. The advancement in low-power design makes it possible that ubiquitous device can be powered by low-power energy source such as ambient energy or small size batteries. In many well supplied devices the problem related to power is essentially related to cost. However for low-powered devices the problem of power is not only economics but also becomes very essential in terms of functionality. Due to the usual very small amount of energy or unstable energy available the way the engineer manages power becomes a key point in this area. Therefore, another focus of this dissertation is to try finding ways to improve the power</p>

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	<p>management problem. Complementary metal oxide-semiconductor (CMOS) has become the predominant technology in integrated circuit design due to its high density, power savings and low manufacturing costs. The whole integrated circuit industry will still continue to benefit from the geometric downsizing that comes with every new generation of semiconductor manufacturing processes. Therefore, only several CMOS analog integrated circuit design techniques are proposed for low-powered ubiquitous device in this dissertation. These new device offer a real alternative to inductor-based DCDC converters, especially since switched inductors are being replaced with switched capacitors. Power efficiency and some practical issues for the CMOS implementation of these charge pump structures are discussed.</p>
<p>Mohammed Al-Ajmi GICICRST1711128</p>	<p style="text-align: center;">Energy Harvesting from Twisting Vibration of Adaptive Composites</p> <p style="text-align: center;">Mohammed A. Al-Ajmi Mechanical Engineering Department, Kuwait University, P.O. Box 5969, Safat, Kuwait</p> <p style="text-align: center;">Abstract</p> <p>Piezoelectric materials are widely used as sensors and actuators in various applications such as civil, aerospace and biomedical. Due to the advancement in power electronics, piezoelectric materials are also used as energy harvesters for low power applications. Commonly, the piezoelectric layer is attached to the surface of the deforming structure to control or generate electric potential due to strain modes of the structure. However, the material axis orientation has a significant effect on the resultant stresses and strains due to coupled modes of deformation. In this work, a composite treatment, made of one fiber reinforced composite ply and one piezoelectric layer, is designed to improve the electromechanical coupling for the twisting mode of vibration. A finite element model is developed using COMSOL Multiphysics to solve the coupled electromechanical dynamic response of the energy harvester. The dynamic performance of the piezoelectric material is commonly measured by the so called modal Electro-Mechanical Coupling Coefficient (EMCC), which will be used as the index to assess the effect of changing the material axis orientation in the two-ply treatment.</p> <p>Keywords: Laminated, Composite, Piezoelectric, Finite Element.</p>
<p>David Jide Oyebisi GICICRST1711129</p>	<p style="text-align: center;">Insiders: The Behaviour of Outsourced Employees as Sources of Information System Security Threats</p> <p style="text-align: center;">David Jide Oyebisi University of Johannesburg, Johannesburg, South Africa</p> <p style="text-align: center;">Abstract</p> <p>In recent times, organizations in developing countries rely heavily on information systems to successfully execute their daily activities. These systems are essentially the life-blood of organizations. Anecdotal discourse traces information systems threats to insiders and in the recent past, outsourced employees. There is therefore an increased need for information systems to be protected against unauthorized access and retrieval particularly from legitimate ‘insider’ outsourced employees. Recent studies have presented useful methodologies and technologies which examine information system vulnerabilities and threats from insider perspectives. While most of the studies have focused on organization’s employees as threats few have focused on the role the outsourced employees’ play as a potential threat. This study uniquely seeks to investigate the behavioral motive behind outsourced employees’ as security threats to information systems by virtue of privileged access. The study adopts the social bonding theory for this</p>

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	<p>purpose. A conceptual framework has been developed and tested in order to best represent the security threat posed to information systems by outsourced employee. The research is quantitative with hypotheses formulated and tested. The research sample was judgmental, while placing focus on outsourced employees. Close-ended questionnaires were used to collect data. Data processing and analyses procedures will be carried out using SPSS prediction analytics software. The outcome of the proposed model will be used to provide insights regarding how management might mitigate the security threat to information security posed by outsourced employee.</p> <p>Key Words: Insider threat; outsourced employee; risk; Developing countries</p>
 <p>Hammanadama Faruk Abubakar GICICRST1711130</p>	<p>Design, Construction And Performance Evaluation Of A Rice Par Boiler</p> <p>Hammanadama Faruk Abubakar Department Of Agric And Bio-Environmental Engineering Technology, Adamawa State Polytechnic, Yola, Adamawa, Nigeria</p> <p>Abstract</p> <p>The project reports on the design, construction and performance evaluation of a rice par boiler. The rice parboiling machine is mainly used for parboiling paddy rice before milling. The machine is made up of cylinder housing with supporting stand having a diameter of 0.4m and a height of 0.4m with a capacity of 25kg (10 measures). The cylinder comprises of two compartments, the upper compartment which will contain water and paddy rice during soaking and the lower compartment which will contained only water which is used for steaming the soaked paddy rice. A 25kg (10 measures) of paddy rice was soaked at a temperature of 73° C for three and half (3.5) hours and steamed at 115° C for a (15) minutes by burning just 5kg of firewood at atmospheric pressure, and converting about 5liters of water in to steam. The paddy rice was dried to moisture content of 15%. The boiler efficiency was calculated to be 92% and 163.96KJ of energy (heat) was generated from burning the 5kg of firewood. The rice par boiler was constructed at the cost of USD186. There was little breakage of rice grain after milling when compared to traditionally parboiled rice. At the end of the construction, the rice par boiler was evaluated. Its recommends that a pressure gauge be incorporated at the steamer compartment and a thermostat to regulate a steady temperature.</p> <p>Keywords: Rice, soaking, steaming, drying, par boiling, milling.</p>
<p>Mandeep Dhami GICICRST1711131</p>	<p>Bit Error Rate Reduction Using Hybrid Equalization Technique In Mimo-Ofdm System</p> <p>Navdeep Singh Randhawa Department Of Electronics And Communications, Swami Vivekanand Institute Of Engineering & Technology, India Shally Sharma Department Of Electronics And Communication, National Institute Of Technology, Kurukshetra, Haryana, India</p> <p>Mandeep Dhami Department of Electronics and Communications, Swami Vivekanand Institute of Engineering & Technology, India</p> <p>Abstract</p> <p>The utilization of the combination of multiple antennas with the orthogonal frequency division multiple access technique called the MIMO-OFDM in wireless communication has improved the spectral efficiency and the coverage area. In wireless communication systems like MIMO-OFDM, the channel for the</p>

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	<p>transmission of information could be varying quickly with time and may result in the loss of orthogonality of information signal causing ISI or overlapping of the signal bits. This would increase the bit error rate and the system performance degrades. Looking on this perspective, we proposed an idea of building an equalizer which would minimize this ISI and the corresponding BER. We make the use of existing linear and nonlinear equalizers from the literature and propose a combination of these two kinds by hybridizing the MMSE, SIC, MRC, MLSE equalizers. The proposed equalizer simulations would be performed in MATLAB along with use of GUI so as to check the error rate at different values of SNR making it user friendly and would result in minimized BER at improved SNR with high receiver diversity.</p> <p>Keywords— MIMO-OFDM; MRC; MLSE</p>
<p>Nahla Ahmed Hassaan GICICRST1711132</p>	<p>Protective Effect of Minocycline Against Bacterial Infection-Induced Sickness Behavior in Rats</p> <p>Maha G. Soliman M.Sc Degree in Department of Zoology, Faculty of Science, Al-Azhar University, Cairo, Egypt</p> <p>A.Hanaa-Mansour Department of Pharmacology, National Organization for Drug Control and Research (NODCAR) Cairo, Egypt</p> <p>Wedad A. Hasan Department of Pharmacology, National Organization for Drug Control and Research (NODCAR) Cairo, Egypt</p> <p>Nahla Ahmed Hassaan M.Sc Degree in Department of Zoology, Faculty of Science, Al-Azhar University, Cairo, Egypt</p> <p>Abstract Many studies suggest that bacterial infection generate adverse effects on the cognitive, behavioral and emotional status. Inflammation, oxidative stress and altered level of immune-cytokines are involved in the pathogenesis of sickness behavior in rats. Minocycline is a broad spectrum second generation semi synthetic derivative of the bacteriostatic antibiotic tetracycline. The present study aimed to determine effects of minocycline on neurobehavioral and some other related parameters in bacterially infected and non- infected rats. The levels of Interferon gamma (IFN-γ) and nitric oxide (NO) were assessed in brain tissue, serum C-reactive protein (CRP) as well as total and differential leukocytic counts (WBCs), also brain histopathological examination was evaluated. Male Sprague-Dawley rats received (90mg/kg) p.o. minocycline for three days. The infected animals were intraperitoneally injected 48 hours before sacrificing with 200 μl of E. coli 24 hours bacterial culture in nutrient broth containing approximately 1.8×10^8 cfu / ml. Animals were divided into four groups: - (1) Control group, (2) Escherichia coli infected group, (3) Minocycline treated group, (4) Minocycline and Escherichia coli treated group. The results revealed that minocycline blocked bacterial infection-associated sickness behavior in rats, reduced signs of cognitive impairment, decreased CRP, IFN , NO and total leucocytic count (WBCs).</p> <p>Key words: Escherichia coli, Minocycline, Interferon Gamma, C-Reactive Protein</p>
<p>Funda Demir GICICRST1711133</p>	<p>Internet Controlled Electronic Scoreboard Desing</p> <p>Funda Demir</p>

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	<p>Electronics Technology Department, TOBB Tech. Sciences Vocational School Karabuk University, Karabuk, Turkey</p> <p>Batkan Erdem Demir Mechatronics Engineering Department, Faculty of Technology Karabuk University, Karabuk, Turkey</p> <p>Abstract Recently, when athletes are selected for sports academies and vocational high schools, racecourse completion time is based on. This system is consist of motion sensors, are used at the starting and finishing points, an electronic control unit and an electronic scoreboard. Two different observers are needed to keep athlete durations and statistics in existing scoreboard systems. In this project that can be controlled over the internet, this two units are combined and informations processed in the user interface is displayed on the scoreboard and simultaneous comparisons with other athletes' data in the database, can be made at the same time. Statistics can be transferred to internet interface and online information can be shared without losing time. The system consisting of electronic control part and user interface is very easy to use and understandable. It is suitable for athlete selection in many areas such as handball, basketball, tennis, athletics. Keywords: Scoreboard, athlete selection, motion sensor, internet, sports academies.</p>
<p>Ismail Atilgan GICICRST1711134</p>	<p>Comparative study on the success of a new capacitance spectroscopy method for diode characterization</p> <p>I. Atilgan Materials Research and Development Center, Karabuk University, Karabuk, Turkey M. Anutgan Materials Research and Development Center, Karabuk University, Karabuk, Turkey T. Anutgan Materials Research and Development Center, Karabuk University, Karabuk, Turkey</p> <p>Abstract Hydrogenated amorphous silicon homojunction light emitting diode was fabricated by plasma enhanced chemical vapor deposition. Capacitance versus frequency (C-f) data were collected at different bias voltages (V) in the frequency range 1 Hz - 1 MHz. C-f curves exhibit an anomalous behavior at forward bias regime such that with decreasing frequency, the capacitance first increases beyond its geometric value, then it drops down to huge negative values. Using these C-f-V curves, we recently proposed a new capacitance spectroscopy method to extract the density of states (DOS) of pin diodes [1]. In this method, the peak points of the C-f-V curves are regarded as demarcations at which the recombination of electron-hole pairs start to dominate the current transport. Accordingly, the peak frequency is related to the depth of the energy level while the corresponding capacitance is related to the number of charge carriers that can be held in this energy level. With this simple approach, DOS can be determined as a function of energy depth quantitatively. In the present work, we compare our method with a traditional one where the derivative of capacitance with respect to frequency for a single C-f curve at zero bias is calculated for the extraction of DOS [2]. It is shown that these two methods give out very similar results for the band tail states. However, density of deep states is underestimated in our method. This seems to be due to the loss of smoothness of the C-f-V curves at low</p>


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	<p>frequencies where the peak frequency and the corresponding capacitance may be erroneous. A better evaluation of deep states can be performed by a measurement using much higher frequency resolution. Nonetheless, our method is still powerful in the present sense as it is eligible to find the quasi-Fermi level for the dominant charge carriers. Keywords: hydrogenated amorphous silicon, pin diode, capacitance spectroscopy, density of states</p>
<p>Seyed Mozafar Mirvakili GICICRST1711135</p>	<p>Identifying the Criteria of Architectural Design of House with Approach of Promoting Children's Creativity</p> <p>Seyed Mozafar Mirvakili Ph.D student in Department of art and architecture, south Tehran branch, Islamic Azad University, Tehran, Iran</p> <p>Abstract Children are considered as the capital and saving of every society, having the most influential role in the growth of every country. Paying attention to the children and their needs in the house such as education, raring, growth and entertainment may have a pivotal role in their personal life. In this article, it was tried to analyze and perceive a precise understanding of influential factors on the issue such as familiarity with new theories of creativity, understanding total aspects of house users and interactive role of physical environment of house in progress or suppression of children's creativity and so on. This study having considered organization and analysis of data with help of descriptive and analytical methods of tried to offer an appropriate solution for designing a successful and effective house. Keywords: house's physical characteristics, creativity, children</p>
<p>Negin Sheikhi Mobarak Abadi GICICRST1711136</p>	<p>Impact analysis of climatic factors on the appearance of sustainability principles in Semnan"</p> <p>Sheikhi Negin Department Of Art And Architecture, South Tehran Branch ,Islamic Azad University, Tehran, Iran</p> <p>Abstract Due to the crucial role of climate in architectural design as well as in making sustainable architecture a reality, and considering such concerns as the existing environmental crisis, indiscriminate use of non-renewable energy resources, global warming, and the increasing rate at which greenhouse gases are released into the atmosphere, we can realize the importance of good climate-oriented building design as a thing of relevance in today's architecture. Sustainable development is a most controversial subject in Architecture, and many theoretical perspectives have been proposed in this regard. Sustainable Architecture is that Architecture which is responsive to environmental conditions by making optimal use of its capacities, i.e., by causing minimum environmental damage, and being flexible to changing conditions. Using vernacular building materials as well as employing traditional construction methods to reduce energy consumption has led to environmental sustainability and increased durability of buildings. Architectural design in hot- and dry climates entails methods for minimizing (or at least keeping constant) the necessary costs for maintaining ideal comfort conditions in the internal spaces of a building. This work is based on air and surface temperature measurements taken in different urban street canyons in semnan City (hot and arid climate) Keywords: climatic factors, sustainable architecture, Semnan city, energy, Sustainability principles</p>

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<p>Ratnawati GICICRST1711138</p>	<p>Advance Oxidation Processes: Ozonation and Photocatalysis for Pharmaceutical Wastewater Treatment</p> <p>Ratnawati1a Department of Chemical Engineering, Institut Teknologi Indonesia, Tangerang Selatan,15320, Indonesia</p> <p>Enjarli Department of Chemical Engineering, Institut Teknologi Indonesia, Tangerang Selatan,15320, Indonesia</p> <p>Slamet Department of Chemical Engineering, Faculty of Engineering, Universitas Indonesia, Depok 16424, Indonesia</p> <p>Abstract The chemical oxygen demand (COD) and phenol removal from pharmaceutical wastewater were investigated using configuration of two circulation batch reactors in a series with ozonation and photocatalytic processes. The ozonation is conducted with O₃/granulated activated carbon (O₃/GAC), whereas photocatalysis with TiO₂ that immobilized on pumice stone (PS-TiO₂). The effect of circulation flow rate (10; 12; 15 L/min) and the amount PS-TiO₂ (200 g, 250 g, 300 g) were examined. Wastewater of 20 L was circulated pass through the pipe that injected with O₃ by the ozone generator, and subsequently flow through two GAC columns, and finally, go through photoreactor that contains photocatalyst PS-TiO₂ which equipped with mercury lamp as a photon source. At a time interval, COD and phenol concentration were measured to assess the performance of the process. Results indicated that the combined ozonation and photocatalytic processes (O₃/GAC-TiO₂) is more efficient compared to the ozonation and photocatalysis alone. For combination process with the circulation flow rate of 10 L/min and 300 g of PS-TiO₂, the influent COD of around 1000 ppm are effectively degraded to a final effluent COD of 290 ppm. In this process, initial phenol concentration of 4.75 ppm down to 0 ppm for 4 h which this condition fulfill the discharge standards quality. Therefore, this portable prototype reactor is effective that can be used in the pharmaceutical wastewater treatment. For the future, this process condition will be developed for orientation on the industrial applications (portable equipment) since pharmaceutical industries produce wastewater relatively in the small amount.</p> <p>Keywords: Ozonation, Photocatalytic COD, Phenol, Pharmaceutical wastewater</p>
<p>Michalina Gryniewicz-Jaworska GICICRST1711142</p>	<p>Problems Of Reactive Power Compensation Of 110 Kv Line Cable</p> <p>Pawel Pijarski Faculty of Electrical Engineering and Computer Science, Department of Grid Network and SecurityLublin University of Technology, Poland</p> <p>Michalina Gryniewicz-Jaworska Faculty of Electrical Engineering and Computer Science, Department of Grid Network and SecurityLublin University of Technology, Poland</p> <p>Abstract The article presents the Monte Carlo simulation results obtained for various parameters of the analyzed HV cable line – shunt reactor system. Various forms of the random variable distribution have been obtained and the random variable is the operation compensation costs. The performed analyses make it possible to select optimal inductance for the shunt reactor. The highest value of the</p>

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	<p>probability that operation costs of the reactive power compensation will not exceed a certain predefined value has been assumed as the selection criterion. Key words: Reactive power compensation, HV Cables, Wind Farms, Monte Carlo simulation.</p>
	<p>Educative Based Painting with the Application of Water Resource Conservation Pressing for Severe Physical and Quality of Watershed</p> <p>Iklil Sulaiman Public Health Faculty, Jember University, Jember, Indonesia</p> <p>Nabigh Jabbar Public Health Faculty, Jember University, Jember, Indonesia</p>
<p>Nabigh Abdul Jabbar GICICRST1711143</p>	<p>Abstract</p> <p>Watershed management is an attempt to manage the interrelationships between natural resources, especially vegetation, soil and water with human resources in the watershed, and all its activities to get an economic benefits and environmental services for the sake of development and preservation of the watershed ecosystem. Its principally land use regulation or optimization of land use for various purposes rationally and other practices that are environmentally friendly so it can be assessed by key indicators (ultimate indicator) the quantity, quality and continuity of the flow of the river at the point of spending (outlet) basin. So one of the characteristics of a watershed is the biophysical linkages between upstream and downstream areas through the hydrological cycle.</p> <p>Due to the the increasing problems of the watershed to be solved in an integrated manner with the involvement of various sectors and areas of government administration as well as requests from various stakeholders, the strategies to achieve the goal of watershed management in general is to improve the organization of watershed management by all interested parties both at the government, local government, private and community sectors. The strategy is made in a form of innovation of educational-based paint where innovation is made with attention to aspects of management that are raw are the main aspects (planning, establishment or organization, implementation, control, monitoring and evaluation), which will be the development by the method of painting in order to avoid, watershed damage and can be used for watershed maintenance strategy as Natural Resources sustainable.</p> <p>Keywords: Watershed management, educative, river, painting.</p> <hr/> <p>Eco Hydrology As A New Paradigm Management Sustainable Management Of Water Resources For Preservation River Citarum</p> <p>Iklil Sulaiman Public Health Faculty, Jember University, Jember, Indonesia</p> <p>Nabigh Jabbar Public Health Faculty, Jember University, Jember, Indonesia</p> <p>Abstract</p> <p>As an important component in life, the presence of water has been properly maintained and preserved. Water conservation rules must be followed in daily life so that it can take up water conservation until the future. Citarum River as one of the greatest potential for water saving in West Java is a great potential for the community, both the potential benefits and potential harms. Unfortunately, the people and governments tend to be lulled by the potential benefit of Citarum river, and unwittingly increase the potential harm from the river. The reduced area of land conservation, the density of residential areas, river pollution by</p>

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	<p>domestic and industrial wastes, and others cause disasters such as floods, droughts, and landslides. This is a problem that must be resolved jointly between the government and society. Coordination, division of responsibilities, communication and harmony between the two is believed to solve complicated problems that occur in the Watershed Citarum. Ecohydrology is the study on the interaction hydrological process or aquatic with biological dynamic spatially and temporarily. Ecohydrology promises to be a tool of the sustainable use of aquatic resources by ecological analysis integrated with freshwater aquatic conservation. Methodologically, ecohydrology is a management tool using organism to control hydrological process and using hydrology to control biota. Basically, ecohydrology is water resource development that oriented on the capacity and ability to maintain it. Spatially, it requires an understanding about the role of organism. Temporarily, it requires reconstruction on the paleohydrology as a base of the water resource development that put global changes into account. Based on the successful implementation of ecohydrological concept on Saguling Reservoir, it able to be implemented for another aquatic ecosystem.</p> <p>Keywords : ecidrology, sustainable management, wathershed, river</p>
<p>Mardiana Ahmad GICICRST1711144</p>	<p style="text-align: center;">Energy Recovery System in Various Climatic Conditions: Towards Reducing Energy Consumption in Buildings</p> <p style="text-align: center;">Mardiana Idayu Ahmad School of Industrial Technology, Universiti Sains Malaysia, 11800 Penang Malaysia</p> <p style="text-align: center;">Fatin Zafirah Mansur School of Industrial Technology, Universiti Sains Malaysia, 11800 Penang Malaysia</p> <p style="text-align: center;">Saffa Riffat Department of Architecture and Built Environment, Faculty of Engineering, University of Nottingham, NG7 2RD University Park, Nottingham, UK</p> <p style="text-align: center;">Mohammad Aliff Shakir School of Industrial Technology, Universiti Sains Malaysia, 11800 Penang Malaysia</p> <p style="text-align: center;">Abstract</p> <p>World energy consumption is growing rapidly due to the increasing energy demand by emerging and developed economies. As a result, the over-reliance on the fossil fuels (coal, oil, natural gas) as primary energy sources has already raised concern over energy supply difficulties, diminishing of energy resources and environmental impacts. Hence, the need for energy-efficient technologies in buildings is pivotal in order to reduce energy consumption and mitigate global environmental impact. Amongst these technologies, the application of energy recovery system is proven as one of the significant solutions towards reducing energy consumption and providing fresh outdoor air in buildings. The system is defined as a mechanical system that able to conserve energy by transferring heat or mass from a stream at a high temperature to a low temperature stream through a core. It also able to remove stale, polluted air indoor spaces and replaces it with fresh outdoor air. In order to have an in-depth understanding of the system, this chapter discusses the mechanism and the application of the system in various climatic conditions such as winter and summer conditions; cold and extremely cold climate conditions; and hot-humid condition.</p> <p>Keywords: energy recovery system, building applications, mechanism, climatic conditions</p>


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<p>Jaspreet Kaur GICICRST1711145</p>	<p>Enhancing The Turing Machine to Resolve the Halting Problems to Accept Recursive Enumerable Languages with Multi Tapes and Its Implementation in JFLAP</p> <p>Jaspreet Kaur Faculty of Computational Science, GNA University, Punjab, India</p> <p>Abstract The Turing machine is certainly the most powerful of the machines. Turing machines are equivalent to modern electronic computers at a certain theoretical level, but differ in many details. In the analogy with a computer, the "tape" of the Turing machine is the computer memory, idealized to extend infinitely in each direction. The remarkable fact is that certain Turing machines are "universal", in the sense that with appropriate input, they can be made to perform any ordinary computation. In effect, they can only do specific computations; they cannot act as "general-purpose computers". There are so many existing tool those does not supporting formation of Universal Turing Machine that's why it is very difficult to accomplish the task. So that JFLAP platform is used for the creation of UTM. Among these formalisms, the Turing's formulation is accepted as a model of algorithm or computation. Turing machine will halt when it accepts the string or halt when problem is undecidable. In this paper, we have designed the recursive enumerable language to show the halting state of machine on valid inputs by enhancing the single tape to the multi-tape Turing machine and simulate the machine in JFLAP tool. The results have shown that the Turing machine recognize how to be reflected and developed to accept any type of language like regular language, context free language, etc. A Directed graph is being used to represent a Turing Machine, uses by JFLAP. But when a Turing machine process infeasible input then the Turing machine show an unacceptable behaviour shows as halting state of Turing machine. This halting problem can be avoided by providing suitable input so that machine will halt on final state to show the acceptance of the valid string. Keywords- Halting State, multi-tape, Turing Machine, UTM, JFLAP, Recursive Enumerable Grammar</p>
<p>Bashir Aliyu GICICRST1711148</p>	<p>Ecological Management: A Strategy for Poverty Alleviation in katsina state, Nigeria</p> <p>Bashir Aliyu Senior Lecturer Department of Biology Isa Kaita College Of Education, Dutsin- ma, Katsina state, Nigeria.</p> <p>Abstract Rumen fluid from Abattoir was collected and cultured on medium RGCA, Rumen fluid medium, Medium 10,Medium A,B,C and D consisting of different nutrients and mineral composition to isolate Microbes that are capable of degrading lignocellulosic materials, such as, corn stover and rice straw. Rumen Microbes isolated totaled 535, comprising of anaerobic bacteria, protozoa and fungi were recorded. These represented the normal Rumen microbial flora found in Ruminants Cattles. They were recorded based on microscopic and morphological characteristics. The mean colony counts in both Rumen fluids medium and medium 10 were significant in all experiments conducted. The presumptive identification initially revealed the presence in the Media of Borrelia spp,anaerobic motile and non-motile rods. Clostridium Spp,Protozoa, and fungal spp. Identification using AP1 20 A indicate that four genus of anaerobic bacteria, namely; Fusobacterium,Bifidobacterium,Clostridium and actiniomyces. The behavior of these bacteria on corn stover and Rice straw was observed, with corn</p>


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	<p>stover giving the best result and <i>Clostridium polysaccharolyticum</i> performing better, followed by <i>Fusobacterium necrophorum</i> and lastly <i>Actinomyces naeslundii</i>. Cellobiose dehydrogenase and alcohol dehydrogenase genes were screened from three of the AP1 20 A tested isolate by PCR using appropriate primers and were found to have both genes 5500 base pairs and 6000 base pairs respectively. Isolates were cultured on agricultural residues to test their suitability for Ethanol production and were found to utilize glucose, cellobiose, maltose, lactose and mannitol. Gene amplification of cellobiose dehydrogenase and alcohol dehydrogenase confirmed the ability of these Rumen isolate as potential Microbes for use in Bioethanol production where the material in agricultural residues</p> <p>Key words: <i>Fusobacterium, necrophorum, Clostridium, polysaccharolyticum, Bioethanol, dehydrogenase, cellobiose</i></p>
<p>Farideh Vaziriheshi GICICRST1711149</p>	<p>Mineralogical Characteristics and Related Alteration Types in Nabijan Ore Occurrence, East Azerbaijan, NW Iran</p> <p>Farideh Vaziriheshi Research Institute for Earth Science (Geological Survey and Mining Exploration of Iran)</p> <p>Mohamad Lotfi Research Institute for Earth Science (Geological Survey and Mining Exploration of Iran)</p> <p>Mohamad Hashem Emami Research Institute for Earth Science (Geological Survey and Mining Exploration of Iran)</p> <p>Abstract The Nabijan exposure of Cu-Au is located in distance of 20 Km southwest of Kaleibar. On the basis of structural classification it is situated in the zone of Alborz-Azarbaijan. The Diorite-monzodiorite intrusive to gabbro-monzogabbro units of the area (rocks) is showing Oligocene age which is intruded in the calcareous and volcanic rocks of the upper Cretaceous. Metasomatism phenomena in this area due to intrusion of magmatic materials. The result is showing metamorphism of original mass and associated (rocks) volcanic and calcareous masses. Mineralization studies of the area is showing pyrite, native gold, chalcocite, arsenopyrite, sphalerite, malachite, azurite and hematite minerals. Based on geochemical exploration studies and collection of 425 samples, the content of Cu varies from 41200 ppm to 12ppm. The average content of gold is 0.44ppm. Formation and occurrence of Au and Cu field are controlled by structural and geochemical ingredient. Keyword: Alteration, Nabijan Ore Occurrence, Copper, Native gold</p>
<p>Gina Shim GICICRST1711151</p>	<p>The Effect of Impulse on a Falling Rod-Chain</p> <p>Gina Shim Cheong Shim International Academy, South Korea</p> <p>Abstract When a chain with a tilted rod collides with the horizontal surface, the chain falls faster than when it free falls. If one moving object collides with a rigid object, then the velocity of the moving object is supposed to become slower. However, in the case of this phenomenon, the impulse from the colliding section determines the acceleration of the falling chain. This system is mostly related to change in momentum, so the calculation of the change in velocity throughout the</p>


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	<p>phenomenon was done with linear momentum and angular momentum theories. After making a theoretical equation, the calculated acceleration was compared with experimental acceleration. Impulse, Angular Momentum, Linear Momentum, Falling Chain, Rod-Chain</p>
<p>Suhas Etigunta GICICRST1711152</p>	<p>Analysis of the Chemical Properties of Biodiesel Feedstocks</p> <p>Suhas Etigunta John P. Stevens High School, Chemistry Department, US</p> <p>Shan Jiang John P. Stevens High School, Chemistry Department, US</p> <p>Abstract This paper intends to explore the performance of various biodiesel feedstocks to determine their suitability for further consumer consumption. Biodiesel takes advantage of all the sources of energy around us. Specifically, its production is based on generating energy rich and environmentally friendly fuel from the fats of plants and animals. In this specific set of experiments, the focus was primarily on determining the unique properties of an array of feedstocks and analyzing and establishing which performed the best relative to the others. To label a biodiesel as 'best' amongst the group, multiple properties that affected consumer usage were taken into account. While there was no 'best biodiesel overall', the canola oil biodiesel showed the most promise based off its low viscosity, cloud point, and pour point. Building upon the presented conclusions, future work will hopefully lead to the creation of a composition that can pave the way for the next generation of biofuels and improve on our approach to fuels as a whole. Key terms: Cloud point, Pour point, Cold filter plugging point, Transesterification, Cetane Number</p>
 <p>Abdel Madjid Atif GICICRST1711064</p>	<p>Analysis Of Performance Deterioration Of A Centrifugal Pump Operating In Two-Phase Flows And Concepts For Enhancing Behavior</p> <p>Abdelmadjid Atif Laboratory Of Energetic Mechanics And Conversion Systems, Faculty Of Mechanical And Process Engineering, University Of Science And Technology Houari Boumediene, Algiers, Algeria</p> <p>Sadek Senouci Laboratory Of Mechanics, Faculty Of Technology, University Of Laghouat Amar Telidji, Laghouat, Algeria</p> <p>Abstract Pumps handling two-phase flows are essential parts of industrial process mainly in oil and gas facilities and power plants. It is known that for centrifugal pumps the presence of gas phase in liquid flow causes the performance to deteriorate. Knowledge improvement of the highly complex internal flow is the way to design more efficient and reliable pumps. The paper describes the results of studies conducted in a centrifugal pump operating in two-phase air/water mixture flows, for performance determination and flow field investigation using numerical simulations. The aim is to provide a new highlight on the performance evolution and to identify the physical mechanism responsible for the deterioration. The work is carried out at design flow rate with varying inlet gas volume fraction. The results show significant performance deterioration compared to single-phase situation. The analysis of flow fields in case of two-phase flows reveals an accumulation of the gaseous phase on the pressure side of the impeller blades, causing an alteration of the conventional flow structure. The effect of interaction</p>

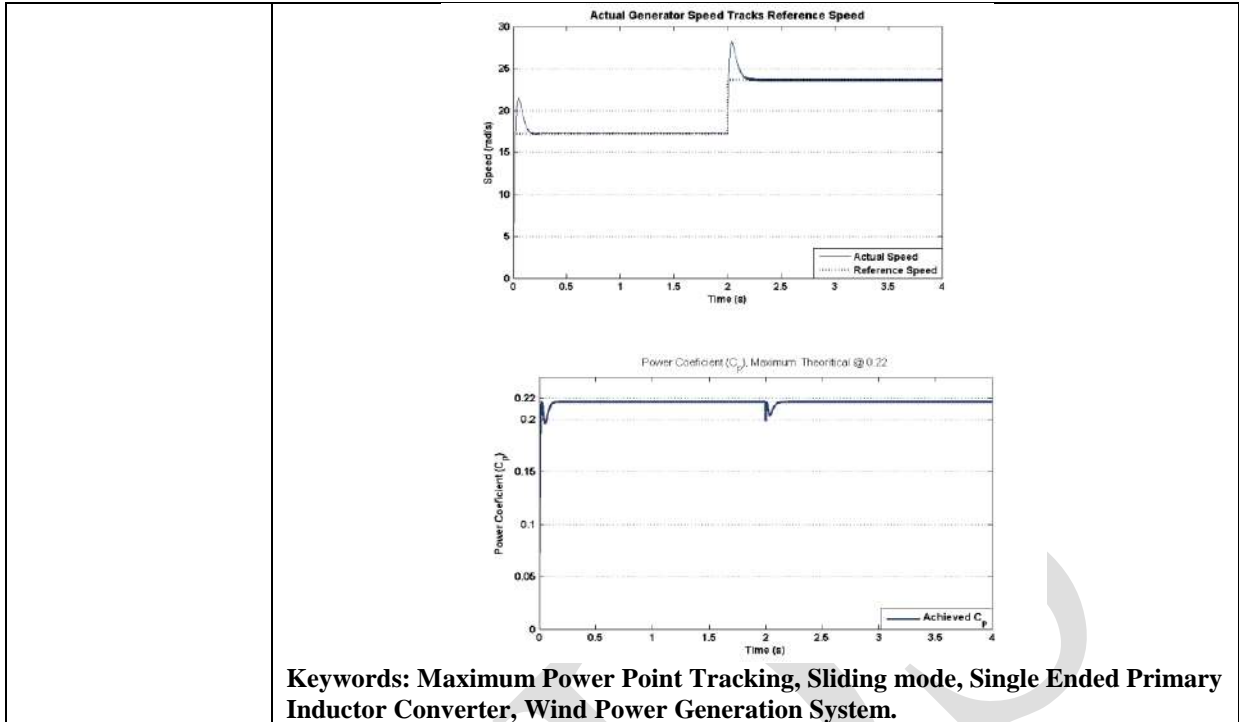
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	<p>with volute is also investigated and it is found to play a major role in defining the flow pattern inside the pump. Special design features are suggested as concepts for enhancing two-phase pumping behavior at the conclusion of the study. Keywords: centrifugal pump, two-phase flow, gas pocket, performance deterioration, volute interaction.</p>
 <p>Muawya Elsheikhhamid Ebrahim Mohmed GICICRST1711065</p>	<p>Locally and globally small Riemann sums and Henstock-Stieltjes integral of set-valued functions</p> <p>Muawya Elsheikh Hamid School of Mathematical Science, Yangzhou University, Yangzhou 225002, P.R. China</p> <p>Luoshan Xu School of Management, Ahfad University for Women, Omdurman, Sudan</p> <p>Abstract</p> <p>In recent years there has been increasing interest in multifunction's (set-valued functions) because of their importance in several applied areas of research, such as mathematical economics, optimization and optimal control and statistics. Furthermore, integrals of set-valued functions have been studied in connection with statistical problems. In this study, we first define and discuss the locally small Riemann sums (LSRS) for set-valued functions. In addition the necessary and sufficient conditions have been obtained for set-valued functions which has (LSRS), i.e., if the set-valued function is Henstock-Stieltjes integrable on [a,b] then it has (LSRS) and the converse is always true. Secondly, the globally small Riemann sums (GSRS) for set-valued functions is defined and discussed, the necessary and sufficient conditions have been given for set-valued functions which has (GSRS), i.e., if the set-valued function is Henstock-Stieltjes integrable on [a,b] then it has (GSRS) and the converse is always true. Keywords: Set-valued functions; Henstock-Stieltjes integral; support functions $\sigma(x; F(\zeta))$ of set; locally small Riemannsums (LSRS); globally small Riemann sums (GSRS).</p>
<p>Oguike M. A. GICICRST1711067</p>	<p>Impact of African marigold (Aspilia African) and vitamin E on growth performance and testicular characteristics of rabbit bucks</p> <p>Odaa J. E. Michael Okpara University of Agriculture Umudike, PMB 7267 Umuahia, Abia State Nigeria Ukar A.I.</p> <p>Michael Okpara University of Agriculture Umudike, PMB 7267 Umuahia, Abia State Nigeria</p> <p>Otum A. O. Michael Okpara University of Agriculture Umudike, PMB 7267 Umuahia, Abia State Nigeria</p> <p>Iheanyichukwu O. Michael Okpara University of Agriculture Umudike, PMB 7267 Umuahia, Abia State Nigeria</p> <p>Oguike M. A Animal Breeding And Physiology, Michael Okpara University Of Agriculture, Umudike , Abia State, Nigeria</p> <p>Abstract</p>

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	<p>Investigations on the growth performance and testicular dimensions of rabbit bucks fed diets containing <i>Aspilia africana</i> and vitamin E was conducted at the Rabbitary Unit of the Teaching and Research Farm of the Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria. Twenty seven (27) mixed rabbit breeds, aged 4 to 6 months, an average weight of 2.67 kg were used for this experiment. The bucks were divided into 3 groups designated T1, T2, and T3 in a (CRD). Each group was replicated 3 times with 3 bucks per replicate and 9 bucks per treatment. Bucks in T1 (control) were fed diets without <i>Aspilia africana</i> and vitamin E, bucks in T2 and T3 received diets containing <i>Aspilia africana</i> and <i>Aspilia africana</i> + Vitamin E, respectively. Growth parameters measured were: initial live weight, final live weight, total weight gain, feed intake, FCR, dressing percentage, carcass cut parts, testes parameters were: scrotal circumference, testes weight, and volume. Mortality records were also kept. Results showed that final weight and weight gain, were significantly ($P < 0.05$) higher in T2, and T3 than T1 with T2 being heaviest followed by T3. Feed intake of T3 was ($P < 0.05$) lower than the rest while FCR, of T2, and T3 were ($P < 0.05$) lower than T1, Testicular dimensions of the bucks although not ($P > 0.05$) decreased numerically in <i>A. africana</i> groups (T2, and T3). The T3 with vitamin E supplementation showed improved testes dimensions compared with T2. <i>A. africana</i> reduced testis weight and size but enhanced body weight of growing rabbit bucks. Evidently, decreased testicular size will affect its functions and likely impair reproductive potentials. Thus <i>A. africana</i> need not be fed to breeding rabbit.</p> <p>Key words: Rabbit bucks, Testicles, <i>Aspilia africana</i>, Vitamin E, body weight,</p>
 <p>Mohammed Alsumiri GICICRST1711072</p>	<p>Implementation of a SEPIC Converter in Small Scale Wind Power Generation System</p> <p>Mohammad Alsumiri and Raed Althomali Department of Electrical and Electronics Engineering Technology, Yanbu Industrial College, Yanbu, Kingdom of Saudi Arabia</p> <p>Abstract</p> <p>Small scale wind power generation system can be a cost effective solution as the energy price increases. Also, it can be an alternative solution for people who live in rural areas, where they do not have access to the national grid. In this paper Single Ended Primary Inductor Converter (SEPIC) has been implemented in Permanent Magnet Synchronous Generator (PMSG) based Wind Power Generation System (WPGS). Variable structure, sliding mode, control has been employed to compensate the uncertainties in WPGS, to ensure the robustness and to improve the energy conversion efficiency. This paper illustrates the dynamic model of the PMSG and the controllers design. A simplified controller design has been presented and easy to tune adaptive gain is explained. The controllers have been designed based on an improved sliding surface. Maximum Power Point Tracking (MPPT) technique has followed to ensure the maximum energy harvesting from the wind. The system has been tested and investigated in MATLAB\SIMULINK. The results show satisfactory dynamic performance of the WPGS and maximum power coefficient has been achieved.</p>

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Keywords: Maximum Power Point Tracking, Sliding mode, Single Ended Primary Inductor Converter, Wind Power Generation System.

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GICICRST1711090

Laser irradiated PVA is a good candidate for hosting dyes in dye laser

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Abstract

Pure Poly (vinylacohol) (PVA) and PVA- coum films with different concentrations were prepared by a casting technique. Optical absorption and mechanical properties were measured. The UV-Vis absorption spectra gave the same band positions but the absorption intensity increases with increasing coumarin concentration. The dependence of the absorption coefficient on the photon energy has been determined and the energy gaps and band tails were calculated. The topography of the surface was measured by atomic force microscope (AFM). It was found that Young's modulus, the strength at the break and the band tail increase while the optical gaps for PVA- Coum films decrease. RMS roughness of the surface for prepared films decreases as the coumarin concentration is increased. The prepared films were exposed to 2nd harmonic of Nd:YAG laser at 532 nm of power 250 mW, at room temperature i.e, with intensity 3.75kj/cm², 7.50kj/cm², 11.25kj/cm². The obtained results showed clearly that PVA films after irradiation proved to be more transparent with higher transmittance in the whole range 190- 900 nm this might mean that irradiated PVA films are excellent candidate to be used as host material for several applications.

Keywords: Optical absorption coefficient, PVA, Coumarin, energy gap, mechanical properties, Nd:YAG laser

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Mukesh Shrestha
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Green synthesis of Silver Nanoparticles (AgNPs) using *Nyctanthes arbor-tristis* (Parijat) leaves and *Choerospondias axillaris* fruits extract: Study their Antimicrobial activity and Synergistic action with Ampicillin

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Abstract

The development of a green synthesis of nanomaterials has drawn immense attention due to low cost and more environmentally friendly than standard methods of synthesis in current nanotechnology researches. In this study silver nanoparticles (AgNPs) were biosynthesized from aqueous silver nitrate through a simple and eco-friendly route using *Nyctanthes arbor-tristis* (Parijat) leaves extract and *Choerospondias axillaris* (Lapsi) fruits extract, which acted as a reductant and stabilizer simultaneously. The samples were sterilized, peeled off, grinded and followed by boiling with distilled water for some minutes. The aqueous extract was filtered, centrifuged and processed for biosynthesis of silver nanoparticles with aqueous silver nitrate. The formation of silver nanoparticles was confirmed by UV-visible Spectroscopy and X-ray diffractometer. The maximum absorbance of Silver nanoparticles synthesized by Parijat leaves and Lapsi fruits extract were found to be at 425 nm and 430 nm respectively. AgNPs synthesized by Parijat was then further characterized by X-ray Diffractometer. Powder X-ray diffraction showed that the particles are crystalline in nature and number of strong Bragg reflections was observed which correspond to the (111), (200), (220) reflections of fcc silver in synthesized AgNPs samples. After that Antimicrobial activity was determined by agar well diffusion method against different human pathogens *Escherichia coli*, *Proteus spp.*, *Bacillus spp.*, *Salmonella Typhi.*, and *Staphylococcus aureus*. Leaves extracts and synthesized AgNPs of *Nyctanthes arbor-tristis* (Parijat) was found to have effective antimicrobial activity against all test organisms. The synergistic actions of synthesized Silver nanoparticle with ampicillin on selected test organisms were performed. The study concludes that antimicrobial activity of synthesized nanoparticles and synergistic action with ampicillin were found to be more prominent than that of only plants extract and antibiotics alone.

Keywords: Silver nanoparticles, UV – Vis spectroscopy, X – Ray Diffractometer, *Nyctanthes arbor-tristis* (Parijat), *Choerospondias axillaris* (Lapsi), Antimicrobial activity and Synergistic effect

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YRSICRST1711051

Corrugated Tabs for Enhanced Mixing of Supersonic Elliptic Jet

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Abstract

Experiments were carried out to study the effects of corrugated triangular tabs in controlling the mixing of Mach 1.5 elliptic jet. The aspect ratio of the nozzle at the exit is 3.37. The results of the corrugated tabs are compared with the simple triangular tabs and the effectiveness of both the tabs are found out by comparing with the uncontrolled jet. The blockage caused by the simple tab is 2.5% each for two tabs. Whereas, it is reduced to 2.2% for the corrugated tabs. The corrugations used in the present investigation were square. The experiments are carried out from NPR 3 to NPR 8 covering both favorable and adverse pressure gradients. The centerline pitot pressure decay for the jets, without control, with plain triangular tabs, and with corrugated triangular tabs, revealed that both the tabs are leading to a considerable mixing enhancement of the supersonic elliptic jet at all the pressure conditions studied. But unlike the axisymmetric jet, the CPDs for both the tabs overlaps especially in the nearfield region. The core length for the uncontrolled jet is around 5D whereas, it comes down to about 1D for both the tabs at NPR 3. Thus, about 80% reduction in core length is achieved by both simple and corrugated tabs at minor axis. Therefore, the performance of corrugated tabs to control the elliptic jet is similar to the simple triangular tabs. But, since the blockage offered by the corrugated tabs is lesser, it is advantageous from thrust loss point of view.

Keywords: Corrugated tabs, supersonic, elliptic jet, passive control

Navdeep Singh
Randhawa
YRSICRST1711052

Bit Error Rate Reduction Using Hybrid Equalization Technique In Mimo-Ofdm System

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Abstract

The utilization of the combination of multiple antennas with the orthogonal frequency division multiple access technique called the MIMO-OFDM in wireless communication has improved the spectral efficiency and the coverage area. In wireless communication systems like MIMO-OFDM, the channel for the transmission of information could be varying quickly with time and may result in the loss of orthogonality of information signal causing ISI or overlapping of the signal bits. This would increase the bit error rate and the system performance degrades. Looking on this perspective, we proposed an idea of building an

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	<p>equalizer which would minimize this ISI and the corresponding BER. We make the use of existing linear and nonlinear equalizers from the literature and propose a combination of these two kinds by hybridizing the MMSE, SIC, MRC, MLSE equalizers. The proposed equalizer simulations would be performed in MATLAB along with use of GUI so as to check the error rate at different values of SNR making it user friendly and would result in minimized BER at improved SNR with high receiver diversity.</p> <p>Keywords— MIMO-OFDM; MRC; MLSE</p>
<p>Mardiana Idayu Ahmad GICICRST1711144</p>	<p>Energy Recovery System in Various Climatic Conditions: Towards Reducing Energy Consumption in Buildings</p> <p>Mardiana Idayu Ahmad School of Industrial Technology, Universiti Sains Malaysia, 11800 Penang Malaysia</p> <p>Fatin Zafirah Mansur School of Industrial Technology, Universiti Sains Malaysia, 11800 Penang Malaysia</p> <p>Saffa Riffat Department of Architecture and Built Environment, Faculty of Engineering, University of Nottingham, NG7 2RD University Park, Nottingham, UK</p> <p>Mohammad Aliff Shakir Department of Architecture and Built Environment, Faculty of Engineering, University of Nottingham, NG7 2RD University Park, Nottingham, UK</p> <p>World energy consumption is growing rapidly due to the increasing energy demand by emerging and developed economies. As a result, the over-reliance on the fossil fuels (coal, oil, natural gas) as primary energy sources has already raised concern over energy supply difficulties, diminishing of energy resources and environmental impacts. Hence, the need for energy-efficient technologies in buildings is pivotal in order to reduce energy consumption and mitigate global environmental impact. Amongst these technologies, the application of energy recovery system is proven as one of the significant solutions towards reducing energy consumption and providing fresh outdoor air in buildings. The system is defined as a mechanical system that able to conserve energy by transferring heat or mass from a stream at a high temperature to a low temperature stream through a core. It also able to remove stale, polluted air indoor spaces and replaces it with fresh outdoor air. In order to have an in-depth understanding of the system, this chapter discusses the mechanism and the application of the system in various climatic conditions such as winter and summer conditions; cold and extremely cold climate conditions; and hot-humid condition.</p> <p>Keywords: energy recovery system, building applications, mechanism, climatic conditions</p>

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