CONFERENCE PROCEEDINGS

ICRST (2018) XIIIth International Conference on Researches in Science & Technology, 10-11 August, Bali Indonesia

10-11 August 2018

Conference Venue

D Varee Diva Kuta Bali, Indonesia (Formerly Ibis Styles Kuta Bali)

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Preface:

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<u>KEYNOTE SPEAKER</u>

Diena Noviarini
Faculty of Economics, State University of Jakarta, Indonesia
Topic: The World at the Tip of Open Source Computing System

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Anggun Lestari
GICICRST1811056

Effect Of Seed Amounts On The Synthesis Of Zeolite Zsm-5 Using Coal Bottom Ash And Rice Husk As Sources Of Silica And Alumina By Using Seeding Method

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Abstract
ZSM-5 has been successfully synthesized by seeding method using coal bottom ash and rice husk as the sources of silica and alumina. Synthesis ZSM-5 were performed by the hydrothermal method in autoclave autogenous at 180 °C for 36 h with molar ratio $10Na : 50SiO : 2Al_2O_3 : 500H_2O$ with the addition of ZSM-5 commercial as seed. In this experiments, investigated variations seed amounts of 5, 10, 15, and 20% of weight silica. The product was characterized using X-Ray Diffraction (XRD), Fourier Transform Infrared (FTIR), Scanning Electron Microscope (SEM), and Brunauer-Emmet-Teller (BET). Resulted showed that ZSM-5 succeed formed in all variation of seed contain. At variation seed amount 5%, crystallinity obtained still low in which content of quartz phase still be high. Percent crystallinity highest obtained at the variation of seed amount 20% with the result percent crystallinity relative 106%. The experimental results revealed that phase transformation has occurred, in which an amorphous phase of coal bottom ash and rice husk has been transformed to the ZSM-5 crystal with addition seed as substitution organic template.
Keywords: ZSM-5, Seed, Rice Husk, Coal Bottom Ash, Synthesis, Template Free, Crystallinity

Madiha Tahir
GICICRST1811058

Molecular Charachterization Of Fusarium Species Associated With Malformation Of Mangifear Indica L. From Orchards Of Punjab And Sindh.

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Department Of Environmental Sciences, Fatima Jinnah Women Universitythe Mall Rawalpindi.

Shazia Iram
Department Of Environmental Sciences, Fatima Jinnah Women Universitythe Mall Rawalpindi.

Abstract
Mango (Mangifera indica L.) is considered as one the significant fruits of the tropical and sub-tropic regions of the world. Being Pakistan's second major fruit crop it has got much familiarity in domestic and global markets that results in its huge foreign export. Globally, Mango Malformation is considered as the most devastating disease of mango. The present study has assessed the

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	prevalence and severity of mango Malformation in Punjab. The study has also investigated molecular characterization of fungal pathogens associated with mango Malformation. To get the desires objectives of the research, a survey was conducted in 3 districts of Punjab that are Multan, Khanewal and Muzafargarh. Thirty eight orchards were visited in three districts of the Punjab province to confirm the status of mango malformation.100 percent prevalence was shown in Muzafargarh and Multan. The causative pathogens of malformation were isolated from twenty one samples (from Punjab and Sindh) on potato dextrose agar media. Isolated pathogens were morphologically identified by determining cultural characteristics.one specie from genus Fusarium, "Fusarium mangiferae", was identified and its identification was confirmed by molecular sequencing analysis. DNA was isolated from all the fungal isolate using phenol DNA extraction method. A pair of ITS primer was used to amplify the obtained DNA. The amplified PCR products were resolved using 2% agarose gel, stained with ethidium bromide. Isolates' band size was in range 580-600 base pair. The amplified products from ITS-5.8S-rDNA were sequenced and then compared to ITS sequences of isolated species from NCBI which showed 97 to 100 % similarity with Fusarium magnifierae. sequences obtained in this study were aligned and a neighbor joining tree was rooted to determine phylogenetic relation among the isolate of detected specie and their similar species. Results obtained through this work would be supportive in establishment of association of isolates with their region and also helpful to device management strategies to decrease the mango diseases and disorders in orchards caused by Mango Malformation. Keywords: Mango Malformation, Mangifera indica, Fusarium,phylogenetic relation
Samsulizala GICICRST1811059	**Determining Characteristics of Pamaluan Shalestone to Identify Shale-Gas Reservoir Potential in the Kutai Basin** **Samsulizala** **Ildrem Syafria, Nova Novelyarisyantib, Yusi Firmansyaha, Yusup Iskandarb** **Abstract** There are several hydrocarbon fields in Kutai basin proved in producing gas from convensional reservoir. In the conventional hydrocarbon system, shalestone as source rock, has potential shale gas with certain characteristics. Characterization process on shalestone wass conducted to identify potential shale gas as new play in the Kutai Basin. The main object in this research is early miocen shalestone of Pamaluan Formation. It is composed of thick shalestone with interbedded sandstone, siltstone and limestone. The research methods used for the identification of Pamaluan Shalestone is a petrographical, petrophysical, and geochemical analysis. Based on the results revealed that Pamaluan Shalestone to quality of Shale gas characteristics has effective porosity (7.549883), poor permeability (0.001634946 mD), and geochemical analysis of outcrop data revealed total organic carbon (TOC) 0,38 % - 1,7786 % (poor-moderate), kerogen type III/gas prone(good), late mature-pick mature, crossplot between hydrogen index and maximum temperature revealed mature to produce gas type (good), and brittle index 11.88% dan 42.7 % (poor to good quality). **Key words: Shale gas, Pamaluan Formation, Kutai Basin**
Easter B. Belandres GICICRST1811060	**Conjoint Analysis As Robust Measure of Leadership Preferences** **Easter B. Belandres** **Philippine Military Academy, Baguio City, Philippines** **Abstract**

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	The study proves that conjoint analysis is a robust measure of preferences as it offers to be a promising technique in determining the leadership preferences in the military service. The process of conjoint analysis in this study employs both qualitative and quantitative methods. The qualitative result shows that the ideal military leadership style in Baguio City and in Benguet is authentic, servant, transformational, and transactional leadership. The findings led to the construction of a data gathering tool for the quantitative method to determine the average importance utility weight that the respondents attach to their preferences on military leadership. Quantitative results reveal that the respondents give a higher degree of importance to military officers who carry out transformational, transactional, servant, and authentic leadership, in decreasing order of importance. **Keywords:** Authentic leadership, conjoint analysis, military leadership, servant leadership, transactional leadership, transformational leadership.
Mohd El Khatieb **GICICRST1811061**	**Practical Consideration on Ultimate Rotational Capacity of Reinforced Concrete Beams".** **Mohd El Khatieb** **Assistant Professor, Department of Civil Engineering, Zarka University, Zarka, Jordan** **Abstract** This Study aimed to evaluate eventual relation between Size and Ultimate rotational capacity and its influence on the reinforced concrete beams behavior under flexure. The importance of the geometrical effect in practical design has been evaluated, showing that an overestimation of the actual member rotation is very likely if the available rotation capacity is based on the evaluation of the behavior of the reference members within a limited size range. The increase of ductility with decreasing member size has been interpreted in fracture mechanics of reinforced concrete. In fracture mechanics it's seen that beams with higher dimensions are brittle, while those with small dimensions are ductile, so it's important here to clarify if the same material and design concepts can be applied for reinforced concrete beams with different scale. Three point bending test was executed on 20 reinforced concrete beams varying scale and slenderness ratio (where steel ratio being kept constant). The experimental results obtained varying beam slenderness and beam depth will be used to analyze the structural response for a practical construction, taking in consideration the size effect, these beams are normally designed in such a way that the distribution of their internal forces over the transversal section has been calculated as per elastic beam theory, while the beam dimension will be designed as per the ultimate limit state to obtain a ductile response of the reinforced concrete beams which is necessary to guarantee the structural safety. **Keywords:** Size effect, plastic rotation, fracture mechanics, Reinforced Concrete, Elastic beam theory, fracture Mechanics.
Christia Meidiana **GICICRST1811063**	**Determining Municipal Solid Waste Treatment Constituent using Mixture Design** **Christia Meidiana** **Department of Regional and Urban Planning, Faculty of Engineering, Universitas Brawijaya, Malang, Indonesia** **Abstract** The study propose a model of municipal solid waste treatment consisting of three waste treatment constituents, i.e. composting, recycling and incinerating. The model is generated using a tool of Design of Experiment (DoE) called

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	simple mixture design describing the optimum composition of three waste treatment constituents, i.e. composting, recycling and reuse. Greenhouse gas (GHG) emission as a regressand is analysed to see if and how much it varies as the waste amount for each method vary. Emission from waste transportation is calculated according to the vehicle route for waste collection from transfer points. The result shows that quadratic model meets the criteria of least standard deviation, low P-value and the highest adjusted R-squared which is 5.764E-003, less than 0.005, and 0.9908 respectively. The model shows that combination of waste treatment reduce GHGs emission, while individual waste treatment increase the GHGs emission. Keywords: mixture design, waste treatment, greenhouse gas emission, regressand
Layla A. Taib **GICICRST1811064**	**Synthesis and Antifungal Activity of Some New Fluorine-Substituted 4-Thiazolidinone Bearing 1,2,4-Triazinone** **Layla A. Taib** **Department of Chemistry, Faculty of Science, King Abdul-Aziz University, Jeddah, KSA** **Abstract** Fluorine substituted 4-thiazolidinone 5 bearing 1, 2,4-triazinone obtained from the condensation of 3-Amino-6(2'-aminophenyl)-1,2,4-triazin-5(4H)-one (2) with an aromatic aldehyde followed by cycloaddition with mercaptoacetic acid afforded the thiazolidinone (4), and treatment with ethyl trifluoroacetate. Structure of the products has been deduced from their correct elemental analysis and spectral measurements. The antifungal activity of the new fluorinated target also has been evaluated. Keywords Synthesis, Fluorine , 4-Thiazolidinone, 1,2,4-Triazin Fungal
Naziah Muhamad Salleh **GICICRST1811065**	**Space Crisis Vs Well-Beings In Adaptive-Reused Preschool Buildings** **Naziah Muhamad Salleh** **School Of Housing Building & Planning, University Science Malaysia, 11800 Penang, Malaysia** **Syahrul Nizam Kamaruzzaman** **School Of Housing Building & Planning, University Science Malaysia, 11800 Penang, Malaysia** **Norhayati Mahyuddin** **School Of Housing Building & Planning, University Science Malaysia, 11800 Penang, Malaysia** **Nor Fadzila Aziz** **Faculty Of Built Environment, University Of Malaya, 50603 Kuala Lumpur, Malaysia** **Abstract** Working or studying in a comfortable environment enhances not only well-being, but also satisfaction and therefore increase productivity and learning. The numbers of private preschools in Malaysia has been increasing every year. These schools often operate in premises that have been fully refurbished. This has raised the questions about building capability and space condition to provide a good environment to the children during their learning activities. Most of the building was refurbished to enhance its applicability as a school. Yet, the condition of these adaptive-reused buildings maybe doubtful. This study attempts to identify the characteristics of the buildings' physical and

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condition as well as the scenario of refurbished private preschool in accordance with the standard of authorities' requirements. Observation particularly on space and pupils density either it is reckoning with the authorities' requirements. These data are correlated computed with the health conditions of the pupils in the preschools buildings. The data obtained observation and interviews of 237 preschools (771 classrooms) occupants. Results suggested in most preschools, the occupants in the classrooms were over the limit regulating by the authority. Astonishingly, these renovated classrooms certainly were not given any discrepancy effects on their short term health and well-being but uncertain for extensive span. The data obtained was analyzed to alarm all the preschools stakeholders of the effects of space crisis in the classrooms. It can be able as a reference and benchmark to the authorities to prepare the private preschool's applications.

Keywords: Refurbishment, Preschool, Occupants Perception, Space Requirement

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Fayçal Kharfi
GICICRST1811066

Irradiated food identification by thermoluminescence TL: main constraints on sample preparation and TL signal reading

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High Resolution Dosing, Analysis and Characterization Laboratory,
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Abstract
After the successful implementation of the thermoluninescence TL technique for irradiated food identification and first tests on Indian black pepper, the proposed procedure is now extend to many other foods [1]. In this work, we present the obtained results on some irradiated spices identification such as Saffron and Puprika. We will particularly focus on how sample must be selected and prepared in order to get the suitable TL signal for irradiated food identification.

Ebtihaj Jambi
GICICRST1811067

Effect of Oral Contraceptive Pills on Oxidative Stress in Diabetic Rats

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Biochemistry Department, Science College, King Abdulaziz University,
Jeddah/Saudi Arabia

Abstract
Background: Oral contraceptive pills (OCs) are now commonly used in millions of women worldwide. Therefore, information on the risks and benefits of therapies is critically important. Several lines of evidence have proved that oral contraceptive pills induce oxidative stress and depletion of serum antioxidants. Oxidative stress plays a major part in the development of pathological condition among which one is diabetes. The aim of this study was to evaluate the effect of oral contraceptive pills on oxidative stress in streptozotocin (STZ)-induced diabetic female rats.
Methods: Adult female Wistar albino rats (n=40) weighing (200-220g) were divided into four groups; control group, COC group: normal rats treated with COC (combined oral contraceptive pills)daily for every 4 days for 32 days by gastric tube, Diabetic group: the animals were injected by STZ at the dose of 60 mg/kg, Diabetic+ COC group: diabetic rats treated with COC as in COC group. At the end of experimental all rats were sacrificed and parameters were measured.

	Results: The results indicated that diabetic rats and diabetic+COCs groups induced hyperglycemia and hyperlipidemia (TC, TG, LDL) and increase in liver function enzymes (AST, ALT) associated with oxidative stress markers indicative of lipid peroxidation (MDA) and decreased the antioxidant enzymes (SOD, CAT, GSH) in pancreatic tissues and disturbance in sex hormones (E2, progesterone) as compared to control group. While, COCs group induced increase in MDA,TC, LDL, AST and ALT with decreased in SOD, CAT, HDL, E2 and progesterone as compared to control group. Diabetic+COCs exhibited an increase in glucose, MDA, AST and ALT accompanied by a decrease in SOD, CAT and E2 as compared to diabetic rats. **Conclusion:** These results suggest that diabetic rats consuming oral contraceptive pills may be more susceptible to oxidative stress by enhanced depletion of antioxidant and increased lipid peroxidation. **Key words:** Diabetes - Oral Contraceptive Pills - Oxidative Stress- Antioxidants - Lipid profile –Female rats.
Al-Shubailly **GICICRST1811068**	**Anti-inflammatory, immune-modulatory and antioxidant effects of date fruit (Phoenix dactylifera) extract in rats treated with AlCl3.** **Osman N. N.** **Biochemistry Dept., Faculty of Science, King Abdulaziz University, Jeddah, Saudi Arabia.** **Al-Shubailly** **Food Irradiation Research Dept., National Centre for Radiation Research and Technology (NCRRT), Cairo, Egypt.** **Prof. Dr. Nadia Nour Osman** **King Abdulaziz University, Faculty of Science, Department of Biochemistry , Jeddah, Saudi Arabia.** **Abstract** **Date fruit (Phoenix dactylifera L) contains many macronutrients, minerals, vitamins and antioxidants which has been related to beneficial health properties. The objective of this study was to evaluate the potential efficacy of date fruit extract (DFE) against Al-induced toxicity in rat model.Materials and Methods Male albino rats were divided into four groups of 8 rats: A control group, did not receive any treatment, the DFE group received date (500 mg kg-1 b. w) water extract (DFE) orally per day, the Al group: rats were supplemented with aluminum chloride (AlCl3) added to the drinking water at a concentration of 53.5 mg/ L and the DFE-Al group, received DFE along with AlCl3. The experimental duration lasted for six weeks. The data obtained indicate that Al administration results in inducing hematological alterations decline in the concentration of hemoglobin (Hb), RBC, Hct%, PCV, MCH, MCV and MCHC accompanied by a significant increase in WBC counts. Significant elevations in the serum inflammatory markers (C-reactive protein (CRP), interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-α) and the nuclear transcription factor (NF-κB) were observed in AlCl3-treated rats. The results demonstrated, also, that Al promotes lipid peroxidation and decreases the level of antioxidants: superoxide dismutase (SOD) and catalase (CAT) activities and reduced glutathione (GSH) contents in serum. However, treatment of AlCl3 group with DFE resulted in significant amelioration in the mentioned parameters as compared with AlCl3 group. According to the results obtained in the present study, it could be concluded that date fruits have beneficial health properties through immunomodulatory, anti-inflammatory and antioxidant effects.** **.Key words: phoenix dactylifera, AlCl3, inflammatory markers, Lipid**

	peroxidation, antioxidant enzymes
Taura Y. B. **GICICRST1811069**	**Graft Copolymerization Of Methylmethacrylate Onto Cellulosic Cotton Fabric - Effects Of Preteatments And Monomer Concentration** **Gumel S. M.** **Department of Pure and Industrial Chemistry, Bayero University, Kano. P.M.B. 3011. Kano State, Nigeria.** **Taura Y. B.** **Department of Fashion Design and Clothing Technology, Hussaini Adamu Federal Polytechnic, Kazaure, Jigawa State, Nigeria.** **Yakubu M.K.** **Department of Textile Science and Technology, Ahmadu Bello University, Zaria. Kaduna state, Nigeria** **Habibu S.** **Department of Chemistry, Federal University, Dutse P. M. B. 7156, Jigawa State, Nigeria** **Abstract** The graft polymerization of methylmethacrylate (MMA) on to enzyme desized, scoured, bleached and mercerized cellulosic cotton fabric was studied in 0.1M nitric acid using ceric ammonium nitrate (CAN) as initiator. The investigation was conducted to study the possibility of grafting methylmethacrylate on to cellulosic cotton fabric at various stages of processing. Two sets of five different samples were used, four of them passed through the pretreatment stages of desizing (D), desizing and scouring (DS), desizing, scouring and bleaching (DSB), desizing, scouring, bleaching and mercerizing (DSBM) and one was kept as grey (G). The first set of these samples including the grey were grafted with 3.5mls of MMA and CAN concentration of 0.05M at a time of 3hrs and a temperature of 50°C. In the second set of samples the graft polymerization was carried out under varying concentrations of monomer, while keeping all other factors constant. The second set has all passed through the final stages of pretreatment (DSBM). The results of FT-IR (infra red spectroscopy), water absorption, dimensional stability, crease recovery properties, tearing strength indicated that there was modification in the physical and chemical properties of the cellulosic cotton fabric as a result of the graft polymerization. Tearing strength and water absorption of the grafted sample showed considerable decrease. The dimensional stability and crease recovery characteristics of the cotton fabric were generally improved.
Marlon B. Raquel **GICICRST1811070**	**Patterns Of Internet Usage Among Filipino College Students In Taguig City, Philippines** **Marlon B. Raquel** **College of Business Administration and Accountancy** **The Fisher Valley College, Taguig City, Metro Manila, Philippines** **Melven B. Raquel** **College of Business Administration and Accountancy** **The Fisher Valley College, Taguig City, Metro Manila, Philippines** **Abstract** Internet use in the Philippines rose to 43.5% in 2016 from 2% in 2000 which is equivalent to more than 44 million individuals. The objective of this study is to determine the patterns of internet usage among Filipino college students in a

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private college in Taguig City, Philippines. The study employed an exploratory-descriptive research design using a survey instrument. A total of 234 students were randomly selected. The results showed that all respondents use the internet with majority of them accessing it using WiFi (45.5%) and mobile data (44.4%). About 72.7% of respondents use their mobile phones in using the internet and are frequent users (68.4%). The average number of hours per visit is three hours. Facebook (60.3%) is the most frequently visited website followed by Google (22.2%). College students' top five general internet activities include using an online social networking site, doing school assignments, downloading music or videos, sharing something online that they created such as photos and going online to get news or information about current events or politics. The least internet activity among students is selling something online. The top five social networking activities are sending a group chat message, uploading own photos or videos, liking a friend's status, picture, or video, posting comments to a friend's page or wall, and sharing posts. College students access the internet largely for social networking purposes than for other online activities such as creativity, production and commercial activity.

Keywords: Internet usage, social networking, social media, college students, Philippines

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Dr. Yogesh Pahariya
GICICRST1811070

Enhancement of Power Quality with Multilevel Inverter in Off Grid Applications

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Abstract
Necessity of electricity access in remote area is the main reason for expanding decentralized energy system such as stand-alone power supply (SAPS) systems. The best electrical power supply must provide a constant magnitude and frequency voltage. Therefore, good power quality is an important factor for the reliable operation of electrical loads in a power system. However, the current drawn by most of electronic devices and non-linear loads are non-sinusoidal, which can result in a poor power quality, especially in off-grid power systems. Poor power quality is characterized by electrical disturbances such as transients, sags, swells, harmonics and even interruptions in the power supply. Off-grid power systems world- wide often struggle with system failures and equipment damage due to poor power quality. In this paper, MAT LAB/Simulink is used to model and analyses power quality in an off-grid renewable energy system with inverter and proposed multilevel inverter. The results show comparative analysis of the total harmonic distortion of voltage and current of both the inverters and multilevel inverter for off grid system.
Keywords: SAPS; Multilevel Inverter; THD; TDD (Total Demand Distortion) Power Quality.

Ma. Kathrina M. Pobre
GICICRST1811071

Identification of Actin and Beta-Tubulin Housekeeping Genes in the Moringa oleifera Lam. Leaves

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Vivian A. Panes, Ph.D2
Assistant Professor, Research Group Head, Ateneo de Manila University, School of Science and Engineering, Department of Biology, Loyola Schools, Quezon City 1108, Philippines

Abstract
Moringa oleifera is a high valued plant. Its multi - purpose uses and numerous health benefits have attracted the attention of farmers and researchers since time immemorial. However, there are limited studies and information about its genome. Thus, the study was conducted to extract, amplify and sequence the actin and beta - tubulin housekeeping genes from M. oleifera leaf. DNA was extracted using the DNAzol plant DNA extraction kit. Then, DNA quantity and quality was checked using spectrophotometry. The housekeeping genes were amplified using PCR. PCR products were run in agarose gel electrophoresis. Results revealed that beta-tubulin gene size is 275bp while actin is 79bp. The consensus sequence and phylogenetic analysis using Chromas and Bioedit, and NCBI BLAST and MEGA respectively showed that beta tubulin housekeeping gene from M. oleifera is closely related to the same housekeeping gene from Cucumis sativus and Cucurbita maxima having a bootstrap value of 56. Based on their taxonomic details, M. oleifera, C. sativus and C. maxima are species all belonging to the same subclass Dileniidae. The sequence analysis has proven that the housekeeping gene isolated from M. oleifera is indeed a beta tubulin gene. Our results will provide a valuable reference for future studies on extraction, amplification and sequence analysis of important functional genes.
Keywords: Moringa oleifera, housekeeping genes, beta-tubulin, actin

Myat Thida Tun **GICICRST1811075**	**Alphabet Recognition System Based On Artificial Neural Network** **Myat Thida Tun** **Department of Information Technology, Technological University (Thanlyin), Republic of the Union of Myanmar** **Abstract** **One of the most classical applications of the Artificial Neural Network is the character recognition system. This system is the base for many different types of applications in various fields, many of which are used in daily lives. Cost effective and less time consuming, businesses, post offices, banks, security systems, and even the field of robotics employ this system as the base of their operations. For character recognition, there are many prosperous algorithms for training neural networks. Back propagation (BP) is the most popular algorithm for supervised training multilayer neural networks. In this thesis, Back propagation (BP) algorithm is implemented for the training of multilayer neural networks employing in character recognition system. The neural network architecture used in this implementation is a fully connected three layer network. The network can train over 16 characters since the 4-element output vector is used as output units. This thesis also evaluates the performance of Back propagation (BP) algorithm with various learning rates and mean square errors. MATLAB Programming language is used for implementation.** **Keywords –Artificial Neural Network, Back propagation, Character Recognition**

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| Easter B. Belandres
GICICRST1811076 | **Armed Forces of the Philippines Stakeholders' Leadership Preferences**

Easter B. Belandres
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Abstract
This study used qualitative and quantitative method in determining the leadership preferences of the military stakeholders in the Philippines. The qualitative approach was used to determine the stakeholders' ideal military leadership of the randomly chosen 25 stakeholders in Baguio City and in Benguet. The qualitative result shows that the ideal military leadership of the stakeholders is authentic, servant, transformational, and transactional leadership. These results were the basis in constructing the data gathering tool in the quantitative method, wherein the purpose of the quantitative method is to determine the leadership preferences of the AFP stakeholders in the country from Luzon to Mindanao. Quantitative method reveals that the military stakeholders preferred a military officer who carries out transformational, transactional, servant, and authentic leadership, respectively.
Keywords: Stakeholder theory, authentic, transformational, servant, transactional, and military leadership |
| Miftahil Mawaddah
GICICRST1811080 | **Invasion Of Saturated Vapor Coconut Shell**
The Transition Obat Merah To Liquid Smoke Coconut Shell As Solutions In The Treatment Of Wound Outside

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Department of Chemistry, Islamic University of Indonesia, Yogyakarta, Indonesia

Abstract
Coconut shell is a waste generated from the use of coconut itself. Utilization of liquid smoke coconut shell that is not widely known by the public is the content of phenols that can inhibit the growth of bacteria / fungi and can be used in the treatment of external injury. Liquid Smoke is obtained from pyrolysis of coconut shell after heating at temperature variation 300oC, 400oC and 500oC. The result of liquid smoke from pyrolysis is then purified by distillation method with temperature variation 80-100 and 100-110oC for each pyrolysis temperature. After obtaining pure liquid smoke was tested using GC-MS, antibacterial test between liquid smoke and red medicine using Staphylococcus aureus bacteria by diffusion method. It is known from the optimum GC-MS phenol results at 400oC pyrolysis temperature with distillation temperature 100-110 and its content of 13.55%. In antibacterial tests known antibiotic efficacy associated with growth inhibition zone, the larger the diameter, the greater the potential of the antibiotic sample. The widest diameter of 15.6 mm contained at 400oC pyrolysis temperature with distillation temperature 100- |

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	110oC while on the red diameter of smaller diameter of 10.0 mm. The results showed that the content of phenol in liquid smoke from coconut shells acts as a substitute for the use of red medication, because of its high antimicrobial potential associated with the treatment of infectious diseases such as blisters and ulcers. This is an alternative solution that is easy to manufacture and does not cost a lot. Keywords: Liquid smoke, pyrolysis, distillation, GC-MS, Staphylococcus aureus
Hafiza Yumna **GICICRST1811081**	**Use of Blockchain in Education: A Systematic Literature Review** **Hafiza Yumna** **Dept. of Computer Science Govt. College University** **Faisalagid, Pakistan** **Abstract** **Blockchain technology enables the formation of a distributed record of a digital event in decentralized manner where data and related transactions are not under the control of any third party. This technology is expected to revolutionize financial and non-financial fields for the decentralized management of data and transactions. The main objective of this research is to highlight the existing issues related to the educational institutes and to find suitable blockchain features that could resolve them. We have adopted a systematic literature review approach for the identification and the extraction of relevant information from the shortlisted studies. The results of the analysis show that the manipulation risk, difficulty in verification and exchanging record between institutions are the major issues faced by the educational institutions. This study also explores blockchain features like decentralization, traceability and consensus mechanism, etc., that can be used to address the issues related to the educational institution. Finally, due to unique and underlying technology, it has still some technical challenges and limitations, including immutability feature, disclosure of personal privacy and protection of public/private keys that are also discussed in this study and recommended for future research.** **Keywords: Blockchain, Education**
Erlando Sulistia **GICICRST1811082**	**Analaysis Of Indonesia National Spatial Data Infrastrucutre Development And Strategic Plan** **Erlando Sulistia** **Department of Urban Engineering, Kyungsung University, Busan, South Korea.** **Park Jun Ho** **Department of Urban Engineering, Kyungsung University, Busan, South Korea.** **Nam Kwang Wo** **Department of Urban Engineering, Kyungsung University, Busan, South Korea.** **Abstract** **This paper is focusing on Indonesia national spatial data infrastructure development and strategic plan, and using other country strategic plan case as benchmarking and example. The reason to choose this topic is to offer new perspective to Indonesia government which strategic plan to take after comparing and study other country strategic plan. Indonesia spatial data infrastructure formally in 1993 when eleven government institutions at**

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	national level met to discuss and exchange information relating the development of GIS within their own institutions. For these past years Indonesia spatial data infrastructure not progressing very well many factors can cause these issues for example Indonesia is still develop country and resource constrain and human resources or these issues could be because the Indonesia geographic condition. This study offer new strategy or perspective to solve and fill the gap in current Indonesia strategic plan Keywords : Geographic Information System (GIS), National Spatial Data Infrastructure(NSDI), Framework data, Digital maps, Strategic plan
Diena Noviarini, Mmsi **GICICRST1811052**	**The Model Of Integrated Software System** **To Improve The Accountability Of Health Budget** **Diena Noviarini, Mmsi** **Faculty Of Economics, State University Of Jakarta** **Abstract** Within the framework of reporting the accountable health budget, a Patent Integrated System Software is created from combines database of population administration information with accurately health national budget management information. In designing the Patent software the method used is literature study, analysis method with fishbone diagram and software design method using web based PHP. The analytical method of action research is to examine the problems faced by the Local Government Work Unit (SKPD) of the health office in Indonesia and the health service centers in East Java & Bali as sample. The designing method was used to design a new Patent system based on data taken from the interview with SKPD in Patent form of software industry that can solve the problems encountered. Patent design software industry using hardware web server and hardware client and software for programming, Biometrics tools as the input and interface connecting database server and software for client. The results to be achieved are the production of patents of the software industry in the first year of research and publication that will have Intellectual Property Rights Software Integrated System in the second year of research and publication that can produce accurate, transparent and accountable information reports relating to health national budget management at the provincial government Indonesia.
Yunia Witasari **GICICRST1811054**	**Composition and origin of clay minerals and trace elements in the recent sediments of Makassar Strait, Indonesia** **Y. Witasari** **Research Center for Oceanography, Indonesian Institute of Science, Jl. Pasir Jakarta 14430** **Lestari** **Research Center for Oceanography, Indonesian Institute of Science, Jl. Pasir Jakarta 14430** **Abstract** Makassar Strait waters was located between two large islands which have specific differences in physical and geochemical factor. Moreover, these waters drained by water mass from the Pacific Ocean called Indonesian Through flow (ITF, Arlindo), it would be spread and be partially deposited the sediment in the Makassar Strait. Tectonic processes also affected sediment characteristic in this strait. Therefore, it was known in the Makassar Strait sediments originated from various sources. This study was carried out to determine the dominant sediment

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	source and causing factors the sediment source dominance in the Makassar Strait. The research was conducted in August – October 2013 in the Baruna Jaya VIII - LIPI Nusantara Expedition cruise. The random sampling method was used, performed with core tools at 20 selected sites. Grain size were analyzed by description which refers to the Wentworth classification. Clay minerals were analyzed with X-Ray diffraction. Destruction Analysis method for the major elements (Al, Fe, Mg, Ca, K) and trace elements (Cd, Cu, Mn, Ni, Pb and Zn) by 3050B USEPA. The results showed the sediment in the Makassar Strait was generally originated from weathering of the volcanic rock of Sulawesi Island. Additionally, organic carbon that derived from the Kalimantan Island has a little influence on the surface sediments. Therefore, the suggestion that fine grained carbonates, clay minerals and trace elements composition from pacific ocean can reach the deeper area of Makassar Straits suggested by the Indonesian Trough flow currents. Keywords: Mineral, Sediment, Trace elements, Makassar Strait.
Rohan J. Dalpatadu GICICRST1811055	**A Bootstrap Approach for Improving Logistic Regression Performance in Imbalanced Data Sets** **Michael Chang** Department of Mathematical Sciences, University of Nevada Las Vegas, Las Vegas, USA, changm13@unlv.nevada.edu **Rohan J. Dalpatadu** Department of Mathematical Sciences, University of Nevada Las Vegas, Las Vegas, USA **Dieudonne Phanord** Department of Mathematical Sciences, University of Nevada Las Vegas, Las Vegas, USA **Ashok K. Singh** William F. Harrah College of Hotel Administration, University of Nevada Las Vegas, Las Vegas, USA **Abstract** In an imbalanced dataset with binary response, the percentages of successes and failures are not approximately equal. In many real world situations, majority of the observations are "normal" (i.e., success) with a much smaller fraction of failures. The overall probability of correct classification for extremely imbalanced data sets can be very high but the probability of correctly predicting the minority class can be very low. Consider a fictitious example of a dataset with 1,000,000 observations out of which 999,000 are successes and 1,000 failures. A rule that classifies all observations as successes will have very high accuracy of prediction (99.9%) but the probability of correctly predicting a failure will be 0. In many situations, the cost associated with incorrect prediction of a failure is high, and it is therefore important to improve the prediction accuracy of failures as well. Literature suggests that over-sampling of the minority class with replacement does not improve the prediction accuracy of the minority class significantly. Synthetic Minority Over-sampling Technique (SMOTE) improves prediction accuracy by creating extra synthetic examples of the minority class. In this example, we propose a simple over-sampling method which bootstraps a subset of the minority class. Several examples are used to illustrate the proposed method. In each of these examples, an improvement in prediction accuracy is seen.
Joko Lulut Amboro	**Strategy for Development and Revitalization of Banyumulek Pottery Industry,**

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GICICRST1811062	**Nusa Tenggara Barat with Integrated Approach based on Tourism and Creative Economy**
	Joko Lulut Amboro **Faculty of Art and Design, Sebelas Maret University** **Novita Wahyuningsih** **Faculty of Art and Design, Sebelas Maret University** **Admiral Akhir Abdillah** **Faculty of Art and Design, Sebelas Maret University**
	Abstract **This study aims to determine the development of earthenware vessel industry business, the factors that influence the development of earthenware vessel industry and to formulate the appropriate development and revitalization strategy for the community of pottery craftsmen in Banymulek, West Nusa Tenggara. The type of research used is qualitative research with Focus Group Discussion method, and field visit (survey), which takes place at Banyumulek Pottery Industrial Center. The result of the research shows that the business of pottery vessel in Banyumulek Village is experiencing a prospective development. The results of the formulation of community empowerment strategy in the form of program planning are: (i) establishment of community pottery industry, (2) entrepreneurship training and innovative pottery-making skills, (3) development of marketing methods and (4) tourism-based approach and creative economy.** **Keywords: Banyumulek pottery craft, pottery revitalization, creative economy**
Imelda Corazon C. Camposano **GICICRST1811073**	**Seed Priming on Brassica rapa subsp. chinensis L. (Pechay) Germination and Seedling Growth under Salt Stress**
	Imelda Corazon C. Camposano **Department of Biology, Ateneo de Manila University, School of Science and Engineering, Loyola Schools** **Dencee Jean T. Ledesma** **Department of Biology, Ateneo de Manila University, School of Science and Engineering, Loyola Schools** **Llara M. Siglos** **Department of Biology, Ateneo de Manila University, School of Science and Engineering, Loyola Schools** **Merab A. Chan** **Department of Science and Biology, Miriam College** **Quezon City 1108, Philippines**
	Abstract **This study was conducted to determine the effects of seed priming, using $CuSO_4$ and $ZnSO_4$, on germination and seedling growth of Brassica rapa subsp. chinensis L. (pechay). After soaking in $CuSO_4$ and $ZnSO_4$ for five hours, the primed seeds were exposed to 0 mM, 60 mM, 90 mM and 120 mM of NaCl. Germination rate; root and shoot length; seedling fresh and dry weight were determined after seven days of planting, whereas the number of leaves were determined after 14 days. The results showed that seeds primed with $CuSO_4$ has a 95% germination rate under salt stress (90 Mm NaCl concentration). However, seed priming using $CuSO_4$ or $ZnSO_4$ does not have**

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	an effect on root length and shoot length; seedling fresh weight and dry weight, number of leaves and seedling dry matter of Brassica rapa subsp. chinensis L. under salt stress. Keywords: Seed Priming, Germination, Seedling Growth, Brassica rapa subsp. chinensis L., Salt Stress
Alfani Risman Nugroho **GICICRST1811077**	**The Reduction Of Bod, Cod And Chrome In The Tanning Wastewater** **Alfani Risman Nugroho** Department of Leather Processing Technology, Politeknik ATK, Yogyakarta, Indonesia **Emiliana Anggriyani** Department of Leather Processing Technology, Politeknik ATK, Yogyakarta, Indonesia **Abstract** The tannery industry generally uses chrome raw materials in its tanning process. This use results in liquid waste containing chromium. This study aims to determine and analyze the characteristics of the waste from the exhausted chromed tanning process. The material used are sheep skins, which is tanned using conventional methods and the exhausted chrome tanning process. The collected liquid waste is then tested on the parameters of BOD, COD, and total chrome. The results of this test are then analyzed using Independent Sample T-Test, which revealed that the use of the exhausted chromed tanning process is capable of producing waste with lower total value of chromium, BOD, and COD, than that of with conventional method. However, those results are still above the applicable wastewater quality standards, so it still requires further processing in order to meet the requirements in Indonesia. Keywords: tanning waste, exhausted chrome, BOD, COD
Emiliana Anggriyani **GICICRST1811078**	**Green Technology On Tanning Process By Exhausted Tanning System** **Emiliana Anggriyani** Department of Leather Processing Technology, Politeknik ATK, Yogyakarta, Indonesia **Alfani Risman Nugroho** Department of Leather Processing Technology, Politeknik ATK, Yogyakarta, Indonesia **Abstract** This study aims to determine the difference of chromium absorption into the skin and difference the shrinkage temperature in chrome mineral tanning by exhausted tanning system and conventional tanning system. The material used were sheep skins. The first treatment by conventional tanning process. The second treatment was tanning process by exhausted system. Tanning process with exhausted system was done by adding polycarboxylic material during repickle and then proceed tanning process. All the data were analyzed by descriptive data analysis and Independent Sample T-Test analysis. The results showed that chrome absorption into chromium was higher when using tanning system exhausted tannery. The difference between two types of tanning process by polycarboxylic material and without polycarboxylic material (conventional tanning) was very significant with significance of $P < 0.01$. The shrinkage temperature for skin with exhausted system tanning has a higher value than conventional tanning system. It can be said that exhausted tanning system can be used for ecofriendly tanning system. Keywords : Tanning, Exhausted, Sheep, Technology

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