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## International

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# The potential of environmental impact as a result of the development of palm oil plantation

**Authors:** Almasdi Syahza

*Management of Environmental Quality*

**ISSN:** 1477-7835

**Publication Date:** 4 April 2019

## **Abstract:**

**Purpose:** The purpose of this paper is to develop strategies for potential environmental impacts as a result of institutional arrangement and development of oil palm downstream industry both regionally and nationally.

**Design/methodology/approach:** The research location is in the areas potential for oil palm plantation development, either by plasma through BUMN and BUMS or self-supporting by the society. The research location will be divided into two parts, namely, the land area and the coastal area. The Riau land areas are Regency of Kampar, Rokan Hulu, and Kuantan Singingi, while Riau coastal areas are Regency of Pelalawan, Siak, Bengkalis, Indragiri Hilir, Indragiri Hulu and Rokan Hilir. Both research areas have different productivity due to the different soil fertility levels. The sustainability level of oil palm plantation from the socio-economic and environmental aspects is analyzed using the multi-dimensional scaling approach modified into Rapid Appraisal-Index Sustainability of Palm Oil Management.

**Findings:** In Riau Province, the development of oil palm is quite rapid. This is reasonable for several reasons which include the following supporting factors: the geographical condition of the Riau region is very supportive; the high demand for palm oil derivative products; the existence of market guarantee for oil palm farmers; the higher income oil palm generates than other plantation crops; and the relatively flat area. Most of the problems faced by oil palm farmers are the use of less good seeds, the length of the fruit laying at the location of the plantation, the inadequate production road, the relatively far distance to palm oil mill (POM) (National Agency of Drug and Food Control), the tendency of determining the unilateral revenue of the POM, the collectively measurement of revenue and the general revenue information. The development of oil palm plantations has created an entrepreneurial capability for farmers who are able to capture business opportunities in the agricultural sector, especially the plantation sub-sector.

**Originality/value:** The originality of this paper shows the comprehensively control strategy, potential of environmental impact and palm oil plantation. The method used for data collection was rapid rural appraisal method because accurate information is needed in a limited time as it relates to decisions related to village development that must be taken immediately. The study area was conducted in Riau Province because Riau Province is one of the biggest palm oil producers in Indonesia. The study sites will be divided into two, namely, the land area and the coastal area.

**Keywords:** Environmental impact, Palm oil plantation, Potential

**Citation:** Almasdi Syahza, 2019. The potential of environmental impact as a result of the development of palm oil plantation. *Management of Environmental Quality*, Vol. 30 (5): 1072-1094.  
<https://doi.org/10.1108/MEQ-11-2018-0190>

## Structural alteration within fly ash-based geopolymers governing the adsorption of $\text{Cu}^{2+}$ from aqueous environment: Effect of alkali activation

**Authors:** Lita Darmayanti, Grandprix TM Kadja, Suprihanto Notodarmojo, Enri Damanhuri, Rino R Mukti

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*Journal of Hazardous Materials*

ISSN: 0304-3894

**Publication Date:** 05 September 2019

**Abstract:** Fly-ash based geopolymers have been considered as a low-cost yet effective adsorbent for the removal of heavy metal cations, including  $\text{Cu}^{2+}$ , from the aqueous environment. In the synthesis of geopolymers, the fly-ash needs to be alkali activated using several systems rich in either  $\text{Na}^+$  or  $\text{K}^+$ . Herein, we investigate the effect of alkali activation on the structural alteration and its consequence on the adsorption capacity. Based on the series of detailed characterizations, the geopolymers formed in  $\text{Na}^+$ -based alkali system is found to have more organized structure compared to that formed in  $\text{K}^+$ -based alkali system. Moreover, the incorporation of additional silicate creates ancillary structure which positively contributes to the organization of the overall structure. All the samples, fly-ash and geopolymers, exhibits  $\text{Cu}^{2+}$  adsorption based on Langmuir isotherm and pseudo-second order kinetic. The geopolymers with more organized structure display higher  $\text{Cu}^{2+}$  adsorption capacity, which reaches  $40 \text{ mg g}^{-1}$  higher in comparison to  $7 \text{ mg g}^{-1}$  for fly ash sample. The structural alteration induces the formation of open-framework structure with more accessible sites which can accommodate more  $\text{Cu}^{2+}$ . Our study provides a fundamental understanding for the design and fabrication of geopolymers as an effective adsorbent for the removal of heavy metal cations.

**Keywords:** Alkali activation,  $\text{Cu}^{2+}$ adsorption. Fly ash. Geopolymers, Structural alteration

**Citation:** Lita Darmayanti, Grandprix T.M. Kadja, Suprihanto Notodarmojo, Enri Damanhuri, Rino R. Mukti, Structural alteration within fly ash-based geopolymers governing the adsorption of  $\text{Cu}^{2+}$  from aqueous environment: Effect of alkali activation, *Journal of Hazardous Materials*, Volume 377, 2019, Pages 305–314, ISSN 0304-3894, <https://doi.org/10.1016/j.jhazmat.2019.05.086>





## Sideband sensitivity of fluxgate sensors theory and experiment

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*Sensors and Actuators A: Physical*

**ISSN:** 0924-4247

**Publication Date:** 2019

**Abstract:** The relationship between electronic properties of racetrack fluxgate and the second harmonic sideband sensitivity of the sensor alone without electronics is discussed in this paper. We propose a new approach to calculate the sideband sensitivity based on inductance measurements of the fluxgate coils. In this approach, we take the current dependent mutual inductance between primary and secondary coil into account. To calculate the sensitivity, the inductance and its current dependence are measured and fitted using the provided model. The results show the validity of the approach and can describe the output signal and sensitivity of the fluxgate sensor alone, separating it from influences of the electronics. This approach makes the separable optimization of fluxgate sensor and its electronics possible.

**Keywords:** properties, electronics, fluxgate

**Citation:** Rahmondia N. Setiadi. 2019. Sideband sensitivity of fluxgate sensors theory and experiment. *Sensors and Actuators A: Physical*, 285(1): 573-580. <https://doi.org/10.1016/j.sna.2018.11.049>



## Surface structural features and optical analysis of nanostructured Cu-oxide thin film coatings coated via the sol-gel dip coating method

**Authors:** Amun Amri, Kamrul Hasanb, Hatem Tahac, M. Mahbubur Rahmand,e, Syamsu Hermana, Andrizala, Ella Awaltanovaa, I. wantonof, Humayun Kabird, Chun-Yang Ying, Khalil Ibrahimh, Syaiful Bahria, Neni Frimayantii, Md Abul Hossaind, Zhong-Tao Jiange

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*Ceramics International*

ISSN: 0272-8842

**Publication Date:** March 2019

**Abstract:** Nanostructured thin film coatings of copper oxide (Cu-oxide) were investigated to determine their physical structure, surface morphology, surface electronic bonding states, and optical properties. The Cu-oxide had been coated onto reflective aluminum substrates via a facile one-step sol-gel dip-coating route using a copper nitrate precursor. Characterizations were conducted using X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), atomic force microscopy (AFM), field emission scanning electron microscopy (FESEM), and ultra-violet visible (UV-Vis) spectroscopic methods, and representative sol-gel reactions using copper nitrate precursor were proposed. The XPS spectra confirmed the presence of copper oxide elements. Further exploration of the Cu2p<sub>3/2</sub> peak in XPS spectra revealed that the electronic structure of the copper component consisted of tetrahedral Cu(I) and octahedral Cu (II) with the presence of octahedral Cu (II) enabling coatings to have high absorption levels across the solar spectrum. The deconvolution of the O1s spectra exhibited three curve-fitting components: the lattice O<sup>2-</sup>, surface oxygen, and subsurface O<sup>-</sup> species. FESEM results showed that the coating surface was an agglomerated copper oxide nanoparticles structure forming a porous structure. The optical band-gap of Cu-oxide thin film coatings, via the Tauc plot, was 2.7 eV.

**Keywords:** Nanostructured Cu-oxide thin film coatings Facile synthesis Porous Surface electronics

**Citation:** Amri, Amun & Hasan, Kamrul & Taha, Hatem & Rahman, M Mahbubur & Herman, Syamsu & Andrizal, & Awaltanova, Ella & wantono, I. & Kabir, Humayun & Yin, Chun-Yang & Ibrahim, Khalil & Bahri, Syaiful & Frimayanti, Neni & Hossain, Md.Abul & Jiang, Zhong-Tao. (2019). Surface structural features and optical analysis of nanostructured Cu-oxide thin film coatings coated via the sol-gel dip coating method. *Ceramics International*. 45(10), 12888-12894. <https://doi.org/10.1016/j.ceramint.2019.03.213>

## Heat assisted HPP for the inactivation of bacteria, moulds and yeasts spores in foods: Log reductions and mathematical models

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*Trends in Food Science & Technology*

ISSN: 0924-2244

**Publication Date:** March 2019

**Abstract:** Food contamination by pathogenic and spoilage spore-formers is a concern. As opposed to sterilization, spores can survive pasteurization processes. Pasteurization of foods require at least 5–6 log reduction of the key pathogenic or spoilage microorganism. Traditional thermal processing at high temperature can achieve this reduction; however, it could diminish food quality. High pressure processing (HPP) is a non-thermal food pasteurization technology used in the food industry, which is able to better retain the natural flavors and nutrients of the foods. For the inactivation of specific spore-formers the combination of HPP with heat is required: high pressure thermal processing (HPTP) or HPP-thermal.

**Keywords:** High pressure thermal processing, Spore-former, Pathogenic, Spoilage, Mathematical model

**Citation:** Evelyn, Filipa V.M. Silva. 2019. Heat assisted HPP for the inactivation of bacteria, moulds and yeasts spores in foods: Log reductions and mathematical models. *Trends in Food Science & Technology*, Volume 88, 143-156. <https://doi.org/10.1016/j.tifs.2019.03.016>

## Explaining the “Certification Gap” for Different Types of Oil Palm Smallholders in Riau Province, Indonesia

**Authors:** Sakti Hutabarat, Maja Slingerland, and Liesbeth Dries

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*Journal of Environment & Development*

**ISSN:** 1552-5465

**Publication Date:** June 25, 2019

**Abstract:** Indonesia is the world’s largest producer of palm oil, and its smallholder oil palm plantations involve more than 2.3 million farmers. The rapid expansion of the oil palm area, and resulting negative environmental and social impacts, has increased the demand for sustainability certification for palm oil products. This study investigates whether different types of smallholders face different barriers in complying with certification standards. The study uses survey data from 829 smallholders in Riau, Sumatra. First, an assessment is made of the gap between current management practices and practices required by Roundtable on Sustainable Palm Oil standards for different types of smallholders. Second, the article explores explanations for the gap between current and required practices. Finally, an investigation is made of the different starting points of different types of smallholders. Results indicate that the diversity between smallholders affects their prospects for certification. To date, this diversity in smallholders has not been taken into account in the application of Roundtable on Sustainable Palm Oil standards. This can help to explain the limited success of smallholder certifications in Indonesia.

**Keywords:** oil palm, certification, RSPO, scheme smallholders, independent smallholders

**Citation:** Sakti Hutabarat, Maja Slingerland, and Liesbeth Dries. 2019. Explaining the “Certification Gap” for Different Types of Oil Palm Smallholders in Riau Province, Indonesia. *Journal of Environment & Development*. 28(3) 253–281. <https://doi.org/10.1177%2F1070496519854505>

## New Application of Supercritical Water Gasification to Palm Oil Mill Effluent: Gasification and Phosphorus Recovery

**Authors:** Rahmat Iman Mainil dan Yukihiro Matsumura

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*Energy Fuels*

**ISSN:** Energy Fuels

**Publication Date:** October 14, 2019

**Abstract:** The simultaneous production of fuel gas and inorganic phosphorus from palm oil mill effluent (POME) in supercritical water was experimentally studied herein. A laboratory-scale continuous reactor was employed, and POME was treated in supercritical water at 500–600 °C under a pressure of 25 MPa, with a residence time of 5–50 s. The effects of temperature and residence time on the carbon yields, gas composition, and behavior of phosphorus during supercritical water gasification were examined. A reaction model was developed, and reaction rate constants for first-order kinetics were determined. The calculation was based on the model agreed well with the experimental results.

**Keywords:** Kinetic parameters, Liquids, Phosphorus, Chemical reactions, Gasification

**Citation:** Rahmat Iman Mainil dan Yukihiro Matsumura. 2019. New Application of Supercritical Water Gasification to Palm Oil Mill Effluent: Gasification and Phosphorus Recovery. *Energy Fuels*, 33(11), 11145–11152. <https://doi.org/10.1021/acs.energyfuels.9b02729>



## When plasma jet is effective for chronic wound bacteria inactivation, is it also effective for wound healing?

**Authors:** Sri Darmawati, Afiana Rohmani, Laela Hayu Nurani, Muhammad Evy Prastiyanto, Sri Sinto Dewi, Nia Salsabila, Eka Sakti Wahyuningtyas, Fri Murdiya, Isabella Meliawati Sikumbang, Ratnasari Nur Rohmah, Yun Arifatul Fatimah, Andi Widiyanto, Tatsuo Ishijima, Junko Sugama, Toshio Nakatani, N Nasruddin,

**Corresponding Author:** Fri Murdiya, Universitas Riau, Pekanbaru, Indonesia

*Clinical Plasma Medicine*

ISSN: 2212-8166

Publication Date: June 2019

**Abstract:** This investigation aimed to compare the effectiveness of two styles of plasma jet treatment (i.e., contact and non-contact styles) for two biological materials, namely, wound related bacteria and acute wounds.

**Keywords:** Plasma medicine, Bacteria, Wound, Inhibition zone, Non-contact style

**Citation:** Sri Darmawati, Afiana Rohmani, Laela Hayu Nurani, Muhammad Evy Prastiyanto, Sri Sinto Dewi, Nia Salsabila, Eka Sakti Wahyuningtyas, Fri Murdiya, Isabella Meliawati Sikumbang, Ratnasari Nur Rohmah, Yun Arifatul Fatimah, Andi Widiyanto, Tatsuo Ishijima, Junko Sugama, Toshio Nakatani, N Nasruddin, When plasma jet is effective for chronic wound bacteria inactivation, is it also effective for wound healing? *Clinical Plasma Medicine*, Volume 14, 2019, 100085. <https://doi.org/10.1016/j.cpme.2019.100085>.

## Facing the peat CO<sub>2</sub> threat: digital mapping of Indonesian peatlands—a proposed methodology and its application

**Authors:** Gábor Illés, Sigit Sutikno, Gábor Szatmári, Ari Sandhyavitri, László Pásztor, Agus Kristijono, Gábor Molnár, Muhamad Yusa & Balázs Székely

**Corresponding Author:** Gábor Szatmári

*Journal of Soils and Sediments*

ISSN: 1614-7480

**Publication Date:** Mei 2019

### **Abstract :**

**Purpose** We conducted this project to develop a feasible method for mapping tropical peat lands of Bengkalis Island—as a test site—in Indonesia. **Materials and methods** The method based on limited availability of field measurements and a wide range of remotely sensed spatial datasets like radar elevation product, MODIS, and Landsat imageries. We applied land use category based sampling to extend existing field data of peat thickness. New peat thickness data was collected by boring and simultaneous electrical resistivity tomography (ERT). Based on remotely sensed and field data sets, peat maps were compiled by simulated spatial annealing. Peat map statistics were derived after 500 runs including mean, median, minimum, maximum, and percentile values. **Results and discussion** The resulted maps represent the limiting values of expected peat thickness using 90% confidence level. Results showed that ERT is suitable for determining peat layer thickness. Using independent samples, we found that peat thickness predictions tend to overestimate peat thickness by ca. 2 m in general. **Conclusions** According to predictions, the peat volume of Bengkalis Island is estimated to be in the range of 3.28–3.58 km<sup>3</sup>.

**Keywords:** Data integration Indonesia Peat-mapping concept Probabilistic approach Sampling strategy

**Citation:** Illés, G., Sutikno, S., Szatmári, G. *et al.* Facing the peat CO<sub>2</sub> threat: digital mapping of Indonesian peatlands—a proposed methodology and its application. *J Soils Sediments* **19**, 3663–3678 (2019). <https://doi.org/10.1007/s11368-019-02328-0>

## A holistic analysis of surface, chemical bonding states and mechanical properties of sol-gel synthesized CoZn-oxide coatings complemented by finite element modeling

**Authors:** M. Mahbubur Rahman, Ella Awaltanova, Amun Amri, Mohammednoor Altarawneh, Md Abul Hossain, Xiaoli Zhao, Willey Yun Hsien Liew, Manickam Minakshi, Chun-Yang Yin

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*Ceramics International*

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**Publication Date:** 1 June 2019

**Abstract:** This article presents a comprehensive study on surface chemical bonding states, morphological features, mechanical properties, finite element modeling, and water contact angle measurements of wet chemical based dip-coated CoZn-oxide thin film coatings. Atomic force microscopy (AFM), X-ray photoelectron spectroscopy (XPS), Nanoindentation, finite element method (FEM) modeling, and drop shape analysis techniques were used to carry out the detailed measurements. AFM studies showed that the surface roughness values of all the coatings sturdily increased with the increase in sol concentrations. The gradual increase in sol concentrations and annealing temperature also had a remarkable influence over the Co—, and Zn-contents of these coatings given by XPS analysis. The deconvolution of Co  $2p_{3/2}$  photoelectron lines revealed the formation of Co(OH)<sub>2</sub>, CoO, Co<sub>2</sub>O<sub>3</sub>, and Co<sub>3</sub>O<sub>4</sub> phases from the coatings surface while low intensity satellite peaks developed due to a partial spinel lattice structure of Co-ions. The occurrence of Co<sub>3</sub>O<sub>4</sub>, CoO, and ZnO phases were also confirmed from the deconvolution of O 1s photoelectron lines. The elastic modulus,  $E$ , of CoZn-oxide thin film coating, varied within the range of 43.7–69.2 GPa was comparable with that in CoCuO thin film coatings. The maximum stress level induced was estimated to be in the range of 4.0–6.5 GPa. However, as the thickness of the coatings is increased, the maximum stress level slightly decreased. The coatings were moderately hydrophobic.

**Keywords:** Sol-gel technique, CoZn-Oxide coatings, Nanoindentation, Young's modulus, Elastic constant, Finite element method

**Citation:** M. Mahbubur Rahman, Ella Awaltanova, Amun Amri, Mohammednoor Altarawneh, Md Abul Hossain, Xiaoli Zhao, Willey Yun Hsien Liew, Manickam Minakshi, Chun-Yang Yin, Jean-Pierre Veder, Lee Siang Chuah, Zhong-Tao Jiang, A holistic analysis of surface, chemical bonding states and mechanical properties of sol-gel synthesized CoZn-oxide coatings complemented by finite element modeling, *Ceramics International*, Volume 45, Issue 8, 2019, Pages 10882–10898, <https://doi.org/10.1016/j.ceramint.2019.02.167>





## A first-principles study of the electronic, structural, and optical properties of CrN and Mo:CrN clusters

**Authors:** Khalil Ibrahim, M. Mahbubur Rahman, Hatem Taha, Syed Mahedi Hasan, Amun Amri, Humayun Kabir, Muna S. Kassim, Bouraire Ahmed, Chun-Yang Yin, Md Abul Hossain, Farid Ahmed, Mohammednoor Altarawneh, Zhong-Tao Jiang

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*Ceramics International*

ISSN: 0272-8842

**Publication Date:** 1 October 2019

**Abstract:** CrN, one of the most investigated transition metal nitrides, is noted for its wear, corrosion, and oxidation resistance. It also has many other unique chemical and mechanical properties. In the present study, we conducted a density functional theory (DFT) analysis to probe the structural, electronic, and optical properties of pristine and Mo-doped CrN structures in non-crystalline phases using different combinations in which one or two Cr and/or N atoms were substituted by Mo. This study found that the Cr<sub>4</sub>Mo<sub>2</sub>N<sub>2</sub> structure was chemically and energetically the most stable species among the six considered clusters (Cr<sub>4</sub>N<sub>4</sub>, Cr<sub>3</sub>Mo<sub>2</sub>N<sub>3</sub>, Cr<sub>4</sub>Mo<sub>2</sub>N<sub>2</sub>, Cr<sub>2</sub>Mo<sub>2</sub>N<sub>4</sub>, Cr<sub>4</sub>MoN<sub>3</sub>, and Cr<sub>3</sub>MoN<sub>4</sub>). The DFT-derived electronic structure predicted that the Cr<sub>3</sub>Mo<sub>2</sub>N<sub>3</sub> and Cr<sub>4</sub>MoN<sub>3</sub> clusters possess magnetic susceptibility. Computed infrared (IR), Raman, and ultraviolet–visible (UV–Vis) analyses indicated that the Cr<sub>4</sub>N<sub>4</sub> and Cr<sub>4</sub>Mo<sub>2</sub>N<sub>2</sub> clusters were naturally stable. This should enable these clusters to serve as light-harnessing materials for strategic applications in solar selective surfaces.

**Keywords:** CrN, Cr–Mo–N, DFT, Magnetic susceptibility, IR spectra, UV–Vis spectra

**Citation:** Khalil Ibrahim, M. Mahbubur Rahman, Hatem Taha, Syed Mahedi Hasan, Amun Amri, Humayun Kabir, Muna S. Kassim, Bouraire Ahmed, Chun-Yang Yin, Md Abul Hossain, Farid Ahmed, Mohammednoor Altarawneh, Zhong-Tao Jiang, A first-principles study of the electronic, structural, and optical properties of CrN and Mo:CrN clusters, *Ceramics International*, Volume 45, Issue 14, 2019, Pages 17094–17102. <https://doi.org/10.1016/j.ceramint.2019.05.261>.

## Effect of cooling water temperature and space between cooling pipes of post-cooling system on temperature and thermal stress in mass concrete

**Authors:** Adek Tasri, Anita Susilawati

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*Journal of Building Engineering*

ISSN: 2352-7102

**Publication Date:** July 2019

**Abstract:** Hydration heat trapped in concrete can cause cracks due to thermal stress caused by temperature gradient inside the concrete. The trapped heat can be removed by using a post-cooling system, where the concrete is cooled by running water through pipes embedded in it. However, post cooling may cause thermal stresses owing to the temperature gradient in the region adjacent to the cooling pipe. In this study, the thermal stress and temperature gradient caused by the space between the cooling pipes and cooling water temperatures of the post-cooling system are investigated numerically. Based on the concrete type, thermal properties and dimension of post cooling components used in this study, it was found that, compared to cooling water temperature, the space between the cooling pipes had a stronger effect on the distribution of temperature and thermal stress in the concrete. The increase in cooling water temperature tend to increase concrete temperature and decrease thermal stress especially in region next to cooling pipe, while the increase in distance between cooling pipe tend to increase both of concrete temperature and thermal stress near the cooling pipes. To reduce the risk of concrete cracking due to post cooling, it is not enough just to adjust the temperature of the cooling water and space between cooling pipes. The cooling water temperature, space between cooling pipe and convection coefficient from surface of cooling pipes to cooling water need to be set to obtain a temperature distribution which result a thermal stress which lower than tensile ultimate strength of the concrete.

**Keywords:** Hydration, convection coefficient, pipes embedded

**Citation:** Adek Tasri, Anita Susilawati, Effect of cooling water temperature and space between cooling pipes of post-cooling system on temperature and thermal stress in mass concrete, *Journal of Building Engineering*, Volume 24, 2019, 100731, <https://doi.org/10.1016/j.jobbe.2019.100731>.

## Effect of material of post-cooling pipes on temperature and thermal stress in mass concrete

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*Structures*

**ISSN:** 2352-0124

**Publication Date:** August 2019

**Abstract:** In this study, the effects of three different types of materials of post-cooling pipes on thermal stress and temperature gradients in mass concrete were investigated numerically. It was found that, of the three types of cooling pipe materials observed in this study, steel pipes caused the fastest cooling and the lowest concrete temperature, followed by polyethylene (PEX) and polyvinyl chloride (PVC) pipes. The temperature difference only occurs at locations less than 100 m from the cooling water inlet. The concrete temperatures obtained using a steel cooling pipe can reach temperatures 70% and 36% lower than those obtained using PVC and PEX cooling pipes, respectively. Compare to PEX and PVC cooling pipes, the steel cooling pipe can reduce the risk of cracking associated with the expansion of the core region and the shrinkage of the surface of the concrete. However, the steel cooling pipe increases the risk of cracking near the cooling pipe, where the tensile stress that occurs due to the use of steel pipes can reach values 25.3% and 12.7% higher than those occurring due to the use of PVC and PEX pipes, respectively. In high temperature regions, expansion of PEX and PVC pipes causes an increase in thermal stress, especially in the area near the cooling pipes.

**Keywords:** Post-cooling, Cooling pipe material, Mass concrete temperature, Thermal stress

**Citation:** Adek Tasri, Anita Susilawati, Effect of material of post-cooling pipes on temperature and thermal stress in mass concrete, *Structures*, Volume 20, 2019, Pages 204–212, <https://doi.org/10.1016/j.istruc.2019.03.015>.

## Device Discovery in D2D Communication: A Survey

**Authors:** O. Hayat, R. Ngah, S. Z. Mohd Hashim, M. H. Dahri, R. Firsandaya Malik and Y. Rahayu

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*IEEE Access*

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**Publication Date:** 12 September 2019

**Abstract:** Device to Device (D2D) communication was first considered in out-band to manage energy issues in the wireless sensor networks. The primary target was to secure information about system topology for successive communication. Now the D2D communication has been legitimated in in-band by the 3rd Generation Partnership Project (3GPP). To initiate D2D communication, Device Discovery (DD) is a primary task and every D2D application benefits from DD as an end to end link maintenance and data relay when the direct path is obstructed. The DD is facing new difficulties because of the mobility of the devices over static systems, and the mobility makes it more challenging for D2D communication. For in-band D2D, DD in a single cell and multi-cell, and dense area is not legitimated properly, causing latency, inaccuracy, and energy consumption. Among extensive studies on limiting energy consumption and latency, DD is one of the essential parts concentrating on access and communication. In this paper, a comprehensive survey on DD challenges, for example single cell/multi-cell and dense area DD, energy consumption during discovery, discovery delay, and discovery security, etc., has been presented to accomplish an effective paradigm of D2D networks. In order to undertake the device (user) needs, an architecture has been projected, which promises to overwhelm the various implementation challenges of DD. The paper mainly focuses on DD taxonomy and classification with an emphasis on discovery procedures and algorithms, a summary of advances and issues, and ways for potential enhancements. For ensuring a secure DD and D2D, auspicious research directions have been proposed, based on taxonomy.

**Keywords:** D2D communication, device discovery (DD), energy efficiency, discovery latency, in-band and out-band.

**Citation:** O. Hayat, R. Ngah, S. Z. Mohd Hashim, M. H. Dahri, R. Firsandaya Malik and Y. Rahayu, "Device Discovery in D2D Communication: A Survey," in *IEEE Access*, vol. 7, pp. 131114-131134, 2019, doi: <https://doi.org/10.1109/ACCESS.2019.2941138>

## Stimulating ion flow in oil palm leaves and midribs applying electrical potential difference

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*Kuwait J. Sci*

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**Abstract:** Oil palms can live for >20 years. Crop yields are affected by fertilization (a chemical aspect), growth rate and evolution (agricultural aspects), and plant health and genetic features (biological aspects). Electrical treatment (a physical aspect) can be used to enhance growth. We applied direct currents to accelerate ion flow in oil palms. Trees aged 1–4 years were subjected to potentials of 10, 16, 25, 35, or 50V. Leaf and midrib geometries and ion levels were evaluated in an attempt to optimize oil palm productivity.

**Keywords:** Direct current voltage; ion effect; nutrients for oil palms; productivity.

**Citation:** Saktioto, Suhardi, Defrianto, Dewi I. Roslim, Awitdrus. 2019. Stimulating ion flow in oil palm leaves and midribs applying electrical potential difference. *Kuwait J. Sci.* 46(1), pp 43-48.

Available at <https://journalskuwait.org/kjs/index.php/KJS/article/view/3784>

## Dysphagia and factors associated with malnutrition risk: A 5-year multicentre study

**Authors:** Vít Blanař, Manuela Hödl, Christa Lohrmann, Yufitriana Amir and Doris Eglseer

**Corresponding Author:** Yufitriana Amir

*Journal of Advanced Nursing*

**ISSN:** 1365-2648

**Publication Date:** December 2019

### **Abstract:**

**Aims:** To describe the associations between dysphagia and malnutrition risk and to identify predictors for dysphagia in a group of persons at risk of malnutrition in hospitals and nursing homes.

**Design:** A secondary analysis of cross-sectional data from the years 2012-2016.

**Methods:** The risk of malnutrition was assessed using the Malnutrition Universal Screening Tool for Adults (MUST). The data were compared regarding malnutrition risk and dysphagia. Regression analyses were conducted to identify variables that were associated with the risk of malnutrition and dysphagia.

**Results:** Patients (N = 17,580) were included in the study sample. The prevalence of dysphagia was 6.6% and the prevalence of malnutrition risk was 18.9%. A multivariable logistic regression analysis resulted in the identification of dysphagia and cancer as variables with the highest odds ratios with regard to malnutrition risk. Patients with cancer, stroke or respiratory diseases represent a high-risk group for the co-occurrence of dysphagia and risk of malnutrition.

**Conclusions:** Screening for dysphagia should be carried out on patients at risk of malnutrition as an integral part of their admission to a healthcare institution and especially on the higher risk group of patients with cancer, a stroke or a respiratory disease.

**Impact:** What problem did the study address? This study identified the relationship between dysphagia and malnutrition risk and associated factors. What were the main findings? Dysphagia among patients in the research sample was associated with more than two times higher prevalence of the malnutrition risk. Where and on whom will the research have an impact? Thorough malnutrition risk and dysphagia screening lead to better nursing care.

**Keywords:** associated factors; deglutition; determinants; dysphagia; malnutrition; nursing assessment; prevalence; risk assessment; swallowing.

**Citation:** Vít Blanař, Manuela Hödl, Christa Lohrmann, Yufitriana Amir and Doris Eglseer, 2019. Dysphagia and factors associated with malnutrition risk: A 5-year multicentre study. *Journal of Advanced Nursing*, 75(12): 3566-3576. <https://doi.org/10.1111/jan.14188>

# Cytotoxicity Of Chalcone Of *Eugenia aqua* Burm F. Leaves Against T47D Breast Cancer Cell Lines And Its Prediction As An Estrogen Receptor Antagonist Based On Pharmacophore-Molecular Dynamics Simulation

**Authors:** Muchtaridi, Muhammad Yusuf, Hasna Nur Syahidah, Anas Subarnas, Adel Zamri, Sharon D Bryant, Thierry Langer

**Corresponding Author:** Adel Zamri, Universitas Riau, Pekanbaru, Indonesia

*Advances and Applications in Bioinformatics and Chemistry*

ISSN: 1178-6949

**Publication Date:** 06 November 2019

## Abstract:

**Background:** The 2',4'-dihydroxy-6-methoxy-3,5-dimethylchalcone (ChalcEA) isolated from *Eugenia aqua* Burm f. leaves has potential anticancer activity against human breast-adenocarcinoma cell lines (MCF-7) with an IC<sub>50</sub> value of 250  $\mu$ M. However, its apoptotic activity on the T47D breast cancer cell lines which is involving caspase-3 has not been investigated.

**Materials and methods:** Therefore, this study aims to evaluate the cytotoxicity of ChalcEA on the T47D cell lines using the 2-(4-iodophenyl)-3-(4-nitrophenyl)-5-(2,4-disulfophenyl)-2H-tetrazolium (WST) method and to predict its possible antagonistic activity on the human estrogen receptor alpha (hER $\alpha$ ) using pharmacophore and molecular dynamics (MD) methods. The in vitro test of 10 synthesized ChalcEA derivatives was also performed as an insight into the further development of its structure as an anticancer agent.

**Results:** It is shown that ChalcEA has an IC<sub>50</sub> of  $142.58 \pm 4.6$   $\mu$ M against the hER $\alpha$ -overexpressed T47D breast cancer cell lines, indicating its possible mechanism of anticancer activity as an antagonist of hER $\alpha$ . Pharmacophore study showed that ChalcEA shares similar features with the known hER $\alpha$  antagonist, 4-hydroxytamoxifen (4-OHT), which has hydrogen bond donor (HBD), hydrogen bond acceptor (HBA), ring aromaticity (RA), and hydrophobicity (Hy) features. Molecular docking showed that ChalcEA formed hydrogen bonds with Glu353 and Arg394, and hydrophobic interactions in a similar manner with 4-OHT. Moreover, MD simulations showed that ChalcEA destabilized the conformation of His524, a remarkable behavior of a known hER $\alpha$  antagonist, including 4-OHT. Furthermore, the 10 best chalcone derivatives resulted from pharmacophore- and docking-based screening, were tested against the T47D cell lines. None of the derivatives have better activity than ChalcEA. It is suggested that the functional groups at the B-ring of ChalcEA are interesting to be further optimized in the next studies.

**Conclusion:** ChalcEA might act as an antagonist toward hER $\alpha$ , thus warranting further investigation as a potential anticancer agent.

**Keywords:** chalcone, estrogen receptor, pharmacophore, molecular docking, molecular dynamics

**Citation:** Muchtaridi, Muhammad Yusuf, Hasna Nur Syahidah, Anas Subarnas, Adel Zamri, Sharon D Bryant, Thierry Langer, 2019. Cytotoxicity Of Chalcone Of *Eugenia aqua* Burm F. Leaves Against T47D Breast Cancer Cell Lines And Its Prediction As An Estrogen Receptor Antagonist Based On Pharmacophore-Molecular Dynamics Simulation. *Advances and Applications in Bioinformatics and Chemistry*, 2019(12): 33-43. <https://doi.org/10.2147/AABC.S217205>



## The Roles of Network Analyses in Optimizing the Number and Locations of Fire Brigade Posts in Mitigating Peatfires

**Authors:** Ari Sandhyavitri, Sigit Sutikno, Rizki Sahputra, Rayhul Amri, Heru Widodo, Tri Handoko Seto and Rizki Ramadhan Husaini

*International Journal of Technology (IJTech)*

**ISSN:** 2086-9614

**Publication Date:** 16 Desember 2019

**Abstract:** Quick responses in managing peatfire disasters in Indonesia are one key success in mitigating and controlling the risk of peatfire disasters. The aim of this study was to simulate and identify the optimum numbers and locations of fire brigade posts for improving their response times in mitigating peatfire events in Bengkalis Island, Riau, Indonesia. Network analyses were applied in the case of peatfire events on this island. The results of this study may assist local governments and fire brigade teams in developing a strategy to manage peatfires systematically. Hence, the results may contribute to the body of knowledge as a reference in systematically controlling peatfire disasters elsewhere in the world. This study proposed five steps in the identification of appropriate locations of fire brigade posts and performs two main steps to achieve this objective: (i) evaluating existing fire brigade posts' service coverages; and (ii) developing three scenarios for simulating additions of one, two, and three posts. The results of this study improve fire brigade dispatch time performances as well as expand their service coverage areas from 40.7% to 62.4% within 60 minutes of dispatch time.

**Keywords:** Bengkalis; Brigade posts; Dispatched time; Network analyses; Optimizing; Peatfires

**Citation:** Ari Sandhyavitri, Sigit Sutikno, Rizki Sahputra, Rayhul Amri, Heru Widodo, Tri Handoko Seto and Rizki Ramadhan Husaini, 2019. The Roles of Network Analyses in Optimizing the Number and Locations of Fire Brigade Posts in Mitigating Peatfires. *International Journal of Technology (IJTech)*, 10(8): 1548-1557. <https://doi.org/10.14716/ijtech.v10i8.3398>



# G6PD genetic variations in neonatal Hyperbilirubinemia in Indonesian Deutromalay population

**Authors:** Dewi A. Wisnumurti, Yunia Sribudiani, Robert M. Porsch, Ani M. Maskoen, Sri E. Rahayuningsih, Eni K. Asni, Frank Sleutels, Wilfred F. J. van Ijcken, Abdurachman Sukadi and Tri H. Achmad

*BMC Pediatrics*

ISSN: 1471-2431

**Publication Date:** 20 December 2019

## Abstract:

**Background:** Neonatal jaundice is a common finding in newborns in Asia, including Indonesia. In some cases, the serum total bilirubin levels exceeds the 95th percentile for hours of life (neonatal hyperbilirubinemia). Severe neonatal hyperbilirubinemia (NH) could lead to kernicterus and neonatal death. Glucose-6-Phosphage Dehydrogenase (G6PD) genetic variations and deficiency have been reported in several studies to be associated with NH. This study aimed to analyze the G6PD genetic variations and its activity in neonates with and without hyperbilirubinemia in the Deutromalay Indonesian population.

**Methods:** Deoxyribose Nucleic Acid (DNA) was isolated from peripheral blood of 116 and 115 healthy term neonates with and without hyperbilirubinemia. All infants underwent the following laboratory examinations: routine hematologic evaluation, Coombs test, G6PD activity measurement using the Randox kit method, and serum total bilirubin level. All exons of the G6PD gene were targeted for deep sequencing using MiSeq (Illumina). An association study of G6PD polymorphisms with NH was performed using PLINK

**Results:** The prevalence of G6PD deficiency in neonates with and without hyperbilirubinemia in Indonesian Deutromalay population were 1.72% (95% Confidence Interval (CI): 0.6–4.1%) and 1.74% (95% CI: 0.7–4.1%), respectively. The most common G6PD polymorphisms, i. e. rs1050757/c.\* + 357A > G, rs2230037/c.1311C > T, and rs2071429/c.1365-13 T/IVS11, were identified. However, none of those polymorphisms and their haplotype were associated with NH ( $p > 0.05$ , Odds Ratio (OR) ~1.00). The prevalence of G6PD mutations in neonates with and without hyperbilirubinemia were 6.8% (95% CI: 2.3–11.5%) and 6.9% (95% CI: 2.3–11.6%), respectively. The most frequently identified G6PD mutation was the Viangchan variant (p.V291 M), which was followed by the Canton (p.R459L) and Vanua Lava (p.L128P) variants. Two novel mutations were identified both in case (p.V369A, p.I167F) and control (p. L474=, p.I36T) groups.

**Conclusion:** The prevalence of G6PD deficiency is low in neonates with or without hyperbilirubinemia in Deutromalay Indonesian population. The majority of G6PD mutations identified among Indonesian Deutromalay population in this study are Viangchan, Canton and Vanua Lava variants.

**Keywords:** Deutromalay, G6PD deficiency, Genetics variation, Neonatal Hyperbilirubinemia

**Citation:** Dewi A. Wisnumurti, Yunia Sribudiani, Robert M. Porsch, Ani M. Maskoen, Sri E. Rahayuningsih, Eni K. Asni, Frank Sleutels, Wilfred F. J. van Ijcken, Abdurachman Sukadi and Tri H. Achmad, 2019. G6PD genetic variations in neonatal Hyperbilirubinemia in Indonesian Deutromalay population. *BMC Pediatrics*, 19(506): 1-8. <https://doi.org/10.1186/s12887-019-1882-z>

## Improved Peatlands Potential for Agricultural Purposes to Support Sustainable Development in Bengkalis District, Riau Province, Indonesia

**Authors:** Almasdi Syahza, Djaimi Bakce, and Mitri Irianti

**Corresponding Author:** Almasdi Syahza, Universitas Riau, Pekanbaru, Indonesia

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 2019

**Abstract:** Bengkalis District in Riau Province, Indonesia, has potential peatlands covering 647,962.26 ha or 76.05% of its total land area. Peatlands not only have a function as direct life support, especially by providing area for agricultural purposes, but also ecological functions, such as flood and global climate control. Peatland areas will be arduous to restore if damaged. This condition certainly has negative impacts on the socio-economic aspects of the people living in the surrounding areas in particular. Sustaining the function of peatlands for the ecosystems essentially requires a detailed review of spatial feasibility and socio-economic impacts of peat swamp reclamation. Plants that have been cultivated on peatlands by the community are palm oil, rubber, coconut, coffee, and areca catechu (pinang). On wetlands, in particular, people do sago farming. One of the problems encountered in the utilization of peatlands is the low level of community participation in the development of peatland management policies. As a result, the implementation of these policies is still conflicting, prone to dispute and hard to do.

**Keywords:** peatland, pre-eminent commodity, sustainable, ecological services

**Citation:** Almasdi Syahza, Djaimi Bakce, and Mitri Irianti. 2019. Improved Peatlands Potential for Agricultural Purposes to Support Sustainable Development in Bengkalis District, Riau Province, Indonesia. *J. Phys.: Conf. Ser.* 1351 012114. <https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012114>

## Language and Ecology in Ecolinguistics Perspective: A Case Study on Tunjuk Ajar Language in Riau, Indonesia

**Authors:** Jismulatif and Dahnilsyah

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 2019

**Abstract:** This study aimed to find out the lexicon of Tunjuk Ajar language related to environment. Tunjuk Ajar is one of the variations of traditional expressions used by Melayu Riau society. It is one of the forms and language styles used especially in oral communication. This study used qualitative descriptive approach. The data were collected from the text book of Tunjuk Ajar Melayu written by Tenas Effendy. The result of the research was that Tunjuk Ajar language practice in Melayu Riau society was formed by lexicon of flora and fauna such as the hutan, keladi, padi, laut, binatang, and itik. The meanings are closely related to the cultural values, and norms of the Riau society which reflect the interrelationship between the human beings and the nature. The cultural values of the Tunjuk ajar language contain the values in education, moral ethics, and togetherness. All of these values become the orientation of each individual in Melayu Riau Society.

**Citation:** Jismulatif and Dahnilsyah. 2019. Language and Ecology in Ecolinguistics Perspective: A Case Study on Tunjuk Ajar Language in Riau, Indonesia. *J. Phys.: Conf. Ser.* 1351 012068.

<https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012068>

## A Study of Prospective Primary School Teachers' Alternatif Conception in Heat and Temperature

**Authors:** N Hermita, M Alpusari, E Noviana, O Kurniaman, A Widyanti and A Suhandi

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 2019

**Abstract:** The aim of the study was to describe of the alternative conception of prospective primary school teachers related to concept of heat and temperature. This study uses the quantitative descriptive method. This study was conducted on 34 prospective primary school teachers at one university in Riau Province who had attended the basic concepts of science course. The university is located in the coastal area of Riau province. The instrument used to collect data is a conception test in the form of true/false choices accompanied by an explanation of the answers. Based on the choice of true/false answers and explanations given by prospective elementary school teachers, the alternative conceptions they have can be determined. The results showed that there were a number of alternative conceptions owned by prospective elementary school teacher students related to the concept of heat and temperature, where some of the alternative conceptions led to a state of misconception.

**Citation:** N Hermita, M Alpusari, E Noviana, O Kurniaman, A Widyanti and A Suhandi. 2019. A Study of Prospective Primary School Teachers' Alternatif Conception in Heat and Temperature. *J. Phys.: Conf. Ser.* 1351 012072. <https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012072>

## Ecological Knowledge of Elementary School Students Through the Use of Ecoliteracy Teaching Materials in Curriculum 2013

**Authors:** E Noviana, O Kurniaman, N Salwa, N Hermita, N Afendi, Z Zufriady, Munjiatun and M Misliati

*Journal of Physics: Conference Series*

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**Publication Date:** 2019

**Abstract:** This research provides an overview of students' different knowledge about ecology in elementary schools using the 2013 curriculum developed by eco-literacy teaching materials. This research uses a quasi-experimental method with two classes consisting of an experimental class and a control class with a research subject of 37 fourth grade students at SD Negeri 181 Pekanbaru. The results of the study on students' ecological knowledge pre-test with an average experimental class of 57.2973 and control class 58.5946, then given a different treatment so that the posttest data obtained with an average experimental class 87.3514 while the control class with an average of 74.3784 seen the experimental class higher average ecological knowledge compared with the control class, to see the difference in ecological knowledge then the pre-test and posttest data were tested for differences, the results obtained by the experimental class  $0.569 > 0.05$  then  $H_0$  was accepted and  $H_a$  was rejected it can be concluded that the ecological knowledge data of students had no significant difference using teaching materials for eco-literacy in the experimental class. In the control class  $0.000 < 0.05$ , it was concluded that  $H_0$  was rejected and  $H_a$  was accepted, so there was a significant difference in the control class in the ecological knowledge of pre-test and posttest. It was concluded that the use of eco-literacy teaching materials was more effective in increasing students' ecological knowledge.

**Key Words:** ecological knowledge, eco-literacy teaching materials.

**Citation:** E Noviana, O Kurniaman, N Salwa, N Hermita, N Afendi, Z Zufriady, Munjiatun and M Misliati. 2019. Ecological Knowledge of Elementary School Students Through the Use of Ecoliteracy Teaching Materials in Curriculum 2013. *J. Phys.: Conf. Ser.* 1351 012071.

<https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012071>

## Improvement of Elementary School Critical Thinking Skills Through the POE Learning Model (Predict-Observe-Explain) on Natural Resource Material

**Authors:** N Hermita, R Dewi, M Alpusari, E Noviana, O Kurniaman, Z Antosa, I K Sari, E A Mulyani, E Elvina and E D Putra

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 2019

**Abstract:** This study aims to determine the improvement of critical thinking skills before and after applying the POE learning model (predict-observe-explain). This type of research is a Pre-Experiment type design of One Pretest-Posttest Design Group, which is an experiment conducted on one group only, without any comparison. This research was conducted in SDN 188 Pekanbaru in class IVA, which totaled 38 students. Based on the results of the study, it was found that the average score of the learning outcomes before the treatment (pretest) was 57.89 while the average score of the learning outcomes after the treatment (posttest) was 80.63 and the gain index value was 0.55 which was the medium category. This shows that the POE learning model can improve the critical thinking skills of elementary students in natural resource material.

**Key Words:** POE learning model, Natural resource material.

**Citation:** N Hermita, R Dewi, M Alpusari, E Noviana, O Kurniaman, Z Antosa, I K Sari, E A Mulyani, E Elvina and E D Putra. 2019. Improvement of Elementary School Critical Thinking Skills Through the POE Learning Model (Predict-Observe-Explain) on Natural Resource Material. *J. Phys.: Conf. Ser.* 1351 012076. <https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012076>

## Improving Science Learning Outcomes of Elementary Students by Using Interactive Multimedia on Human Order Materials

**Authors:** M Qistina, N Hermita, M Alpusari, E Noviana, Z Antosa, G Witri, M. Munjiatun and A Indarni

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 2019

**Abstract:** This study aims to improve the learning outcomes of elementary school science students by using interactive multimedia on human skeleton material. This interactive multimedia is a learning media product in the form of an interactive CD. Based on information obtained by researchers that the lack of enthusiasm of students in science subjects, because students do not have a real picture of how the material process is explained. Therefore, this media is very important to support the learning process of science. The method used in this study uses the Research and Development (R&D) method with the 4D model which has 4 stages of development namely define, design, development, and disseminate. The results of the use of interactive multimedia on students showed that the average pretest score was 57.33 while the average posttest score was 84.17. Based on N-Gain of 0.60 in the medium category and it can be said that the effectiveness of interactive multimedia as a learning medium is classified as effective. Based on these results, it can be concluded that there is an increase in science learning outcomes for students of SDN 034 Taraibangun class IV using interactive multimedia on human skeleton material.

**Key Words:** Interactive Multimedia, Improving Science Learning Outcomes.

**Citation:** M Qistina, N Hermita, M Alpusari, E Noviana, Z Antosa, G Witri, M. Munjiatun and A Indarni. 2019. Improving Science Learning Outcomes of Elementary Students by Using Interactive Multimedia on Human Order Materials. *J. Phys.: Conf. Ser.* 1351 012075.

<https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012075>

## The Effects of Different Activation Agents on the Physical and Electrochemical Properties of Carbon Electrodes Produced from Banana Stem Fiber

**Authors:** E Taer, D A Yusra, Apriwandi, Awitdrus, R Taslim and Agustino

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 2019

**Abstract:** This study focuses on the effects of chemical activation materials on the physical and electrochemical properties of carbon electrodes made from banana stem fiber. The carbon electrodes were activated with different activators such as KOH, NaOH and ZnCl<sub>2</sub> at a constant concentration of 0.5 M. Also, the electrodes were carbonized at a temperature of 550°C followed by a physical activation process using CO<sub>2</sub> at 900°C for 2.5 hour, after which the density, surface morphology, element contents, degree of crystallinity and surface area of carbon electrodes were analyzed. In general, the activator used determines both the physical and electrochemical properties of the electrodes. Also, activating materials have the capacity to improve the physical properties of the samples as well as increase its specific capacitance. According to this research, AC-ZnCl<sub>2</sub> shows better physical and electrochemical properties having a specific capacitance as high as 130 F g<sup>-1</sup>.

**Citation:** E Taer, D A Yusra, Apriwandi, Awitdrus, R Taslim and Agustino. 2019. The Effects of Different Activation Agents on the Physical and Electrochemical Properties of Carbon Electrodes Produced from Banana Stem Fiber. *J. Phys.: Conf. Ser.* 1351 012002.  
<https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012002>



## **Application of Probiotic that are in Isolation From Giant Prawns and Black Tiger Shrimps on the Leukocytes of Nile Tilapia (*Oreochromis niloticus*) Infected by *Streptococcus. Iniae***

**Authors:** Iesje Lukistyowati, F. Feliatra and Adelina Adelina

*International Journal of Oceans and Oceanography*

**ISSN:** 0973-2667

**Publication Date:** 2019

**Abstract:** Streptococcosis is a common disease found in the cultivation of Nile tilapia, mainly caused by *Streptococcus iniae*. It is necessary to find relatively safer means of protection, one of which is using probiotics. Probiotics given to fish may improve the non-specific immune system so as to improve the fish health. This study aims to determine the effects of probiotics derived from the digestive tract of giant prawns (*Macrobrachium rosenbergii* De MAN) and black tiger shrimps (*Penaeus monodon*) sprayed on the feed on the leukocytes and the survival rates of Nile tilapia. This study employed experimental method by using a completely randomized design (CRD) with 5 treatment levels and 3 repetitions. The treatments included P0 (nile tilapia not given probiotics), P1 (giving *Bacillus* sp probiotics G4 isolate), P2 (giving *Bacillus* sp isolate combined from giant prawns G1+G2+G3+G4+G5), P3 (giving *Bacillus* sp probiotics W9 isolate) and P4 (giving *Bacillus* sp probiotics, a combined isolate of black tiger shrimps tiger shrimps W1+W2+W8+W9+W10). As much as 105 CFU/ml probiotics was sprayed on every 15ml/kg feed during the treatments. The results showed that the provision of *Bacillus* sp probiotics from both giant prawns and black tiger shrimps improved the health of Nile tilapia as seen from the differentiation of leukocytes and survival rates. The best treatment was found in P3 (isolate W9) after being infected with *Streptococcus iniae* with leukocytes reaching  $83.00 \times 10^3$  cell/mm<sup>3</sup>, lymphocytes 89.67%, monocytes 10.33%, neutrophils 10% and survival rates 80.00%. Conclusion: The addition of probiotics derived from the digestive tract of giant prawns (*M. rosenbergii* De Man) and black tiger shrimps (*P. monodon*) on feed given for 30 days manages to suppress the pathogenicity of *Streptococcus iniae*, increase the immune response of Nile tilapia (*O. niloticus*) and reduce fish mortality due to *Streptococcus iniae* infection.

**Keywords:** Leukocytes, Probiotic, *Bacillus* sp, *Oreochromis niloticus*, *Streptococcus iniae*.

**Citation:** Iesje Lukistyowati, F. Feliatra and Adelina Adelina. 2019. Application of Probiotic that are in Isolation From Giant Prawns and Black Tiger Shrimps on the Leukocytes of Nile Tilapia (*Oreochromis niloticus*) Infected by *Streptococcus*. *International Journal of Oceans and Oceanography*, 13(2), 309-324. Available at [http://www.ripublication.com/ijoo19/ijoo1913n2\\_06.pdf](http://www.ripublication.com/ijoo19/ijoo1913n2_06.pdf)

## Support vector machine for omega 3 classification based on histogram equalization

**Authors:** Febri Liantoni, Agus Adi Santoso, Santirianingrum Soebandhi, Danner Sagala, Rosanita Tritias Utami, Ricardo Freedom Nanuru, Muhammad Asfar, sonny kristianto, Hardi, Teguh Trianton, Rinandita Wikansari, Listian Indriyani Achmad, Dian Utami Sutiksno, Fatimah, Rahmat Hidayat, Ety Youhanita, Pramita Laksitarahmi Isrianto, Eka Maya Sari Siswi Ciptaningsih, Eka Zuliana, Sulfikar Sallu, Chairuddin, Cahya Fajar Budi Hartanto, Fathimah, Dahlia Andayani, Mita Rosaliza, Aria Hendrawan, Rustam, Andi Dian Angriani, Sri Wahyuni and Arjulanaya

**Journal of Physics: Conference Series**

**ISSN:** 1742-6588

**Publication Date:** 2019

**Abstract:** Eggs are one of the animal food ingredients consumed in addition to meat, fish, and milk. But now the engineered eggs have emerged that have a higher nutritional value, namely eggs that contain omega-3. The distinguishing part is omega-3 egg yolks rather yellow while ordinary egg yolks are more reddish. The purpose of this research was to classify eggs based on texture using the support vector machine method. To find out the value of egg texture using extraction of first-order statistical features. Based on the results of the testing of this research obtained an accuracy rate of 88.75% based on 120 training data and 80 test data.

**Citation:** Febri Liantoni, Agus Adi Santoso, Santirianingrum Soebandhi, Danner Sagala, Rosanita Tritias Utami, Ricardo Freedom Nanuru, Muhammad Asfar, sonny kristianto, Hardi, Teguh Trianton, Rinandita Wikansari, Listian Indriyani Achmad, Dian Utami Sutiksno, Fatimah, Rahmat Hidayat, Ety Youhanita, Pramita Laksitarahmi Isrianto, Eka Maya Sari Siswi Ciptaningsih, Eka Zuliana, Sulfikar Sallu, Chairuddin, Cahya Fajar Budi Hartanto, Fathimah, Dahlia Andayani, Mita Rosaliza, Aria Hendrawan, Rustam, Andi Dian Angriani, Sri Wahyuni and Arjulanaya. 2019. Support vector machine for omega 3 classification based on histogram equalization. *J. Phys.: Conf. Ser.* 1175 012113. <https://iopscience.iop.org/article/10.1088/1742-6596/1175/1/012113>

## Analysis of Media Literacy Levels of Palm Oil Farmers in Riau Province, Indonesia

**Authors:** Roza Yulida, Rosnita Rosnita, Eri Sayamar, Yeni Kusumawaty, Yulia Andriani

*Asian Social Science*

**ISSN:** 1911-2025

**Publication Date:** 2019

**Abstract:** Oil palm plantations are a potential commodity of Riau Province and the highest contributor to palm oil production in Indonesia. The development of agricultural science and technology, which is disseminated through various media, is a source of information for farmers. However, the availability of information sources does not guarantee that farmers will benefit from the information. This is influenced by media literacy from these farmers. This research aimed at analyzing the media's literacy of oil palm farmers. The research was conducted in three districts with potential oil palm at Riau Province. They are Pelalawan District, Rokan Hilir District and Rokan Hulu District. The respondents of oil palm farmers were 185 farmers, which were selected by stratified random sampling. This research applied Likert Summated Rating Scale (LSRS) method. The results of this research are: The literacy level of oil palm farmers is in the medium level (average score of 1.72), while for three aspects which are technical skill and critical understanding are in the medium level and communication skill is basic level. Role of government and related parties are needed to help improve the literacy level of oil palm farmers. This is necessary so that the farmers together with extension workers, will be ready to face the challenge of the development of science and technology in the oil palm industry, by utilizing the development of information and communication technologies such as smartphones.

**Keywords:** media literacy, communication, oil palm farmer

**Citation:** Roza Yulida, Rosnita Rosnita, Eri Sayamar, Yeni Kusumawaty, Yulia Andriani. 2019. Analysis of Media Literacy Levels of Palm Oil Farmers in Riau Province, Indonesia. *Asian Social Science*, 15(11), 48-59. Available at <http://www.ccsenet.org/journal/index.php/ass/article/view/0/41058>

## Raman amplifier performance in pre-amplifier use for optical fiber communication systems

**Authors:** T. Saktioto, S. P. Dewi, R. F. Syahputra, Okfalisa Okfalisa, Syamsudhuha Syamsudhuha

*Telekomnika*

**ISSN:** 1693-6930

**Publication Date:** 2019

**Abstract:** The development of telecommunications networks is currently dominated by fiber optics. The fiber optic has become a waveguide medium transmitting information with high frequency bands, high capacity and high speed. An optical amplifier is required to maintain electromagnetic signals when they propagate in far distance. One of the amplifiers, Fiber Raman Amplifiers (FRA) which is the light scattering from the light that comes with the phonon in the lattice of amplification medium produces photons that are coherent with the incoming photons. Many amplifiers are commonly used but the problems not only come from the amplifier but also the component circuit and system. By simulation method, FRA circuit is designed and operated in the form of pre-amplifiers to maintain a better signal from material interference and geometry. The simulation results show that the lowest BER value and the highest Q-factor are found at a distance of 10km depicted by eye diagram.

**Keywords:** fiber optics; fiber Raman amplifiers; optical amplifiers; optics

**Citation:** T. Saktioto, S. P. Dewi, R. F. Syahputra, Okfalisa Okfalisa, Syamsudhuha Syamsudhuha. 2019. Raman amplifier performance in pre-amplifier use for optical fiber communication systems.

*Telekomnika*, 17(5), 2194-2199. Available at

<http://journal.uad.ac.id/index.php/TELKOMNIKA/article/view/12594>

## International Journal of Algebra

### Direct Product in BG-Algebras

**Authors:** Slamet Widiyanto, Sri Gemawati, and Kartini

*International Journal of Algebra*

**Publication Date:** 2019

**Abstract:** In this paper, we introduce the notion of direct product in BG-algebras and some related properties. Also, we introduce the notion about BG-homomorphism of direct product in BG-algebras and we obtain some of its properties.

**Keywords:** BG-algebras, direct product, BG-homomorphism

**Citation:** Slamet Widiyanto, Sri Gemawati, and Kartini. 2019. Direct Product in BG-Algebras. *International Journal of Algebra*, 13(5), 239-247. Available at <http://www.m-hikari.com/ija/ija-2019/ija-5-8-2019/p/widiyantoIJA5-8-2019.pdf>



## Improving the Quality of Learning through the Self-Directed Learning Model

**Authors:** Suarman, Sumarno

*International Journal of Innovation, Creativity and Change*

**ISSN:** 2201-1323

**Publication Date:** 2019

**Abstract:** An important factor in determining the quality of learning is the teacher, namely the teacher's skills in using teaching strategies or models. This research aims to analyse the improvement of the quality of learning in the application of the self-directed learning model in the lecture material of learning assessment. This study uses a descriptive statistical approach, and the classroom action research model of Kemmis and Taggart (1988). The subjects of this study were students who took the learning assessment course in the Economic Education Study Program at a public university in Riau, Indonesia, and the data were collected through tests and observations. The data were analysed with descriptive statistics, and then the results of the analysis were compared with indicators of performance achievement. The results showed that there was an increase in the quality of learning observed in the activities of lecturers and students in cycles I and II. From the results of this study, it can be concluded that the use of self-directed learning models can improve the quality of learning, both from the perspective of the lecturer and from that of students. It is recommended to lecturers and teachers to improve the quality of learning through the model of self-directed learning by adjusting the learning objectives.

**Keywords:** Learning quality, instructional model, self-directed learning

**Citation:** Suarman, Sumarno. 2019. Improving the Quality of Learning through the Self-Directed Learning Model. *International Journal of Innovation, Creativity and Change*, 10(2), 253-264. Available at [https://www.ijicc.net/images/vol10iss2/10225\\_Suarman\\_2019\\_E\\_R.pdf](https://www.ijicc.net/images/vol10iss2/10225_Suarman_2019_E_R.pdf)

## Improving the Quality of Learning through the Self-Directed Learning Model

**Authors:** Syafri HARTO

*Journal of Environmental Management and Tourism*

ISSN: 2068-7729

**Publication Date:** 2019

**Abstract:** The objectives of the study are to develop communication model for developing tourist potentials in Solop Beach, Indragiri Hilir, Riau, and to analyze both public and government participation on tourist management in Solop Beach, Indragiri Hilir, Riau.

The setting of the study was Solop Beach located in Indragiri Hilir, Riau. It used descriptive qualitative method in which interview and field observations were the data collection methods. The populations were people living around Solop Beach, Indragiri Hilir, Riau. The total population was 800 families. The number of sample was 100 people. The sampling technique was non-probability sampling. Primary data referred to information obtained from the interviews and field-observation in Solop Beach while secondary data, additional information that complemented the primary data, referred to the theories from relevant literatures as well as findings of previous studies and documents obtained from the Department of Tourism, National Statistics Bureau and Bappeda of Indragiri Hilir.

Transactional model of communication and knowledge-sharing are two channels of communication Department of Tourism of Indragiri Hilir used to develop tourist potentials in Solop Beach, Indragiri Hilir, Riau. The most frequent line of communication in the models are interpersonal, group and public communication. Roles of the regional government in Solop Beach are providing infrastructure and public facilities, promotion and involving the locals in program of which purpose is to develop tourism sector in Beach. The beach needs better public facilities because of growing number of visitors. The locals take active participation in government programs to develop tourism sector in this beach. They join “sadar wisata” community group and attend training on tourism the regional government conducts.

**Citation:** Syafri HARTO. 2019. Improving the Quality of Learning through the Self-Directed Learning Model. *Journal of Environmental Management and Tourism*, 10(2), 464-473. Available at <https://journals.aserspublishing.eu/jemt/article/view/3358>



## Constructions of the Norms and Values of ASEAN towards Drug Trafficking in Southeast Asia

**Authors:** Rendi Prayudaa, M. Arsy Ash Shiddiqyb, Rio Sundaric, Tito Handoko

*International Journal of Innovation, Creativity and Change*

**ISSN:** 2201-1323

**Publication Date:** 2019

**Abstract:** This paper aims to express the norms and values of ASEAN regarding drug trafficking in Southeast Asia. Narcotics are one of the greatest threats to human security in Southeast Asia. Drug trends and patterns have always moved and have bad effects on human security in Southeast Asia. The research method used was a qualitative approach. This research used a constructivist approach with the theory of International Regime by Hansenclaver. By examining the literature on ASEAN and transnational crime, this paper includes the construction norms and values of ASEAN regarding drug trafficking. The results shows that the construction norms and values of ASEAN are to provide a common perception for all ASEAN members in countries related to drug trafficking. This is because it is a common security threat in the region. By negotiating factors in ASEAN, members scope it by building an integrity pact through the ASEAN Spirit and ASEAN Way. They also negotiate law enforcement factors in every state.

**Keywords:** constructivism, ASEAN, narcotics and securities

**Citation:** Rendi Prayudaa, M. Arsy Ash Shiddiqyb, Rio Sundaric, Tito Handoko. 2019. Constructions of the Norms and Values of ASEAN towards Drug Trafficking in Southeast Asia. *International Journal of Innovation, Creativity and Change*, 10(3), 268-283. Available at [https://www.ijicc.net/images/vol10iss3/10325\\_Prayuda\\_2019\\_E\\_R.pdf](https://www.ijicc.net/images/vol10iss3/10325_Prayuda_2019_E_R.pdf)





## Study the Position of Husband and Wife in Marriage Based on Customary Law in Kampar

**Authors:** Ulfia Hasanah, Davit Rahmadan, Hayatul ismi

**International Journal of Innovation, Creativity and Change**

**ISSN:** 2201-1323

**Publication Date:** 2019

**Abstract:** One form of traditional marriage in Indonesia, is like one carried out by the Kampar community in the village of Alam Panjang, Rumbio District. This area adheres to the Matrilineal Kinship System, so that marriages conducted by the community must also follow the matrilineal kinship system. The Matrilineal kinship system apparently also affects the position of husband and wife in marriage, both related to rights and obligations in the household. The type of research that will be used is empirical legal research which is a legal research method, functions to see the law in the real sense and examine how the law works in society. The research focuses on legal identification. The purpose of this study is to look for detailed factual information that is holding hostages to the symptoms. In this case, it is the relationship of the Position of Husband and Wife in Marriage according to Kampar Customary Law. It is known that based on Islamic law, the relationship of husband and wife in a household, is that the husband has rights and so does the wife. Behind that the husband has several obligations. The existence of rights and obligations between husband and wife in domestic life can be seen in several verses of the Qur'an and some hadiths. The wife's obligation is the rights of the husband. This verse implies the rights and position of the wife, such as equal or balanced with the rights and position of the husband. And the position of husband and wife in the customary Kampar, is known because Kampar adheres to the matrilineal system. A marriage must be of different ethnicity. So, as a result of these ethnic differences, if there are problems on the part of men, traditionally the women cannot intervene, and vice versa. When men as Limbago or Urang Sumondo, men cannot interfere because they are only migrants at the women's house.

**Keywords:** constructivism, ASEAN, narcotics and securities

**Citation:** Ulfia Hasanah, Davit Rahmadan, Hayatul ismi. 2019. Study the Position of Husband and Wife in Marriage Based on Customary Law in Kampar. *International Journal of Innovation, Creativity and Change*, 10(4), 246-259. Available at [https://www.ijicc.net/images/Vol10iss4/10409\\_Hasanah\\_2019\\_E\\_R.pdf](https://www.ijicc.net/images/Vol10iss4/10409_Hasanah_2019_E_R.pdf)

## Improving Mathematical Communication Skills of SMP Students Through Contextual Learning

**Authors:** N M Hutapea, S Saragih and Sakur

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 2019

**Abstract:** Mathematical communication skills (MCSs) are necessary skills for everyone to face lots of challenges in life. With these skills, mathematical ideas can be exploited in various perspectives. At the same time, students' thinking can be sharpened, consolidated and organized. Their growth can be measured; their mathematical knowledge and development can be constructed; students' reasoning can be improved, and their communication can be formed. In fact, students' MCSs have not developed well. Contextual learning (CL) is expected to trigger the development of students' MCSs. The study aims to examine the improvement of students' MCSs through the CL. This study used quasi experiment with pretest and posttest control group design. This study used a set of MCSs tests. Data were analyzed by two-line Anava. The results show that there is an increase in students' MCSs through CL which is higher than conventional learning (CVL); overall:  $0.81 > 0.68$ , school category:  $0.87 > 0.76$  (above),  $0.74 > 0.60$  (middle); the increase, both overall and the upper level through CL are high, but moderate through CVL. While at the middle level, both CL and CVL are moderate; and there is a significant interaction effect between learning and school level on improving students' MCSs.

**Keywords:** contextual learning, improvement, Mathematical communication skills

**Citation:** N M Hutapea, S Saragih and Sakur. 2019. Improving Mathematical Communication Skills of SMP Students Through Contextual Learning. *J. Phys.: Conf. Ser.* 1351 012067.

<https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012067>

## Hydrolytic enzymes-producing ability of species of actinomycetes and bacteria associated with wilted banana plants (*Musa* sp.)

**Authors:** Ardhi A, Ahmad KC, Novrianti H, Husna EY, Yulis M, Pratiwi NW, Saryono

*Biodiversitas*

ISSN: 2085-4722

**Publication Date:** 2019

**Abstract:** Banana plants contain many nutrients that enable microbes to grow and attack them, causing wilting disease. Microbes growing on the stumps and soil around banana plants are believed to have the ability to produce hydrolytic enzymes. The purpose of this study was to determine the ability of actinomycetes and bacteria isolated from the stumps and soil of wilted banana plants in producing hydrolytic enzymes, namely cellulase, inulinase, amylase, and protease. The confirmation tests of hydrolytic enzymes-producing ability were conducted by inoculating the microbes into media containing CMC, inulin, starch, and skim milk, using the method of paper disc diffusion. From the subculture results, there were 18 isolates of actinomycetes which have been identified as *Nocardia*, *Actinobiospora*, *Nocardiopsis*, *Streptomyces*, *Streptoverticillium*, *Streptosporangium*, and *Microbiospora*, as well as 40 bacterial isolates with 9 genera of bacteria, namely *Xanthomonas*, *Erwinia*, *Pseudomonas*, *Proteus*, *Ralstonia*, *Escherichia*, *Staphylococcus*, *Caulobacter*, and *Neisseria*, were found. As many as 8 actinomycetes and 40 bacterial isolates indicated the ability to degrade amylum, 39 bacterial and 18 actinomycetes isolates could degrade cellulose, 34 bacterial and 13 actinomycetes isolates could degrade inulin. The highest cellulase ratio was shown by *Nocardia* sp. LBKURCC101 (3.43) and *Ralstonia* sp. LBKURCC112 (3.90). The actinomycetes isolate of *Nocardia* sp. LBKURCC104 and bacteria *Pseudomonas* sp. LBKURCC133 gave the highest inulinase ratio of 3.36 and 3.47 respectively. In selective amylase media, the highest ratio of 3.10 and 3.80 was found in actinomycetes *Nocardia* sp. LBKURCC104 and bacteria *Erwinia* sp. LBKURCC125.

**Keywords:** contextual learning, improvement, Mathematical communication skills

**Citation:** Ardhi A, Ahmad KC, Novrianti H, Husna EY, Yulis M, Pratiwi NW, Saryono. 2019.

Hydrolytic enzymes-producing ability of species of actinomycetes and bacteria associated with wilted banana plants (*Musa* sp.). *Biodiversitas* 20: 1147-1153. Available at

<https://smujo.id/biodiv/article/view/3780>

## Role Of Bank In Keeping Environmental Awareness Values In Pangkalan Indarung Village District Kuantan Singingi

**Authors:** Supentri, Yuliantoro

*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** 2019

**Abstract:** Environment has a role on humans, if humans do not allow it then the environment will be a problem for humans themselves, such as environmental damage that occurs in humans. The fact that occurs in the field that the river has changed many functions as we see in observational data, that Riau Province which has 12 regencies and cities, has the same problem of environmental damage, such as river flow that changes functions so that it causes drought in the dry season and flood in the season rain. So far there has been a strong ban on protecting environmentally conscious values. The role of lubuk ban becomes a model in maintaining clean and clear river flow so that it becomes a source of livelihood for the community but also plays a role in protecting local fish that have started to become extinct, becomes a model in protecting the social environment (social sanctions), besides that it is no less important play a role in maintaining trees along the river as a form of greening and the last is an economic source for the community because of the tourism that is visited by visitors who are a source of income for the community while the role in education as a study material in school learning.

**Keywords:** Lubuk Larangan, Value, Environment, Role, Awareness, Keeping, Pangkalan Indarung.

**Citation:** Supentri, Yuliantoro. 2019. Role Of Bank In Keeping Environmental Awareness Values In Pangkalan Indarung Village District Kuantan Singingi. *International Journal of Scientific & Technology Research*, 8(12): 1200-1202. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1219-25859>

## Analysis On Factors Affecting Performance Of Village-Owned Enterprises (Bumdes) Administrator With Commitment As Moderator Variables In Kampar District

**Authors:** Susi Hendriani, Yulia Efni, Ezky Tiyasiningsih

*International Journal of Scientific & Technology Research*

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**Publication Date:** 2019

**Abstract:** Based on Kampar Regency Regulation Number 14 of 2007 concerning the establishment of Village Owned Enterprises (BUMDes) in Kampar Regency (Kampar Regency Regional Gazette of 2007 Number 14). This is a special concern for Kampar District Government. Through a substantial village fund released by the government, the Village Owned Enterprises (BUMDes), which is one of the engines of the economy, must be optimized. This certainly can increase development and economic growth quickly and evenly in the Kampar Regency. Private sector participation in development and enhancing economic growth through partnership patterns greatly assist government efforts in dealing with strategic problems faced by the government, 'BUMDes as a driver of the rural economy has an important and very large function for the people's economy. But in fact the Kampar Regency based on the index value of building villages is still very low when compared to other regions in Riau Province, this is certainly because the development of each village is certainly not the same. BUMDes operational activities often face obstacles, such as problems in terms of management systems that are not good and the quality of human resources is still low. The main problem that is often faced by BUMDes is that the quality of human resources is still low due to their very low competency. BUMDes manager performance will greatly affect the condition of BUMDes. One way to improve the performance of managers can be done through increased competence. The importance of competence in improving the performance of BUMDes managers because this can have a significant influence on the performance of managers of BUMDes, means that having good competencies that they have will provide an increase in the performance of BUMDes.

**Keywords:** Recruitment, Selection, Trainning, Competition, Performance.

**Citation:** Susi Hendriani, Yulia Efni, Ezky Tiyasiningsih. 2019. Analysis On Factors Affecting Performance Of Village-Owned Enterprises (Bumdes) Administrator With Commitment As Moderator Variables In Kampar District. *International Journal of Scientific & Technology Research*, 8(11): 443-452. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1119-24711>



## Why Do Primary School Students Need Disaster Mitigation Knowledge? (Study Of The Use Of Koase Comics In Primary Schools)

**Authors:** Eddy Noviana, Otang Kurniaman, Munjiatun, Nugraheti Sismulyasih Sb, Sri Dewi Nirmala

*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** 2019

**Abstract:** Disaster mitigation learning is preliminary knowledge in detecting disasters in Indonesia, for that it needs KOASE comic media as an alternative learning media. The research method uses a quasi-experiment with a one-group pretest-posttest design with a sample of 72 primary school students, data collection techniques by doing pretest and posttest which are analyzed using the formula of learning outcomes, after getting categorized according to student knowledge. The results of research on pretest disaster mitigation knowledge data 60.30 with sufficient categories, and 79.70 posttest data with good categories while to see improvement using N-Gain with an average of 0.42 with intermediate categories. So it can be concluded that the use of KOASE comic media in disaster mitigation learning can improve student knowledge outcomes about disaster mitigation.

**Keywords:** disaster mitigation knowledge, KOASE comics.

**Citation:** Eddy Noviana, Otang Kurniaman, Munjiatun, Nugraheti Sismulyasih Sb, Sri Dewi Nirmala. 2019. Why Do Primary School Students Need Disaster Mitigation Knowledge? (Study Of The Use Of Koase Comics In Primary Schools). *International Journal of Scientific & Technology Research*, 8(11): 216-221. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1119-25126>

## Investigating Concept Progression Of Prospective Primary School Teachers In Indonesia

**Authors:** Neni Hermita, Otang Kurniaman, Eddy Noviana, Adam Malik, Chaerul Rochman and Andi Suhandi

*International Journal of Scientific & Technology Research*

ISSN: 2277-8616

**Publication Date:** 2019

**Abstract:** The aim of this study is to investigate the learning progression that occurs in pre-service primary students during Visual Multimedia Supported Conceptual Change Text (VMMSCText) activity about battery function in the electrical circuit. VMMSCText is a conceptual change text supported by visual multimedia developed for the purpose of remediation of misconceptions through text mode. The method used in this research is mixed method (quantitative descriptive and qualitative). The study was conducted on 118 subjects of pre-service primary students in Pendidikan Guru Sekolah Dasar program at FKIP Universitas Riau Indonesia. Learning progression describes a change of conception from the initial state to the state of the process and then to the final state of the VMMSCText activity. Analysis of student worksheets and conception tests has been used to diagnose the state of conception in each of these circumstances. Learning progression consists of four types, namely 1) Type I, consistent with scientific conception; 2) Type II, progressing well; 3) Type III, not progression; and 4) Type IV, degradation. The results showed that during VMMSCText activities most of the subjects were in well-progressed types (81.25 %) and almost half of the subjects were still in non-progressed types (12.25 %). No subject is in the consistent with scientific conception type and type of degradation. The results of this study indicate that developed VMMSCText is good enough in facilitating the learning progression of students in order to change the conception of the condition of misconception and lack of knowledge to the condition of scientific conception.

**Keywords:** VMMSCText, learning progression, prospective primary school teachers, battery function in the circuit concept.

**Citation:** Neni Hermita, Otang Kurniaman, Eddy Noviana, Adam Malik, Chaerul Rochman and Andi Suhandi. 2019. Investigating Concept Progression Of Prospective Primary School Teachers In Indonesia. *International Journal of Scientific & Technology Research*, 8(12): 1368-1371. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1219-26102>



## Isolation and molecular identification of carbohydrase and protease producing *Bacillus subtilis* JCM 1465 isolated from Penen Hot Springs in North Sumatra, Indonesia

**Authors:** Fachrial E, Anggraini S, Harmileni, Nugroho TT, Saryono

*Biodiversitas*

ISSN: 2085-4722

**Publication Date:** 2019

**Abstract:** The application of enzymes industrially is increasing every year and thermophilic microbes are a promising source of these enzymes for industrial use due to their temperature stability. The aim of this study, therefore, was to isolate, characterize and identify the enzyme producer-thermophilic bacteria from the Penen Hot Spring in Deli Serdang, North Sumatra, Indonesia. In the experimental setup, carbohydrase activities including inulinase and amylase were determined by the formation of clear zone around the colonies after soaking with Lugol on the TSA medium supplemented with 1% inulin powder and 1% starch. Similarly, the protease activities were determined by the formation of clear zone around the colonies on Skim Milk Agar Medium. Then, of the 11 isolates, only one known as UTMP 12 showed maximum enzyme activity. The isolate was then characterized based on morphology and biochemistry and found to be *Bacillus subtilis* strain JCM 1465 (accession number NR\_113265, homolog 99.72%). Furthermore, this is the first study on carbohydrase and protease activities of *Bacillus subtilis* strain JCM 1465 and the result shows that the thermophilic bacteria are needed in the production of carbohydrase and protease.

**Keywords:** Carbohydrase, hot spring, protease, thermophilic bacteria

**Citation:** Fachrial E, Anggraini S, Harmileni, Nugroho TT, Saryono. 2019. Isolation and molecular identification of carbohydrase and protease producing *Bacillus subtilis* JCM 1465 isolated from Penen Hot Springs in North Sumatra, Indonesia. *Biodiversitas* 20: 3493-3498. Available at <https://smujo.id/biodiv/article/view/4543>



## 3-(3,4-Dimethoxyphenyl)-5-(2-fluorophenyl)-1-phenyl-4,5-dihydro-1H-pyrazole

**Authors:** Adel Zamri, Hilwan Y. Teruna, Sri Wulansari, Noval Herfindo, Neni Frimayanti, and Ihsan Ikhtiarudin

*Molbank*

**ISSN:** 1422-8599

**Publication Date:** 2019

**Abstract:** A new analogue of fluorinated pyrazoline (compound 1) has been synthesized via one-pot three-component reaction in a sealed-vessel reactor, Monowave 50. The structure of compound 1 has been established by spectroscopy analysis, including UV, FT-IR, HRMS, <sup>1</sup>H and <sup>13</sup>C NMR spectroscopy. Based on the in silico studies, this compound showed a good potential as an inhibitor for dengue virus type 2 (DEN2) NS2B/NS3 serine protease and can be used as a reference in the next design of an antidengue virus.

**Keywords:** fluorinated pyrazolines; in silico study; sealed-vessel reactor; Monowave 50; one-pot three-component reaction; DEN2 NS2B/NS3 protease

**Citation:** Adel Zamri, Hilwan Y. Teruna, Sri Wulansari, Noval Herfindo, Neni Frimayanti, and Ihsan Ikhtiarudin. 2019. 3-(3,4-Dimethoxyphenyl)-5-(2-fluorophenyl)-1-phenyl-4,5-dihydro-1H-pyrazole. *Molbank*, 4: 2-8. Available at <https://www.mdpi.com/1422-8599/2019/4/M1088/html>

## Use Of Pesticides For Household Pest Control In Pekanbaru City

**Authors:** Agus Sutikno, Aslim Rasyad, Bintal Amin And Radit Mahatma

*EM International*

**ISSN:** 0257–8050

**Publication Date:** 2019

**Abstract:** The use of household insecticides provides several benefits, however, inadequate doses, improper methods, and usage over a long period have negative impacts such as poisoning, on human health and the environment. Exposure of humans to pesticides and its accumulation in the body cause different health problems such as fetal congenital disorder, defects in children, cancer, asthma, allergies (sensitive to chemicals), acceleration of bone calcification, hypertension (high blood pressure), influence on reproduction, carcinogenesis, and Parkinsonâ€™s. The aim of this study was to analyze the use of pesticides for household pest control. The research was descriptive because it was used to explain, detail and make a description of symptoms of the object under study. The population was households in Pekanbaru City including the Districts of Tenayan Raya and Sail, and purposive with multistage sampling techniques (gradual sampling) were used in determining the samples. The research area was classified into clean, medium and dirty categories. The results showed that most people in Pekanbaru City use pesticides to control household pests and the types mostly used were aerosol, liquid, solid and lotion formulations. These were considered effective because they were easy to use, practical, and quickly results in the death of the target pest. It was also discovered that most of the respondents have been using pesticides for a long time, more than 5 years.

**Keywords:** Household pesticides, Household pest, Pesticide formulations, Pekanbaru City

**Citation:** Agus Sutikno, Aslim Rasyad, Bintal Amin And Radit Mahatma. 2019. Use of pesticides for household pest control in pekanbaru city. *EM International*, 38(4), 885-889. Available at [http://www.envirobiotechjournals.com/article\\_abstract.php?aid=10066&iid=286&jid=4](http://www.envirobiotechjournals.com/article_abstract.php?aid=10066&iid=286&jid=4)

## A Hybrid Model using Artificial Neural Network and Genetic Algorithm for Degree of Injury Determination

**Authors:** Mohd Hadyan Wardhana, Abd Samad Hasan Basari, Abdul Syukor Mohd Jaya, Dedi Afandi, Nur Rachman Dzakiyullah

*International Journal of Innovative Technology and Exploring Engineering (IJITEE)*

**ISSN:** 2278-3075

**Publication Date:** 2019

**Abstract:** Essentially, determination degree of injury is crucial for to support the law enforcement process. The existing models are deemed difficult in identifying the critical features for degree of injury classification. Some of which are considerable irrelevant and cause the inconsistency decision on process to determine degree of injury among the practitioners. If the Visum et Repertum (VeR) report is not well interpreted, the victim will get injustice decision. The purpose of this study is to develop a hybrid model for determining degree of injury. Based on Visum et Repertum (VeR) data. The model can classify the output of either having a minor, moderate, or serious injury which inclusively stated in Indonesian Penal Code. A hybrid model is developed from literature and case studies are conducted in three hospitals in Pekanbaru, Indonesia. Analysis is performed to discover the suitable component of the model-due to lack of comparison and analysis on the combination of critical features analysis and optimize the classification algorithm. Development and testing of the model are utilized VeR Dataset as private dataset (289 patients' data). In validating model, three case studies are investigated based on Subject Matter Expert (SME) groups to identify the agreement level. The questionnaires consist of a component, implementation, and viability of model that involved. Hybrid model components are validated by the SMEs, whereby the group determined highest rank of accuracy performance. Result from the questionnaire reveal that the average agreement level of SMEs. In conclusion, the finding shows hybrid model is generated 99.23% accuracy. The model components are implementable as a model and acceptable by the Practitioners as contribution for determining degree of injury.

**Keywords:** Data Mining, Neural Network, Forensic Medicolegal, Artificial Intelligence

**Citation:** Mohd Hadyan Wardhana, Abd Samad Hasan Basari, Abdul Syukor Mohd Jaya, Dedi Afandi, Nur Rachman Dzakiyullah. 2019. A Hybrid Model using Artificial Neural Network and Genetic Algorithm for Degree of Injury Determination. *International Journal of Innovative Technology and Exploring Engineering*, 9(2), 1357-1365. Available at <https://www.ijitee.org/wp-content/uploads/papers/v9i2/B6169129219.pdf>

## **Business Survival and Sustainability through Comprehensive Value Creation in Malaysian Government-Linked Companies**

**Authors:** Nik Herda Nik Abdullah, Jamaliah Said, Enni Savitri

*International Journal of Business and Management Science*

**ISSN:** 1985-692X

**Publication Date:** 2019

**Abstract:** Corporate value creation aids corporate managers plan and execute strategies successfully while securing sustainable competitive advantages. This paper aims to explore the extent of top management emphasis on the measures of value creation that are deemed important for business survival and sustainability in the context of Malaysian government-linked companies (GLCs). A questionnaire survey was distributed with a response rate of 47%. Findings revealed that enhancing business opportunities, brand recognition and reputation and improved operational performance are the top three most important non-financial measures. Meanwhile, the top three financial measures are sales growth, return on investment and market value.

**Keywords:** Value Creation; Business Survival; Sustainability; Government-Linked Companies

**Citation:** Nik Herda Nik Abdullah, Jamaliah Said, Enni Savitri. 2019. Business Survival and Sustainability through Comprehensive Value Creation in Malaysian Government-Linked Companies. *International Journal of Business and Management Science*, 9(2), 195-205. Available at <http://www.safaworld.org/ijbms/v9n2.htm>

## Analysis Of Optical And Electrical Properties Of Thin Films Ba<sub>1-x</sub>Sr<sub>x</sub>TiO<sub>3</sub> (With x = 0.1 and x = 0.6)

**Authors:** Rahmi Dewi, Krisman, Zuhdi, Zulkarnain, TS Luqman Husain

*International Journal of Advanced Science and Technology*

**ISSN:** 2207-6360

**Publication Date:** 2019

**Abstract:** Ferroelectric material which is currently being developed is Barium Strontium Titanat (Ba<sub>1-x</sub>Sr<sub>x</sub>TiO<sub>3</sub>). Ba<sub>1-x</sub>Sr<sub>x</sub>TiO<sub>3</sub> thin film is a thin layer semiconductor that can be applied as a capacitor. The method used in making Ba<sub>0.9</sub>Sr<sub>0.1</sub>TiO<sub>3</sub> and Ba<sub>0.4</sub>Sr<sub>0.6</sub>TiO<sub>3</sub> thin films is the sol-gel method. Annealing process was carried out at 700°C for 1 hour. The manufacturing process of Ba<sub>0.9</sub>Sr<sub>0.1</sub>TiO<sub>3</sub> and Ba<sub>0.4</sub>Sr<sub>0.6</sub>TiO<sub>3</sub> materials in the form of capacitors on a glass substrate has been successfully carried out. The structures of Ba<sub>0.9</sub>Sr<sub>0.1</sub>TiO<sub>3</sub> and Ba<sub>0.4</sub>Sr<sub>0.6</sub>TiO<sub>3</sub> capacitors are glass/Al/BST/Al. This study aims to analyze the optical properties and electrical properties of BST thin films at different x compositions. Characterization of optical properties obtained by optical energy band gap values which include absorbance, transmittance, refractive index values and layer thickness uses the Tauc plot method. Characterization of electrical properties using impedance spectroscopy obtain capacitance values and dielectric constants. The gap width of Ba<sub>0.9</sub>Sr<sub>0.1</sub>TiO<sub>3</sub> thin film energy is 3.77 eV, while Ba<sub>0.4</sub>Sr<sub>0.6</sub>TiO<sub>3</sub> is 3.43 eV, indicating that this material is a semiconductor material. The capacitance and dielectric constant values at the frequency of 1 Hz for Ba<sub>0.9</sub>Sr<sub>0.1</sub>TiO<sub>3</sub> thin films are 3.1 x 10<sup>-8</sup> F and 0.034, while for Ba<sub>0.4</sub>Sr<sub>0.6</sub>TiO<sub>3</sub> thin films are 4.2x10<sup>-8</sup> F and 23.500.

**Keywords:** BST thin films; Sol-Gel method; Energy band gap; Capacitance; dielectric constant

**Citation:** Rahmi Dewi, Krisman, Zuhdi, Zulkarnain, TS Luqman Husain. 2019. Analysis Of Optical And Electrical Properties Of Thin Films Ba<sub>1-x</sub>Sr<sub>x</sub>TiO<sub>3</sub> (With x = 0.1 and x = 0.6). *International Journal of Advanced Science and Technology*, 29(3), 365-377. Available at <http://sersec.org/journals/index.php/IJAST/article/view/3922/2659>

## Effects of Procedural Fairness on Organizational Commitment in Indonesian Stock Market: Antecedent and Intervening Variables

**Authors:** Sri Indarti, Ria Nelly Sari, Syahnasthalia, Vince Ratnawati, Zuraidah Mohd Sanusi

*International Journal of Business and Management Science*

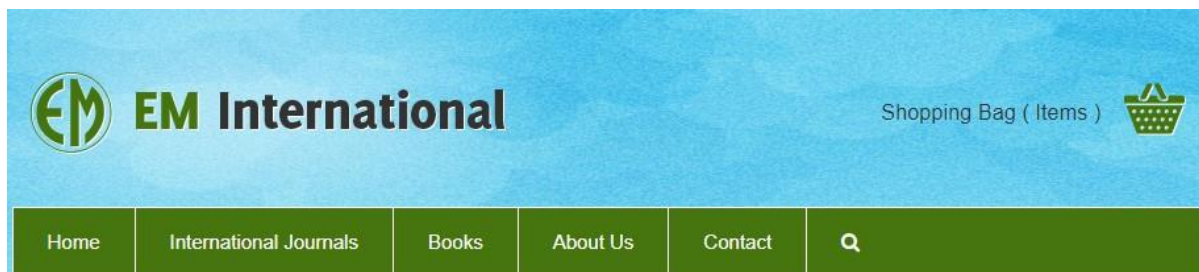
**ISSN:** 1985-692X

**Publication Date:** 2019

**Abstract:** This study aims to determine the effect of goal-setting participation on procedural fairness and trust in the superior, the indirect effect of procedural fairness on job satisfaction through trust in the superior, and the indirect effect of procedural fairness on organizational commitment through job satisfaction and trust in the superior. An online questionnaire was sent to middle managers in manufacturing companies listed in Indonesian Stock Exchange with a response rate of 15.8%. The results find that procedural fairness benefits not only employees, but also organizations. Procedural fairness will increase employees' trust in their superiors, job satisfaction, and commitment to their organizations.

**Keywords:** Goal Setting Participation; Job Satisfaction; Organizational Commitment; Procedural Fairness; Trust in the Superior

**Citation:** Sri Indarti, Ria Nelly Sari, Syahnasthalia, Vince Ratnawati, Zuraidah Mohd Sanusi. 2019. Effects of Procedural Fairness on Organizational Commitment in Indonesian Stock Market: Antecedent and Intervening Variables. *International Journal of Business and Management Science*, 9(2), 221-237. Available at <http://www.safaworld.org/ijbms/v9n2.htm>



## Remote Indigenous Community Empowerment Strategy The Tribe Of Bonai Environmentally Rokan Hulu In Riau Province

**Authors:** Suparman, Zulfan Saam, Achmad Hidir and Suwondo

*EM International*

**ISSN:** 0257–8050

Publication Date: 2019

**Abstract:** Remote Indigenous Community empowerment is not only aimed at improving the welfare of the community, but should also be able to create a society that is environment friendly and has the attitude and behavior that safeguard the environment. But the Government has not done the empowerment that can create a caring community environment, the visibility behavior still clearing land by burning, the dump is not out of place even looking for fish in the river by way of use of toxins. This research aims to find indigenous community empowerment strategies secluded environmentally qualitatively using the SWOT analysis and strategies are a priority with the technique of ultrasound. The strategy is found, i.e. coaching, improved functioning of institutions customs and mentoring practitioners.

**Keywords:** Strategy, Empowerment, Community, Environment

**Citation:** Suparman, Zulfan Saam, Achmad Hidir and Suwondo. 2019. Remote Indigenous Community Empowerment Strategy The Tribe Of Bonai Environmentally Rokan Hulu In Riau Province. *EM International*, 25, 63-71. Available at [http://www.envirobiotechjournals.com/article\\_abstract.php?aid=9980&iid=283&jid=3](http://www.envirobiotechjournals.com/article_abstract.php?aid=9980&iid=283&jid=3)



## Advancing Rural Microfinance Through Local Government: Social Commitment And Financial Sustainability In Riau Province Of Indonesia

**Authors:** Ahmad Rifai, Goh Soo Khoon And Wong Koi Nyen

*Journal of Sustainability Science and Management*

**ISSN:** 2672-7226

**Publication Date:** 2019

**Abstract:** Indonesia's poverty structure is asymmetrical, which means heavy on the rural poor and light on the urban poor. The Riau Province of Indonesia is no exception. The poor are concentrated in the rural areas. Hence, rural MFIs such as UED-SP MFIs are seen as an important tool for rural poverty reduction and rural development. However, most of the large, mature and regulated MFIs tend to be financially sustainable (Hermes et al., 2011). This paper aims to ascertain whether the UED-SP MFIs are sustainable microfinance programmes, given that they are state-owned, not-for-profit institutions, with only six years of experience in microlending. UED-SP MFIs are largely driven by their social mission rather than their financial performance. This study finds that the rural MFIs are able to accomplish the social mission with financial sustainability. In 2015, their performance in financial sustainability and depth of outreach were comparable to the 2009 MFI Benchmarks at all levels, namely, the World MFIs, the Rural Bank Type and the Asian MFIs. The success of the rural MFIs to serve the poor groups such as rural women and rural agricultural microenterprises depends on several key success factors. One of the factors is that their microfinance operations are run on a set of guiding principles with sound lending practices.

**Keywords:** UED-SP MFIs, rural microfinance, financial sustainability, outreach, benchmark.

**Citation:** Ahmad Rifai, Goh Soo Khoon And Wong Koi Nyen. 2019. Advancing Rural Microfinance Through Local Government: Social Commitment And Financial Sustainability In Riau Province Of Indonesia. *Journal of Sustainability Science and Management*, 14(6), 117-129.

<https://jssm.umt.edu.my/wp-content/uploads/sites/51/2019/12/11-14.6.pdf>



## Optimization of Temperature and Fermentation Media in the Production of Secondary Metabolites by Endophytic *Sporothrix* sp and it's activity Against *Candida albicans* from Dahlia Tubers (*Dahlia variabilis*)

**Authors:** Dewi Yudiana Shinta, Yusmarini, Herix Sonata Ms, Hilwan Yuda Teruna, Saryono

*Pakistan Journal of Medical & Health Sciences*

ISSN: -

**Publication Date:** 2019

**Abstract: Background:** Endophytic fungi *Sporothrix* sp isolated from dahlia plants have been shown to produce secondary metabolites which have bioactivity as antifungi, but their production is not optimal. In this study the optimization of production was carried out with media modification and fermentation temperature.

**Aim:** To find the optimal temperature and the best fermentation media in producing secondary metabolites.

**Methodology and result:** The inhibitory power of secondary metabolites produced against *Candida albicans* is determined by agar disc diffusion method. There are 2 media variations, namely: (1) Huang et al media with peptone, Na CMC and (2) Huang et al media with Na CMC, ammonium sulfat variation. Temperature variations have four types, that is 10, 27, 37, 40°C. Observations were conducted for 20 days every 5 days on both the media and for four temperatures. Data were analyzed by A nova multi variate ( $\alpha = 0.05$ ). The antifungal activity was seen by the amount of inhibitory power minimum that appeared with the concentration of fungal fermentation extract 5% b/v. Analysis statistically have significant on inhibitory power minimum is shown at 37°C giving  $23.5 \pm 0.70$  mm result on the 20th day of variation media Huang et al with Na CMC and peptone.

**Conclusion:** The secondary metabolites produced function as an antifungal *Candida albicans*. UV-Vis measurements showed absorption at 229nm wavelengths and 272 nm showed the presence of conjugated double bonds and the characteristics of terpenoids. The IR spectrum measurement results show the absorption band on the N-H amine group at a wavelength of 3300-3000  $\text{cm}^{-1}$ , N-H flexural vibration extends in the area of 1650-1580  $\text{cm}^{-1}$ , for the amine can also be seen in the area 910-665  $\text{cm}^{-1}$ .

**Keywords:** Dahlia Tubers (*Dahlia variabilis*), Endophytic Fungus of *Sporothrix* sp, *Candida Albicans*.

**Citation:** Dewi Yudiana Shinta, Yusmarini, Herix Sonata Ms, Hilwan Yuda Teruna, Saryono. 2019. Optimization of Temperature and Fermentation Media in the Production of Secondary Metabolites by Endophytic *Sporothrix* sp and it's activity Against *Candida albicans* from Dahlia Tubers (*Dahlia variabilis*). *Pakistan Journal of Medical & Health Sciences*, 13(4), 1-5.

[https://pjmhsonline.com/2019/oct\\_dec/pdf/n/1203.pdf](https://pjmhsonline.com/2019/oct_dec/pdf/n/1203.pdf)

## The Effect of Financial Distress, Management Turnover, Audit Opinion and Reputation of Public Accounting Firm to Auditor Switching

**Authors:** Atika Zarefar, Vera Oktari, Arumega Zarefar

*Research Journal of Finance and Accounting*

ISSN: 2222-2847

**Publication Date:** 2019

**Abstract:** This research aimed to determine the effect of financial distress, management turnover, audit opinion, and reputation of public accounting firm to auditor switching in all companies registered in Indonesia Stock Exchange during the period of 2014 - 2017. Methodology Approach – This research uses Logistic Regression analysis. This research uses 260 companies with an observation period of 4 years as the samples and the test results show that financial distress has an effect on auditor switching with significant value of  $0.049 < 0.05$ , management turnover has an effect on auditor switching with significant value of  $0.03 < 0.05$ , audit opinion has an effect on auditor switching with significant value  $0.021 < 0.05$  and the reputation of public accounting firm on auditor switching with significant value  $0.034 < 0.05$ . The results presented in this research have important implications on audit profession and regulators in Indonesia.

**Keywords:** Financial Distress, Management Turnover, Audit Opinion And Reputation of Public Accounting Firm.

**Citation:** Atika Zarefar, Vera Oktari, Arumega Zarefar. 2019. The Effect of Financial Distress, Management Turnover, Audit Opinion and Reputation of Public Accounting Firm to Auditor Switching. *Research Journal of Finance and Accounting*, 10(22), 100-111. Available at <https://www.iiste.org/Journals/index.php/RJFA/article/view/50443>

## Design and Manufacturing of Organic Rankine Cycle (ORC) System Using R-134a as Working Fluid with Solar Collector as Source Energy

**Authors:** Awaludin Martin, Clinton Naibaho, Iwan Kurniawan, Romy

*Advances in Engineering Research*

**ISSN:** 2352-5401

**Publication Date:** 2019

**Abstract:** Renewable energy sources such as solar heat, wind energy, geothermal, biomass and exhaust heat is one way to overcome the crisis of energy and environment in the world. Organic Rankine Cycle (ORC) is a power generation system modified from Rankine Cycle by using organic liquid with low boiling point as working fluids such as R-134a, therefore various types of heat sources can be use. This research was design and manufacture organic Rankine cycle by using R-134a as working fluid with solar collector as the source of energy. The design of this research resulted in the length of the evaporator tube is 14.5 m, length of condenser is 13.9 m and the length of solar collector tube is 9.4 m. The helical Diameter of evaporator and condenser are 250 mm, and the high of helical evaporator 290 mm and condenser 280 mm. Organic Rankine cycle system is designed to produced 534.4 Watt, but when the experiment is carried out the system generates energy of 305 Watt with the efficiency of 4.30%.

**Keywords:** Organic Rankine Cycle, Power Generation, Heat Exchangers, Solar Collector.

**Citation:** Awaludin Martin, Clinton Naibaho, Iwan Kurniawan, Romy. 2019. Design and Manufacturing of Organic Rankine Cycle (ORC) System Using R-134a as Working Fluid with Solar Collector as Source Energy. *Advances in Engineering Research*, 38(43), 2352-5401. Available at <https://doi.org/10.2991/iccelst-st-19.2019.8>

## Development of Work Sheets for Students (LKPD) in Writing Explanation Text

**Authors:** Charlina, Elvrin Septyanti

*ELS Journal on Interdisciplinary Studies on Humanities*

**ISSN:** 2621-0835

**Publication Date:** 2019

**Abstract:** This study aims to describe the results of product trials based on the development of needs analysis results and product validation results that have been assessed. The product developed was LKPD in writing explanatory texts for high school students. This research is part of research and development (R&D) research. The method used in this research is qualitative and quantitative. The Products tested on students on a small scale at class XI student of Senior High School Dharma Loka Pekanbaru. Data collection techniques were carried out through the questionnaire and test stages. Questionnaires were given to students to describe the quality of teaching materials (LKPD) that had been made by filling out questionnaire instruments. The test is given to students in accordance with the instructions and questions in the LKPD, so a score is obtained based on established assessment criteria. Data obtained, analyzed through SPSS. The results of the data analysis provide an overview of the aspects of content eligibility, aspects of language readability, presentation of material, and graphics, which have powerful correlations for the preparation of LKPD. This is indicated by the level of correlation of the aspect of content eligibility 0.852 with a significance level of  $0.000 < 0.5$ ; aspects of language readability 0.759 with a significance level of  $0.000 < 0.5$ ; presentation of material 0.979 with a significance level of  $0.000 < 0.5$ ; and graphics 0.702 with a significance level of  $0.000 < 0.5$ .

**Keywords:** Development of LKPD, Writing, Explanatory Text.

**Citation:** Charlina & Septyanti, E. (2019). Development of Work Sheets for Students (LKPD) in Writing Explanation Text. *ELSJournal on Interdisciplinary Studies in Humanities*,2(4), 515-528. Available at <https://journal.unhas.ac.id/index.php/jish/article/view/8050/4483>

## Optimization of Parking Lot in the Forms of Parallelogram and Right Triangle for Cars and Motorbikes

**Authors:** Widiawati Putri, Ihda Hasbiyati, Moh Danil Hendry Gamal

*Mathematical Modelling and Applications*

**ISSN:** 2575-1794

**Publication Date:** 2019

**Abstract:** Parking lots are elements that affect the transportation system. Placement of the wrong parking lot, such as on a roadside, causes congestion. One way to overcome this is to provide safe and efficient parking. This article discusses the optimization of parking lots in the form of parallelograms and right triangles for cars and motorbikes. The shape of the parallelogram land is formed in two ways namely directly and separately, the landform separately consists of the form of two right triangles and rectangles. The initial step in this discussion is to make a design on the parking lot and assumptions that correspond to the shape of the land. The design of parking lots in this article consists of three designs, namely land in the form of parallelograms, right triangles and rectangles. Furthermore, a mathematical model was built for each land design. The method used for the calculation of mathematical models for each design is the linear programming method and is calculated using LINGO software. The results obtained are the optimum number of car and motorbikes vehicles for each land design. In this article, the optimal results for car vehicles with land in the form of parallelograms formed directly are 1110 vehicles, furthermore the form of parallelograms formed separately are 1295 vehicles. These results indicate that the two forms are more optimal than the separated forms. Then, for the form of a right triangle gives optimal results 491 car vehicles. The next vehicle is a motorbikes, the optimal result for motorbikes with land in the form of a parallelogram that is formed directly is 11969 vehicles, then the shape of the parallelogram is formed separately there are 15440 vehicles. Then, to form a right triangle give optimal results 6163 motorbikes vehicles.

**Keywords:** Parking Lot Optimization, Parking Lot Design, Linear Programming, Parallelogram Parking Lots, Right Triangle Parking Lots.

**Citation:** Widiawati Putri, Ihda Hasbiyati, Moh Danil Hendry Gamal, Optimization of Parking Lot in the Forms of Parallelogram and Right Triangle for Cars and Motorbikes, *Mathematical Modelling and Applications*. Vol. 4, No. 4, 2019, pp. 64-71. doi: <https://doi.org/10.11648/j.mma.20190404.12>

## Modification Goal Programming for Solving Multi-Objective De Novo Programming Problems

**Authors:** Febrianto Afli, Ihda Hasbiyati, Moh Danil Hendry Gamal

*International Journal of Management and Fuzzy Systems*

**ISSN:** 2575-4947

**Publication Date:** 2019

**Abstract:** Many methods can be used to solve multi-objective problems, but not all of them provide truly optimal results because there are still deviations and inefficient use of resources so that they still produce residuals. Resources that are not used in their entirety can reduce the level of optimization in solving multi-objective problems. This happens because we are too forced to solve existing problems rather than redesigning the problem so that it gets satisfactory results. One method that can be used to solve this problem is by using the de novo program. The de novo programming aims to design a more optimal system by expanding resources based on available budgets. The de novo programming changes the function of constraints into form of a budget. This change into one constraint function makes in the feasible solution changes. So it is important to determine the goal for all objectives that have the same importance so that all objectives are achieved at the optimum condition. The objectives of the goals to be achieved must be determined in advance in resolving multi-objective problems. This paper proposes determining the goal objectives using the average concept for objectives that have the same interests. Determination of goals with an average each concept considers the objectives of other goals in determining a goal. Determination of goal objectives using the average concept applied to the goal programming to solve the multi-objective problem of the de novo programming. Solution to the de novo program's multi-objective problem using a modified goal program. The computational results with benchmarking problems show that the proposed method gives satisfactory results and more practical work.

**Keywords:** De Novo Programming, Multi-Objective Optimization, Goal Programming

**Citation:** Febrianto Afli, Ihda Hasbiyati, Moh Danil Hendry Gamal, Modification Goal Programming for Solving Multi-Objective De Novo Programming Problems, *International Journal of Management and Fuzzy Systems*. Vol. 5, No. 4, 2019, pp. 64-69. doi: <https://doi.org/10.11648/j.ijmfs.20190504.11>

## Characterization of optical properties of thin film $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$ ( $x = 0,70$ ; $x = 0,75$ ; and $x = 0,80$ ) using ultraviolet visible spectroscopy

**Authors:** Rahmi Dewi, Krisman, Zulkarnain, Rahmawati, and T.S Luqman Husain S

*AIP Conference Proceedings*

**ISBN:** 978-0-7354-1916-2/\$30.00

**Publication Date:** 2019

**Abstract:** Barium Strontium Titanate (BST) is a ferroelectric material largely developed in field of material. BST is a combination of two materials Perovskite Barium Titanate (BT) and Strontium Titanate (ST). BST thin film grown on glass substrate has successfully done using sol-gel method. The study aimed to determine the optical properties including absorbance, transmittance, deviation index, coating thickness, coating absorption coefficient, and energy tape energy band gap using tauc plot method with different compositions. Characterization of BST thin film was done using Ultraviolet-Visible (UV-Vis) Spectrophotometer. Maximum absorption obtained in the study occurred in sample  $\text{Ba}_{0.2}\text{Sr}_{0.8}\text{TiO}_3$  at 700C with wavelength 300 nm. Result of UV-Vis characterization of thin film  $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$  for  $x = 0.70$ ;  $x = 0.75$  and  $x = 0.80$  at 700C for thin film showed the width of energy band gap respectively 2.96 eV; 3.40 eV and 2.70 eV. The width of energy band gap obtained at the same temperature and different composition in the study was semiconductor material.

**Citation:** Rahmi Dewi, Krisman, Zulkarnain, Rahmawati, and T.S Luqman Husain S, 2019, Characterization of optical properties of thin film  $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$  ( $x = 0,70$ ;  $x = 0,75$ ; and  $x = 0,80$ ) using ultraviolet visible spectroscopy, *AIP Conference Proceedings*, 2169, 060002. doi: <https://aip.scitation.org/doi/abs/10.1063/1.5132680>



## Effect of difference of Photoperiod in culture *Chlorella* sp. with the continuous photobioreactor system

**Authors:** Hendra Pranata Napitupulu, Leodewik Simanjuntak, Carlos Nigel Sihite, Dan Sukendi

*International Journal of Advanced Engineering Research and Science*

**ISBN:** 2456-1908

**Publication Date:** 2019

**Abstract:** Research on the effects of differences in cultures of *Chlorella* sp photoperiod. with a continuous photobioreactor system. This research was conducted in April 2019 at the laboratory of Fish Hatchery and Breeding University of Riau. The purpose of this study was to find out the right photoperiod in *Chlorella* sp. culture by using a blue LED light with a continuous photobioreactor system to population density and specific growth rates. The method used is the experimental method by using a completely randomized design with four treatments and 3 repetitions. The treatment used is P1 (24 hours bright - 0 hours without lighting), P2 (20 hours bright - 04 hours without lighting), P3 (16 hours bright - 08 hours without lighting), P3 (12 hours bright - 12 hours without lighting). The results of the study found that lighting 16 hours bright - 08 hours without lighting) give the best results with a cell density of  $336.67 \times 10^4$  cells / ml and the specific growth rate of 0.341 / day d with peak growth occurring on day 8.

**Keywords:** photoperiod, photobioreactor, *Chlorella* sp

**Citation:** Hendra Pranata Napitupulu, Leodewik Simanjuntak, Carlos Nigel Sihite, dan Sukendi, 2019, Effect of difference of Photoperiod in culture *Chlorella* sp. with the continuous photobioreactor system, *International Journal of Advanced Engineering Research and Science*, 6(11), 300-304. doi: <https://dx.doi.org/10.22161/ijaers.611.46>



## Communication of Community Participation in Implementation of Policy in Child-Friendly Regency (Kla) in Siak District

**Authors:** Nova Yohana, Anuar Rasyid, Evawani Elysa Lubis, Nita Rimayanti

*International Journal of Research In Social Sciences*

**ISSN:** 2307-227X

**Publication Date:** 2019

**Abstract:** This article aims to look at the form of participation and communication of community participation in the framework of the sustainability of KLA policy implementation in regional development in the Siak Regency. This research method uses descriptive research with a qualitative research approach. Data collection techniques through in-depth interviews with informants selected purposively, and documentation. Data analysis techniques using data reduction techniques, data presentation and concluding. The data validity technique uses data triangulation. The results showed that the form of participation from community representatives namely NGOs, Children's Forums, Business World, and Public Society Institutions that community participation in the implementation of the KLA policy with the participation of thoughts / ideas, labor participation, and funding participation. Participatory communication is dialogic from the planning, implementation and evaluation stages of KLA policy implementation in Siak Regency.

**Keywords:** Participatory Communication, Community, Child-Friendly Regencies, Cities Policy

**Citation:** Nova Yohana, Anuar Rasyid, Evawani Elysa Lubis, Nita Rimayanti, 2019, Communication of Community Participation in Implementation of Policy in Child-Friendly Regency (Kla) in Siak District, *International Journal of Research In Social Sciences*, 33(1), 1-8. Available at [http://www.ijsk.org/wp-content/uploads/2019/11/IJRSS\\_Vol33\\_P1\\_Nov19\\_Nova-Yohana.pdf](http://www.ijsk.org/wp-content/uploads/2019/11/IJRSS_Vol33_P1_Nov19_Nova-Yohana.pdf)

## Enhancing BOD5/COD ratio co-substrate tofu wastewater and cow dung during ozone pretreatment

**Authors:** David Andrio, Jecky Asmura, Elvi Yenie and Khalidazia Putri

*MATEC Web of Conferences*

**Publication Date:** 2019

**Abstract:** Ozonation pretreatment was applied to enhancing BOD/COD ratio co-substrate tofu wastewater and cow dung. Ozonation pretreatment were conducted at pH of 5.2, 8.0, and 10.0, with contact times of 20, 40, and 60 minutes. The results showed that the best condition for enhancing biodegradability is pH of 10 and contact time of 60 minutes with increasing BOD/COD ratio from 0.06 to 0.49, indicating an easy biodegradable substrate category.

**Keywords:** Participatory Communication, Community, Child-Friendly Regencies, Cities Policy

**Citation:** David Andrio, Jecky Asmura, Elvi Yenie and Khalidazia Putri, 2019, Enhancing BOD5/COD ratio co-substrate tofu wastewater and cow dung during ozone pretreatment, *MATEC Web of Conferences* 276, 06027. doi: <https://doi.org/10.1051/mateconf/201927606027>

## Private Premium of Endowment Last Survivor and Joint Life Insurance with Pareto Distribution

**Authors:** Hasriati, Tumpal Parulian Nababan

*International Journal of Statistical Distributions and Applications*

**ISSN:** 2472-3509

**Publication Date:** 2019

**Abstract:** This paper studies a dual life insurance premium is determined with the combined status of last survivor and joint life involving two insurance participants who have a kinship relationship such as husband and wife, brother and sister, which they work in the same agency. In determining the policy to be made by the life insurance does not require two policies to be made, but enough to have only one policy. So that by having one policy expected premiums paid by life insurance participants to life insurance companies will be smaller than if you have to pay in two policies. Determination of insurance premiums dual life to be paid by an insurance party participant based on the chance of death from both life insurance participants, stating a condition that will continue as long as there is at least one member who is still alive and will cease after the death of the last person of its member, and also is an ongoing condition se long time all members of a combination of several people can survive and will stop after one of its members first dies, to determine the single premium and annual premium using the cash value of the initial life annuity from dual life insurance. Whereas the initial annuity cash value is influenced by the interest rate and discount factor and is also influenced by the combined life opportunity of the two insurance participants. Furthermore, from the chance of life will be obtained the chance of dying In formulating the chance of dying the insurance participant is used the Pareto distribution and to obtain the parameter values in the Pareto distribution the maximum Likelihood method is used. In order to obtain the chance of death and can be used to calculate a single premium and annual premium.

**Keywords:** Premi, Last Survivor, Joint Life, Distribusi Pareto, Maksimum Likelihood

**Citation:** Hasriati, Tumpal Parulian Nababan, Private Premium of Endowment Last Survivor and Joint Life Insurance with Pareto Distribution, *International Journal of Statistical Distributions and Applications*. Vol. 5, No. 4, 2019, pp. 76-81. doi: <https://doi.org/10.11648/j.ijsd.20190504.11>

## Application of Single Exponential Smoothing in Forecasting Number of New Students Acceptance

**Authors:** Noveri Lysbetti Marpaung, Rahyul Amri, Edy Ervianto, Kelvin Rainey Salim

*International Journal of Technology and Engineering Studies*

ISSN: 2414-3413

**Publication Date:** 2019

**Abstract:** This study aims to produce the smallest Mean Absolute Percentage Error (MAPE) to show the best forecasting, the best Alpha Constant, and forecasting ability level based on forecast results. This study used Single Exponential Smoothing Method with different Alpha constants in forecasting the number of new students' acceptance from Academic Year 1999/2000 until 2018/2019 in a private primary school, Pekanbaru, Riau Province-Indonesia. MAPE formula aims to measure the accuracy of forecast results in percentage. The analysis shows that the best forecast results in certain years are in Academic Year 2004/2005, 2010/211, and 2015/2016 with 0% MAPE. The smallest MAPE Average Value is generated by  $\alpha = 0.8$  with only 0.62% error, so the best forecasting used when  $\alpha = 0.8$ . The results of MAPE average values show that all forecast results are below 10%. Therefore, all the results of the research, in general, are grouped into excellent forecasting ability. The results highlight that by using Single Exponential Smoothing Methods to accept new students in a school, relevant policies could be devised and implemented.

**Keywords:** Forecasting system, single exponential smoothing method, alpha constant, MAPE value, forecasting ability level

**Citation:** Noveri Lysbetti Marpaung, Rahyul Amri, Edy Ervianto, Kelvin Rainey Salim, 2019, Application of Single Exponential Smoothing in Forecasting Number of New Students Acceptance, *International Journal of Technology and Engineering Studies*. Vol. 5, No. 6, pp. 169-182. doi: <https://dx.doi.org/10.20469/ijtes.5.10001-6>

## Identification of Pure and Adulterated Honey Using Two Spectroscopic Methods

**Authors:** Minarni Shiddiq, Zulkarnain, Vepy Asyana and Himmatul Aliyah

**Corresponding Author:** Minarni Shiddiq, Universitas Riau, Pekanbaru, Indonesia

*Journal of Physics: Conference Series*

ISSN: 1742-6588

**Publication Date:** 2019

**Abstract:** Honey is a natural sweet substance which is often mixed with other liquids for health purposes or as a sugar substitute in variety of food. Due to high commercial profit, many fraudulent acts have been around to add other substances to pure honeys. This study used two spectroscopic methods which are the laser induced fluorescence (LIF) and Fourier Transform Infrared (FTIR) spectroscopy to differentiate pure and corn syrup adulterated honeys based on sugar content. LIF used a 405 nm diode laser as the excitation laser. Samples of 27 were prepared for this study. They composed of 15 pure honey and 2 non honeys, and 10 adulterated honeys which we coded from A to Q. Non honey samples were pure date syrup and corn syrup which coded as K and L. The sugar contents were measured manually using a brix refractometer which resulted the honey sugar contents range of 69.5 % to 78 %. The peak wavelengths observed range from There is  $R^2 = 0.80$  correlation between peak wavelength of fluorescence colours to sugar contents. The results showed that the peak wavelengths range from 490.9 nm to 641.3 nm. LIF was able to differentiate between the pure honeys than the adulterated or mixed ingredient honeys except for sample C. The differences of FTIR spectrums were shown by honey samples which was not given corn syrup adulteration, where the difference begins to be seen clearly at the wave number range 1150  $\text{cm}^{-1}$  to 650  $\text{cm}^{-1}$ .

**Citation:** Minarni Shiddiq, Zulkarnain, Vepy Asyana and Himmatul Aliyah. 2019. Identification of Pure and Adulterated Honey Using Two Spectroscopic Methods. *J. Phys.: Conf. Ser.* 1351 012022. Available at <https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012022>

## The Challenge of Developing Tourism for Development in Indonesia's Coastal Areas: The Case of the Rupert Island, Bengkalis

**Authors:** Meyzi Heriyanto, Adianto, Hasim As'ari

**Corresponding Author:** Adianto, Universitas Riau, Pekanbaru, Indonesia

*International Journal of Society, Development and Environment in the Developing World*

ISSN: 2590-387X

**Publication Date:** 2019

**Abstract:** To enhance development, an archipelago such as Indonesia would do well to develop its coastal tourism industry. Rupert Island of Indonesia's Riau Province has a lot of ecological charms which could captivate adventurous visitors. Indeed the potential of coastal tourism of the island should be developed to advance the socio-economic development of the local and adjacent communities. A tourism development policy that promises sustainability and prosperity for the local public should be the Rupert mission. This study analysed the prospects of a comprehensive set of tourism development policies for Rupert. Primary qualitative data were gathered from a case study of the area through focused interviews and field observations. The collected data were analysed using the triangulation method to check and cross check responses given by the informants. The results of the study found that tourism development policies in the Coastal Region of Rupert Island, Bengkalis Regency were still not going well. The tourist natural and cultural attractions of the island had all the right potentials to be developed, but lack of supportive accessibility infrastructure and facilities hampers the mission to launch a concrete tourism take-off for Rupert.

**Citation:** Meyzi Heriyanto, Adianto, Hasim As'ari. 2019. The Challenge of Developing Tourism for Development in Indonesia's Coastal Areas: The Case of the Rupert Island, Bengkalis. *International Journal of Society, Development and Environment in the Developing World*, 3(3), 22-36. Available at <http://lifewaysjournal.com/wp-content/uploads/2019/12/3.Lifewaysjournal-dec19-adi-edam.pdf>

## The Perception Of Customer Value And Its Influence To Self Consept In Using Credit Card

**Authors:** Gatot Wijayanto, Yuyus Suryana, Yevis Marty Oesman, Arief Helmi

*International Review of Management and Marketing (IRMM)*

**ISSN:** 2146-4405

**Publication Date:** March 2019

**Abstract:** Credit cards are one way to facilitate buying and selling transactions involving banks / issuing companies, credit card holders and sellers. Banking is quite optimistic in the future, the credit card business can provide significant benefits. In the practice of using credit cards, there are often a number of problems experienced by customers in the form of complaints on the use of credit cards that range from late delivery of bills that have an impact on charging bills, card transactions not read by EDC machines, and also lack of information provided by officers credit card when offering to prospective customers. Reviewing these problems, the purpose of this study examines the impact of customer value on the self-concept of using a credit card. The research method used is descriptive verification with an approach using structural analysis equation modeling method which is carried out by distributing questionnaires to 400 credit card user customers in the 3 largest credit card issuing banks in Indonesia in 2016 and credit cards still actively used by their customers, namely banks independent, BCA bank, and BNI bank. Based on the results of data analysis and problem facts, it was found that the self concept variable was able to influence the relationship between the effect of customer value on the decision to use. Innovation from the findings of this research model is that self-concept is customer behavior that can be considered by banks / publishing companies that can determine the decision making of credit card use.

**Keywords:** Customer Value, Self-Concept and Use Decision, Credit Card

**Citation:** Gatot Wijayanto, Yuyus Suryana, Yevis Marty Oesman and Arief Helmi, 2019. The Perception of Customer Value and ITS Influence to Self Concept In Using Credit Card. *International Review of Management and Marketing (IRMM)*, 9(2): 104-112. <https://doi.org/10.32479/irmm.7817>

## The Synthesis of Bridging Carbon Particles with Carbon Nanotubes from Areca catechu Husk Waste as Supercapacitor Electrodes

**Authors:** E. Taer, R. Handayani, Apriwandi, R.Taslim, Awitdrus, A. Amri, Agustino and I. Iwantono.

**Corresponding Author:** E. Taer

*International Journal of Electrochemical Science*

**ISSN:** 1452-3981

**Publication Date:** 30 August 2019

**Abstract:** This study examines the synthesis of carbon particles with nanotubes as electrodes for supercapacitors. The electrodes were made from areca catechu husk without the addition of adhesive materials. There was a multi-activation process including chemical and physical activation using KOH activator and CO<sub>2</sub>. Physical activation time is the main factor for consideration in this discussion. The addition of activation time has an effect on the physical and electrochemical properties of supercapacitor electrodes. Carbon hollow fiber is clearly visible on the surface of the electrode with varying sizes of outer and inner diameters in the nanometer range. The results show there was an incredible performance by ACF-2.5 sample activated for 2.5 hours. ACF-2.5 sample delivered optimum capacitive properties of 165 F g<sup>-1</sup> with a maximum surface area of 757.449 m<sup>2</sup> g<sup>-1</sup>. Thermogravimetric analysis and the degree of crystallinity were also carried out to strengthen the electrode analysis of supercapacitors.

**Keywords:** carbon fiber; areca catechu husk; supercapacitor

**Citation:** E. Taer, R. Handayani, Apriwandi, R.Taslim, Awitdrus, A. Amri, Agustino and I. Iwantono, 2019. The Synthesis of Bridging Carbon Particles with Carbon Nanotubes from Areca catechu Husk Waste as Supercapacitor Electrodes. *International Journal of Electrochemical Science*, 14 (2019): 9436–9448. <https://doi.org/10.20964/2019.10.34>





## Unlicensed gold mining and agricultural land in Kuantan Singingi district province of Riau, Indonesia

**Authors:** Pazli

*Research Journal of Agriculture and forestry Sciences*

**ISSN:** 2320 - 6063

**Publication Date:** 31 Oktober 2019

**Abstract:** Unlicensed gold mining are rampant in government Kuantan Singingi District, Riau Province. People culprit in general Unlicensed gold mining areas there are in many places and irregular, there is on the banks of rivers, water bodies, lakes and most occur on land under palm oil and rubber plantations productive in the watershed. Gold mining unauthorized changes to the landscape provides both the contour of the mainland, as well as the flow of streams and watersheds, degrading inventory lands for agriculture, affecting the region's economy. This research is important to (1) determine how the relationship unlicensed gold mining government with the availability of land, agricultural land prices and environmental damage. Is there a policy that is able to provide a solution, and how to model the management of mining activities that benefit the state through government-people relationship for sustainable agricultural development). The study was conducted in the province of Riau, Kuantan Singingi district. This research used surveys, case studies and analysis of secondary data. To test the hypothesis used Chi square test. To ensure influence relationships between variables used multiple logistic regression with SPSS 17.0 for Windows. The value of P is  $0.015 < 0.05$  P value  $0.015 < 0.05$ , meaning there is a convincing relationship between unlicensed gold mining and the sustainability of the existence of the soil for agriculture. Flourishing mining activity is increasingly narrow availability of land for agriculture. Unlicensed gold mining relationship with changes in aspects of environmental damage such as changes in order flow and water resources, and reserves or water catchment areas found p value of 0.014. P value  $0.014 < 0.05$ , meaning that there is a significant correlation between unlicensed mining activities with environmental damage (change of order flow and water resources). While the value of P is 0.02, this relationship is significant. P value of 0.020, meaning that a significant relationship, for  $0.02 < 0.05$ , in this case an unauthorized gold mining is done by cultivating lands that are estimated to contain potential reserves of gold ore, so the demand for land prices higher than the land deals, the sale value of agricultural land into soaring to mine the ore. The government has not provided a solution that is beneficial to all parties of this gold mining management. None issued local regulations to make the arrangement against these illegal mining activities. Recommendations for Kuantan Singingi District Government shall establish a mining region, without gold mining concessions in the area of mining in the territory of each district should only be done by locals. For miners who mine without using the engine must be permission from the local district head and had to pay .0,5% of fruition per 6 months. For miners who mine using hired machinery must obtain permission from the District and are subject to the rent as much as 70% SVTO per meter per year. Miners are also required to create borders at their own expense. For those who do mining without a license is punishable by one year imprisonment and a fine of Rp 500 million (Reconstruction Model Attached).

**Keywords:** Reconstruction, gold mining, colonial model

**Citation:** Pazli, 2019. Unlicensed gold mining and agricultural land in Kuantan Singingi district province of Riau, Indonesia. *Research Journal of Agriculture and forestry Sciences*, 8 (1): 65-71. Available at [http://www.isca.in/AGRI\\_FORESTRY/Archive/v8/i1/11.ISCA-RJAFS-2018-006.php](http://www.isca.in/AGRI_FORESTRY/Archive/v8/i1/11.ISCA-RJAFS-2018-006.php)

# AN ANALYSIS OF THE RELATIONSHIPS OF k-TRIBONACCI NUMBERS IN MODULO 6

**Authors:** Zamzuri, Syamsudhuha and Sri Gemawati

**Corresponding Author:** Sri Gemawati

*Bulletin of Mathematics*

**ISSN:** 355-8202

**Publication Date:** 28 Januari 2019

**Abstract:** This article analysed the relationship of k-Tribonacci in modulo 6 by using a method practiced by Muslim [International Mathematical Forum, 13 (2018), 225-231]. k-Tribonacci numbers in Modulo 6 are differentiated into 4 special cases namely  $k \equiv 0 \pmod{6}$ ,  $k \equiv 1 \pmod{6}$  and  $k \equiv 4 \pmod{6}$ ,  $k \equiv 0 \pmod{6}$  of which p is a prime number.

**Keywords:** k-tribonacci numbers, k-tribonacci numbers identity, numbers in modulo 6

**Citation:** Zamzuri, Syamsudhuha and Sri Gemawati, 2019. An Analysis of The Relationships of K-Tribonacci Numbers In Modulo 6. *Journal of Applied Sciences*, 10 (2): 157-165. Available at <https://talenta.usu.ac.id/bullmath/article/view/720>

# Analysis Of The Relationship Between Fibonacci And Lucas Numbers In Modular 7 And 8

**Authors:** Erli Farlinda, Syamsudhuha and Sri Gemawati

**Corresponding Author:** Sri Gemawati

*Bulletin of Mathematics*

**ISSN:** 355-8202

**Publication Date:** 27 Januari 2019

**Abstract:** In this article some relationships between the Fibonacci and Lucas numbers in modulo 7 and 8 are proven. The are some relationships in modular 7 such as " $F_n \equiv 0 \pmod{7}$ ", for every  $n = 8k, 1$  for another  $n$ . Fibonacci numbers in modulo  $\mathbb{Z}_2$  and  $\mathbb{Z}_4$  have a relationship with modulo  $\mathbb{Z}_8$  namely  $2L_n \pmod{4} - 9L_n \pmod{2} (L_n \pmod{8})^4$ .

**Keywords:** Stirling's numbers of the first kind, tetranacci numbers, Stirling's matrix of the first kind, tetranacci matrix

**Citation:** Erli Farlinda, Syamsudhuha and Sri Gemawati, 2019. Analysis of The Relationship Between Fibonacci and Lucas Numbers in Modular 7 and 8. *Bulletin of Mathematics*, 10 (2): 133-143. Available at <https://talenta.usu.ac.id/bullmath/article/view/710>



## Auditor Switching Behavior In LQ45 Companies In Indonesia

**Authors:** Andreas and Enni Savitri

*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** Mei 2019

**Abstract:** Auditor switching is a management action to switch the most recent company auditor. The management of public companies listed on the Indonesia Stock Exchange are known to use auditor switching. There are some reasons that encourage management of public companies to make auditor changes. These include audit opinions, the size of public accounting firms and changes in management. The study was conducted on companies that meet criteria of LQ45 index, and this companies are recalculated twice a year by Indonesian Stock Exchange research and development department. Based on the sample selection criteria a sample of 33 companies was obtained. Data analysis used logistic regression analysis. The results of the study indicate that audit opinions and management changes had no effect on auditor switching, but the size of the public accounting firm was evidently influence the decisions of the public companies' management to implement an auditor switch.

**Keywords:** Auditor Switching, Audit Opinion, Public Accounting Firm Size, Management Changes

**Citation:** Andreas and Enni Savitri, 2020. Auditor Switching Behavior In LQ45 Companies InIndonesia. *International Journal of Scientific & Technology Research*, 8 (5): 53-57. Available at <https://www.ijstr.org/final-print/may2019/Auditor-Switching-Behavior-In-Lq45-Companies-In-Indonesia.pdf>

## **Auditor's Ethical Judgments: The Influence of Moral Intensity, Ethical Orientation and Client Importance**

**Authors:** Razana Juhaida Johari, Zuraidah Mohd Sanusi and Arumega Zarefar

*International Journal of Financial Research*

**ISSN:** 1923-4031

**Publication Date:** 19 May 2019

**Abstract:** This study examined auditors' ethical judgments using two theoretical perspectives; (1) Moral intensity constructs of Jones' (1991) Model and (2) Forsyth's (1980) framework of individual ethical orientation. The importance of the moral issues and how they affected the auditors' ethical judgments together with the influence of individual's ethical orientation and the client importance is discussed. A research instrument consisted of two scenarios with different level of moral intensity issues and utilized a 12-item of moral intensity measurement and a Forsyth's (1980) scale to measure ethical orientation along two dimensions, idealism and relativism. The client importance is manipulated in this between-subjects study. The results of 152 auditors' found that the effects of the moral intensity construct and the client importance on auditors' ethical judgments is different based on the issues intensity level of the scenarios. Whereas, both dimensions of the individual ethical orientation (idealism and relativism) are found significant in both of the scenarios tested. The limitations of the study and recommendation for future studies are also discussed.

**Keywords:** moral intensity, ethical orientation, client importance, auditor's ethical judgments

**Citation:** Razana Juhaida Johari, Zuraidah Mohd Sanusi and Arumega Zarefar, 2019. Auditor's Ethical Judgments: The Influence of Moral Intensity, Ethical Orientation and Client Importance. *International Journal of Financial Research*, 10 (03): 77-87. <https://doi.org/10.5430/ijfr.v10n3p77>



## Carrying capacity estimation of Sumatran elephant habitat (*Elephas maximus sumatranus* T) in Tesso Nilo National Park

**Authors:** Defri Yoza, Yusni Ikhwan Siregar, Aras Mulyadi and Sujianto

*Journal Animal Behaviour and Biometerology*

**ISSN:** 2318-1265

**Publication Date:** 30 September 2020

**Abstract:** Forest encroachment reduces elephant habitat area while oil palm plantations and industrial plantations reduce and even cut the elephant roaming area. This study aims to estimate the carrying capacity of elephant habitat in Tesso Nilo National Park, Indonesia. Data collection on elephant populations uses direct and indirect surveys. Direct surveys are carried out by direct encounter with the elephants and counting is done at the meeting. The indirect survey was carried out in two ways, namely by counting dung and traces of elephants as well as interviews with mahout and the community. Dung calculation is done by the path method that is on the elephant roaming track. Interviews of mahout and community were conducted to find out the number of elephants passing through residential areas. Based on the results of the study, the capacity of 1 ha of Sumatran elephant feed support was 0.05 Elephants/day for the secondary forest with proper use (P) of 60% with a growth cycle of 60 days. In the area of 1,590.18 ha, the carrying capacity of secondary forest feed can accommodate 83.93 Elephants /day or 84 Elephants/day. One elephant in the secondary forest can be fulfilled their needs with an area of 18.95 ha or means that 1 ha of secondary forest is only able to provide 0.05 Elephants/day. In shrubs, habitat shows that 1 ha of the shrubs can support 0.21 Elephants /day or with an area of 2,132.90 ha capable of supporting elephants as much as 447.91 Elephants/day or 448 Elephants/day. One elephant can be fulfilled with an area of 4.76 ha of bush per day. This shows that the availability of feed in 1 ha of Tesso Nilo National Park area is insufficient for 1 elephant.

**Keywords:** dung, feed, natural forest, shrubs

**Citation:** Defri Yoza, Yusni Ikhwan Siregar, Aras Mulyadi and Sujianto, 2019. Carrying capacity estimation of Sumatran elephant habitat (*Elephas maximus sumatranus* T) in Tesso Nilo National Park. *Journal Animal Behaviour and Biometerology*, 8: 41-48. <https://doi.org/10.31893/jabb.20006>

## Study on The $n^{\text{th}}$ Derivates of Function $\frac{1}{\sqrt{ax+bandcx+d}}\sqrt{ex+f}$

**Authors:** Rasoki, Sri Gemawati, and Ihda Hasbiyati

*Bulletin of Mathematics*

**ISSN:** 355-8202

**Publication Date:** 27 January 2019

**Abstract:** The function derivative material is one of the topics in the Mathematicsbook in High School. In some textbooks used by students, there is no study on toget general form ofnthderivates function of rasional function. In this article,we will discuss how to obtain the general form of thenthderivative functionsby looking at the first, second, and third derivative patterns by using definitionof number partition and multiple factorials so that the general form of thenthfunction is obtained. By obtaining the general form of thenthderivative, studentonly need to replace the n value needed to solve the questions provided in the mathbook.

**Keywords:** derivatives, rational functions, number partitions

**Citation:** Rasoki, Sri Gemawati, and Ihda Hasbiyati, 2019. Study on The  $n^{\text{th}}$  Derivates of Function  $\frac{1}{\sqrt{ax+bandcx+d}}\sqrt{ex+f}$ . *Bulletin of Mathematics*, 10 (20): 121-132. Available at <https://talenta.usu.ac.id/bullmath/article/view/709>



## The effect of relativism ethical orientation, personal cost, and moral intensity on internal whistleblowing intention: the moderating role of organizational commitment

**Authors:** Hardi, Meilda Wiguna, Rizqa Anita and Nor Balkish Zakaria

*International Journal of Engineering & Technology*

**ISSN:** 2227-524X

**Publication Date:** December 2018

**Abstract:** This study attempts to examine the moderating effect of organizational commitment on the relationship between relativism ethical orientation, personal cost, moral intensity and internal whistleblowing intention. *Using multiple regression* as analytical method, responses from 104 employees of Rokan Hulu Regency, Indonesia were analyzed. The results of this research show that relativism ethical orientation of negatively effecting internal whistle blowing intention, personal cost does not affect internal whistle blowing intention, moral intensity affect internal whistle blowing intention, and organizational commitment affect the relationship between the relativism ethical orientation and internal whistle blowing intention. The findings of this study also suggest that commitment organization does not affect the relationship between personal cost and internal whistle blowing intention, and commitment organization affect the relationship between moral intensity on internal whistle blowing intention.

**Keywords:** Relativism Ethical Orientation; Personal Cost; Moral Intensity; Commitment Organization; and Internal Whistle Blowing Intention

**Citation:** Hardi, Meilda Wiguna, Rizqa Anita and Nor Balkish Zakaria, 2018. The effect of relativism ethical orientation, personal cost, and moral intensity on internal whistleblowing intention: the moderating role of organizational commitment. *International Journal of Engineering & Technology*, 8 (1): 122-125. Available at <https://www.sciencepubco.com/index.php/ijet/article/view/29278>



## **The Influence of Work Overload, Time Pressure and Social Influence Pressure on Auditors' Job Performance**

**Authors:** Razana Juhaida Johari, Nordayana Sri Ridzoan and Arumega Zarefar

*International Journal of Financial Research*

**ISSN:** 1923-4031

**Publication Date:** 19 May 2019

**Abstract:** Auditing is considered a stressful occupation as the job is always characterized by heavy workloads, many deadlines, time pressure, social pressure and commitment towards the organization. Public auditors are often under pressure to produce quality audit, and yet may be under serious work pressure or continually dealing with auditees in stressful situations. Work stress faced by public auditors also may lead to mental and physical distress which resulted to decrease in job performance. This study examines which potential factors of pressure that have a significant relationship to government auditors' job performance. Factors to be test in this study are work overload, time pressure and social influence pressure. This current study contributes information and ideas to the management and academicians in the theoretical and practical aspects. The respondents in this study are 203 government auditors from government auditors in National Audit Department of Malaysia. The result of this study shows that there is no significant relationship on work overload to auditors' job performance. However the result of this study found that factor of time pressure shown a positive significant relation on auditors' job performance, while social influence pressure shown a negative significant relationship on auditors' job performance.

**Keywords:** government auditor, work overload, time pressure, social influence pressure, job performance

**Citation:** Razana Juhaida Johari, Nordayana Sri Ridzoan and Arumega Zarefar, 2019. The Influence of Work Overload, Time Pressure and Social Influence Pressure on Auditors' Job Performance. *International Journal of Financial Research*, 10 (3): 88-1106. <https://doi.org/10.5430/ijfr.v10n3p88>

# THE $n/2$ -TH DERIVATIVE OF $f(x)=\cos px$ USING GAMMA FUNCTION

**Authors:** Yeyen Benarti Fahmi, Sri Gemawati and Kartini

*Bulletin of Mathematics*

**ISSN:** 2355-8202

**Publication Date:** 31 January 2019

**Abstract:** This study presents the  $n/2$ -th derivative of cosine function  $f(x)=\cos px$  where  $p$  is a positive integer and  $x$  is a variable. The  $n/2$ -th derivative is a fractional derivative of an arbitrary order. The fractional derivative can be obtained by using Riemann-Liouville integral fractional definition that closely related to gamma function. We utilize some properties of gamma function to find the  $n/2$ -th derivative of cosine function.

**Keywords:** Cosine Function, Gamma Function, Riemann-Liouville, Fractional Derivative.

**Citation:** Yeyen Benarti Fahmi, Sri Gemawati and Kartini, 2019. The  $n/2$ -TH Derivative of  $f(x)=\cos px$  Using Gamma Function. *Bulletin of Mathematics*, 10(2): 167-172. Available at <https://talenta.usu.ac.id/bullmath/article/view/738>

## Applied Mathematical Sciences

## Using Dagum Distribution to Simulated Concentration PM10 in Pekanbaru City, Indonesia

**Authors:** Evi Febriantikasari, Arisman Adnan, Rado Yendra and M. N. Muhaijir

*Applied Mathematical Sciences*

**ISSN:** 1314-7552

**Publication Date:** 2019

**Abstract:** The knowledge of modelling air quality are to increase scientific understanding of the underlying mechanisms for production and destruction of pollutants, and estimate potential air pollution related health effects. The atmospheric aerosol or particulate matter with aerodynamic diameter 10 micrometers (PM10) is one of the major factors that distort the urban air quality and is harmful for living being due to their small size and their ability to penetrate deeper into human respiratory system. Various statistical approaches exist for modelling air pollutant levels, in this paper deals with the use of the three-parameters Dagum distribution and the parameter estimation methods of the maximum likelihood (MLE), and L Momen (LME) to estimate the parameters are compared. The usefulness and applicability of each method is discussed by application to observed the monthly levels of PM10 at the chosen industrial area i.e. Pekanbaru. Sevenyears period mountly PM10 data for 2009 and 2015 were used for this research. Performance indicators based on graphical inspection probability density function (PDF), distribution function (CDF) and numerical criteria Akaike's information criterion (AIC) were applied to determine the goodness-of-fit criteria of the distributions. In most the cases, graphical inspection gave the same result but their AIC result differed. The best fit result was chosen as the distribution with the lowest values of AIC. Altogether the results demonstrate that for the mountly discharge time series considered in this paper the LME method is superior to all the other parameter estimation methods employed. Based on the model that have been identified, PM10 concentration monthly data for seven years are generated using quantile function Dagum distribution.

**Keywords:** AIC, Dagum Distribution, L-Momen, Maximum Likelihood

**Citation:** Evi Febriantikasari, Arisman Adnan, Rado Yendra and M. N. Muhaijir, 2019. Using Dagum Distribution to Simulated Concentration PM10 in Pekanbaru City, Indonesia. *Applied Mathematical Sciences*, 13(9): 439-448. <https://doi.org/10.12988/ams.2019.9347>

## Characteristics of Chitosan Nanoparticles extracted from Sea Cucumber (*Holothuria scabra*) as Source Materials for Glucosamine

**Authors:** Sumarto, Bustari Hasan, Rahman Karnila and Mery Sukmiwati

*Pertanika Journal of Science and Technology, JST*

**ISSN:** 2231-8534

**Publication Date:** 04 October 2019

**Abstract:** Sea cucumber has a thick layer of skin consisting of lime components. In fact, the components contain chitin and chitosan, which have been recognized as potential sources materials for dietary supplement. This study aimed at evaluating the physical and chemical characteristics of chitosan nanoparticles extracted from sea cucumber *Holothuria scabra* when used as source materials for glucosamine. Chitin were extracted from dried samples, chitosan from chitin, while chitosan nanoparticles were obtained from chitosan with different concentrations (C1 = 0.1%; C2 = 0.2%; C3 = 0.3%) of added sodium tripolyphosphate (NaTPP). Production process in this study resulted in 59.82% of chitosan extracted from chitin. Besides, the amount of chitosan nanoparticles obtained at 0.1%, 0.2%, and 0.3% additions of NaTPP were 90.6%, 92.8%, and 96.4%, respectively. These results were characterized in terms of whiteness degree (85.82%, 87.29%, 88.34%, respectively), deacetylation degree (90.6%, 95.8%, 96.2%), moisture (5.73%, 5.26%, 4.82%), and ash (1.29%, 1.07%, 0.98%). Looking at SEM and PSA tests, chitosan was morphologically found to be heterogeneously distributed with averaged 177-micron particle sizes. They also had larger particle chunks and solid as well as intact forms. Meanwhile, chitosan nanoparticles had smaller and smoother chunks, while they were produced in solid and intact forms. Besides, they were homogeneously distributed with sizes ranging between 134 – 206 nm (C1), 114-128 nm (C2), and 97-108 nm (C3). Then, increments in NaTPP concentrations were discovered to contribute to the reduction of *H. scabra*-sourced chitosan nanoparticles size.

**Keywords:** Chitosan, *Holothuria scabra*, nanoparticles, sodium tripolyphosphate

**Citation:** Sumarto, Bustari Hasan, Rahman Karnila and Mery Sukmiwati, 2019. Characteristics of Chitosan Nanoparticles extracted from Sea Cucumber (*Holothuria scabra*) as Source Materials for Glucosamine. *Pertanika Journal of Science and Technology*, 27(04): 2409-2425. Available at <http://www.pertanika.upm.edu.my/pjst/browse/archives?article=JST-1642-2019>

## Development Of Powerpoint-Based Learning Media In Integrated Thematic Instruction Of Elementary School

**Authors:** Zetra Hainul Putra, Gustimal Witri and Tria Yulita

*International Journal of Scientific and Technology Research*

**ISSN:** 2277-8616

**Publication Date:** October 2019

**Abstract:** This study aimed at developing a learning media based on Information and Communication Technology (ICT), especially PowerPoint, for the integrated thematic instruction in the theme about saving energy, within the subtheme about energy and movement. The method used is the developmental research, and one of the important procedures is to validate the PowerPoint-based learning media. The qualitative validity was done with 41 student teachers from the elementary school teacher training study program, a public university in Pekanbaru, Indonesia, and the results indicated that the media had good quality. Then, the media was piloted with 32 four grade students from a public elementary school in Pekanbaru, Indonesia. The results showed that there was a significant improvement in students' learning outcomes from 68.94 to 76.72. In addition, the PowerPoint-based learning media gave a positive effect to students in which they felt very happy when using it.

**Keywords:** developmental research, PowerPoint-based learning media, thematic integrated learning.

**Citation:** Zetra Hainul Putra, Gustimal Witri and Tria Yulita, 2019. Development Of Powerpoint-Based Learning Media In Integrated Thematic Instruction Of Elementary School. *International Journal of Scientific and Technology Research*, 8(10): 697-702. Available at <https://www.ijstr.org/final-print/oct2019/Development-Of-Powerpoint-based-Learning-Media-In-Integrated-Thematic-Instruction-Of-Elementary-School.pdf>

## **Education, Service Quality, Accountability, Awareness, and Taxpayer Compliance: Individual Taxpayer Perception**

**Authors:** Vince Ratnawati, Ria Nelly Sari and Zuraidah Mohd Sanusi

*International Journal of Financial Research*

**ISSN:** 1923-4031

**Publication Date:** 11 June 2019

**Abstract:** The aim of this study is to investigate how education, service quality, and accountability affect taxpayer compliance and awareness. A model was developed and tested by using a sample of 253 taxpayers listed on the Directorate General of Taxation in Riau, Indonesia. Data were collected and analyzed by using least squares regression and moderated regression analyses. Results show that education, service quality, and accountability affect taxpayer compliance. The results also indicate that tax awareness strengthen the effects of education, service quality, and accountability on taxpayer compliance.

**Keywords:** education, service quality, accountability, awareness, taxpayer compliance

**Citation:** Vince Ratnawati, Ria Nelly Sari and Zuraidah Mohd Sanusi, 2019. Education, Service Quality, Accountability, Awareness, and Taxpayer Compliance: Individual Taxpayer Perception. *International Journal of Financial Research*, 10(5): 420-429. <https://doi.org/10.5430/ijfr.v10n5p420>

## Effect Of Accounting Information Systems Quality End-User Satisfaction Based Accounting Software Enterprise Resource Planning Perceived Usefulness As Moderating

**Authors:** Enni Savitri

*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** June 2019

**Abstract:** This study is about the quality of information systems used in the company, according to the needs and capabilities of the end user. So that this system can collaborate to process accounting data into quality information so that it is useful for users of information systems. To measure the quality of information systems is to find out how fast the accounting software system works. The system can processes accounting input data into a financial report. This system is assisted by the ability of the end user. The problem that usually occurs in the use of accounting software packages is the incompatibility of the system with business processes and the information needed by the company. The purpose of this study is to examine the quality effect of accounting information systems and perceived usefulness on end-user satisfaction. The population in this study are the end users of enterprise resources planning in Pekanbaru, Riau Indonesia. The sampling technique used in this study is purposive sampling with a total sample of 50 end users. The primary data was collected using questionnaires. The data was analyzed using a multiple linear regression method. The result of this study showed that the quality of accounting information systems has an effect on end-user satisfaction. Meanwhile, the of perceived usefulness has a mediating effect on the influence of quality of accounting information system toward end-user satisfaction.

**Keywords:** Quality of accounting information system, Perceived usefulness, End-user satisfaction, Enterprised resorces planning.

**Citation:** Enni Savitri, 2019. Effect Of Accounting Information Systems Quality End-User Satisfaction Based Accounting Software Enterprise Resource Planning Perceived Usefulness As Moderating. *International Journal of Scientific & Technology Research*, 8(6): 187-192. Available at <https://www.ijstr.org/final-print/june2019/Effect-Of-Accounting-Information-Systems-Quality-End-user-Satisfaction-Based-Accounting-Software-Enterprise-Resource-Planning-Perceived-Usefulness-As-Moderating.pdf>



## Effect of Andrographolide on Monocyte Chemoattractant Protein-1 Expression at the Initiation Stage of Atherosclerosis in Atherogenic Diet-Fed Rats

**Authors:** Muhammad Yulis Hamidy, Fadil Oenzil, Yanwirasti and Yufri Aldi

*Biomedical & Pharmacology Journal*

**ISSN:** 2456–2610

**Publication Date:** 15 September 2019

**Abstract:** To evaluate the effect of andrographolide on monocyte chemoattractant protein-1 (MCP-1) expression at the initiation stage of atherosclerosis in rats induced by an atherogenic diet. The research was conducted on 27 rats divided into 3 groups (n=9). Group 1 was given a standard diet. Group 2 was given an atherogenic diet of vitamin D3 700.000 IU/kg on the first day followed by 5% goat fat, 2% cholesterol, 0.2% cholic acid and standard diet up to 100% for 2 days to induce atherosclerosis initiation stage. Group 3 was given an atherogenic diet and treated with andrographolide 40 mg/kg. An immunohistochemical examination was performed to determine the expression of MCP-1. Data analysis using one-way Anova followed by post hoc test. The results showed the expression of MCP-1 in group 1 was  $6.61 \pm 1.90$ , in group 2 was  $32.99 \pm 3.74$  and in group 3 was  $9.61 \pm 2.47$ . There was a significant difference between group 3 treated with andrographolide 40 mg/kg compared with group 2 (p0.05). In conclusion, andrographolide may inhibit MCP-1 expression at the initiation stage of atherosclerosis in the andrographolide treated rats. Thus, andrographolide could be a potential anti-atherosclerosis drug.

**Keywords:** Andrographolide, MCP-1, Atherosclerosis.0

**Citation:** Muhammad Yulis Hamidy, Fadil Oenzil, Yanwirasti and Yufri Aldi, 2019. Effect of Andrographolide on Monocyte Chemoattractant Protein-1 Expression at the Initiation Stage of Atherosclerosis in Atherogenic Diet-Fed Rats, *Biomedical & Pharmacology Journal*, 12(3): 1167-1173. <https://dx.doi.org/10.13005/bpj/1745>



## Effect of Human Capital and Competitive Strategies Against The Financial Performance of Small And Medium Enterprises

**Authors:** Enni Savitri and Almasdi Syahza

*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** 04 April 2019

**Abstract:** The purpose of this study is to analyze the effect of human capital on financial performance, the effect of human capital on competitive strategies and the influence of competitive strategies on financial performance. The samples consists of 68 SMEs managers in Province of Riau engaging in the manufacturing sector. The results using Path Analysis show that human capital have an effect on financial performance and on competitive strategies. Competitive strategies has an effect on financial performance. Human capital is important for choosing the right competitive strategy. The selection of the right competitive strategy improves financial performance. The selection of the right competitive strategy is necessary in the creation of strategies and of varied products. Improved financial performance is reflected by the growth of industrial assets and when SMEs focused on certain areas.

**Keywords:** human capital, competitive strategies, financial performance.

**Citation:** Enni Savitri and Almasdi Syahza, 2019. Effect Of Human Capital And Competitive Strategies Against The Financial Performance Of Small And Medium Enterprises. *International Journal of Scientific & Technology Research*, 8(4): 86-92. Available at <https://www.ijstr.org/final-print/apr2019/Effect-Of-Human-Capital-And-Competitive-Strategies-Against-The-Financial-Performance-Of-Small-And-Medium-Enterprises.pdf>

## Hormone induced spawning and feeding conditions for Betok fish (*Anabas testudineus*)

**Authors:** Sukendi, Windarti, Ridwan Manda Putra and Eddiwan

*EurAsian Journal of BioSciences*

**ISSN:** 1307-9867

**Publication Date:** 24 Maret 2019

**Abstract:** The objective of this study is to optimize the fertility and hatchability of eggs from the climbing perch (*Anabas testudineus*) by using an Ovaprim® and hCG hormonal treatment. The impact of the feeding method on the growth and survival of the fish larvae was also investigated. A completely randomized design of experiments with five treatments and three replications was used in the study. The optimum hormonal treatment was found to be an injection of 0.5 ml Ovaprim®/kg body weight yielding a fertility and hatchability rate of 74% and 75%, respectively. The best tested diet for the growth and survival of the fish larvae was Tubifex worms varying from 3 to 43 days after hatching. This yields an absolute weight value of 0.828 gram, an absolute growth of 2.9 cm, a daily weight growth rate of 0.170% and a survival rate of 88.9%.

**Keywords:** climbing perch, Ovaprim®, hCG, fish farming

**Citation:** Sukendi, Windarti, Ridwan Manda Putra and Eddiwan, 2019. Hormone induced spawning and feeding conditions for Betok fish (*Anabas testudineus*). *EurAsian Journal of BioSciences*, 13(1): 121-125. Available at <http://www.ejobios.org/article/hormone-induced-spawning-and-feeding-conditions-for-betok-fish-anabas-testudineus-6159>

# ***International Journal of Simulation Systems, Science & Technology***

## **Performance Evaluation of RSS Fingerprinting for Indoor Location using LoRa**

**Authors:** Irsan Taufik Ali, Abdul Muis and Riri Fitri Sari

*International Journal of Simulation Systems, Science & Technology*

**ISSN:** 1473-804X

**Publication Date:** 28 October 2019

**Abstract:** The complexity of the problems encountered on the Internet of Things (IoT) market increases accompanied by increasing needs including for indoor localization. The use of the fingerprint signal strength indicator (RSSI) is one of the popular techniques used in Indoor Localization Systems (ILS). Knowing the characteristics of the device and the environment in the room is needed to determine the right technique for indoor localization. LoRa (Long Range) is a Low-Power Wide Area Network (LPWAN) technology in recent years that has excelled in outdoor implementations but its performance has not been sufficiently investigated for indoor locations. We conducted a preliminary study to determine the suitability of RSS LoRa fingerprint characteristics in the indoor environment by comparing the results of the simulation and testbed. Based on experiments show that properties of room and obstacles greatly affect against of Received Signal Strength (RSS) fingerprints LoRa for indoor localization.

**Keywords:** component, LoRa, RSSI, Fingerprinting, Indoor localization.

**Citation:** Irsan Taufik Ali, Abdul Muis and Riri Fitri Sari, 2019. Performance Evaluation of RSS Fingerprinting for Indoor Location using LoRa. *International Journal of Simulation Systems, Science & Technology*, 20(5): 81-87. Available at <https://edas.info/doi/10.5013/IJSSST.a.20.05.08>

## Strategy of the Mangrove ecosystem management in efforts to combat abrasion in the Bantan District case of the Mangrove ecosystem in Teluk Papal Village, Bantan District, Bengkalis Regency, Indonesia

**Authors:** Zulkarnaini, Dendy Ariandi and Syahril

*Eurasian Journal of Biosciences*

**ISSN:** 1307-9867

**Publication Date:** 06 Februari 2019

**Abstract:** Mangroves in the Teluk Papal Village are in a community that grow naturally. Mangrove conditions in the Teluk Papal Village in some areas have been damaged as a result of beach abrasion, land conversion into plantations, and community logging. Damage to the mangrove area is expected to increase in the future. Therefore, it is necessary to research about the mangrove damage by monitoring the change of the mangrove area and to analyze the leading factors as to why this damage is occurring. The purpose of this study is to assess the level of damage and factors which cause mangrove damage, to calculate the total economic value and formulate a mangrove management strategy for the Teluk Papal Village, in the Bantan District. The results show that mangrove vegetation in the Teluk Papal Village consists of 10 species, namely *Avicennia alba*, *Rhizophora mucronata*, *Thespesia populnea*, *Sonneratia alba*, *Excoecaria agallocha*, *Sonneratia caseolaris*, *Bruguiera gymnorhiza*, *Xylocarpus granatum*, *Rhizophora apiculata*, *Nypa fruticans*. Based on the results of standardized criteria and guidelines for damage to mangroves KEPMENLH 201 in 2004, mangroves in the Teluk Papal Village are in good condition (they are very solid and medium). This is based on the amount of tree density per hectare. The leading factor is coastal abrasion due to reduced mangrove vegetation in the front row, land conversion to plantation land and brick production. The estimated economic value of the mangroves is calculated by direct benefits, indirect benefits, benefits of choice and benefits of existence with a financial result of Rp 42.567.271.593.04. Based on the results of economic analysis it shows that the mangrove ecosystem in the Teluk Papal Village has a large economic value which means if there is a change in the mangrove area and its positive (increasing), then the value of the mangrove economy is positive (increased) and vice versa. This condition indicates that the mangrove ecosystem must be maintained so that its ecological, economic, social and environmental functions can be utilized sustainably.

**Keywords:** mangroves, sustainable management, Teluk Papal, economic valuation

**Citation:** Zulkarnaini, Dendy Ariandi and Syahril, 2019. Strategy of the Mangrove ecosystem management in efforts to combat abrasion in the Bantan District case of the Mangrove ecosystem in Teluk Papal Village, Bantan District, Bengkalis Regency, Indonesia. *Eurasian Journal of Biosciences*, 13(1): 75-82. Available at <http://www.ejobios.org/article/strategy-of-the-mangrove-ecosystem-management-in-efforts-to-combat-abrasion-in-the-bantan-district-5633>



## The Effectiveness of Village Fund Management

**Authors:** Enni Savitri, Andreas and Volta Diyanto

*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** September 2019

**Abstract:** This study aimed to analyze the impact of plan, implementation, supervision, and transparency aspects to the effectiveness of village fund management. This was a quantitative and qualitative study with samples obtained from several villages located in the coastal area of Riau Province. A total of 160 people, including village heads, secretaries, treasurers, village consultative body, and the local community took part in this study. Data were collected by using questionnaires, interviews, and documentation. Double linear regression technique was also employed. The result of the study therefore showed that planning, implementation, supervision, and transparency gave impact to the effectiveness of village fund management

**Keywords:** Budgeting Plan, The implementation of the village fund, Supervision of Village Fund and Effectiveness of Village Funds.

**Citation:** Enni Savitri, Andreas and Volta Diyanto, 2019. The Effectiveness of Village Fund Management. *International Journal of Scientific & Technology Research*, 8(9): 1373-1377.  
<https://www.ijstr.org/final-print/sep2019/The-Effectiveness-Of-Village-Fund-Management.pdf>

## The Influence of Self-concept in Using Credit Card on its Decision to Use

**Authors:** Gatot Wijayanto, Yuyus Suryana, Yevis Marty Oesman and Arief Helmi

*Journal of Management Information and Decision Sciences*

**ISSN:** 1532-5806

**Publication Date:** Maret 2019

**Abstract:** The rapid advanced technology leads all business fields compete to incorporate technological elements into each of their products. Bank is utilizing technology by issuing credit card as it provides many cashless advantages. Another advantage of using credit cards is the ease in utilizing many promotions at merchants. Despite many advantages provided, many credit card users do not have a good self-concept, resulting having a lot of debt. Therefore, this research was conducted with the aim at knowing the influence of self-concept in using credit cards on its decision to use. This research employed an explanatory survey method involving 400 respondents who had credit cards, which were selected using accidental sampling method of 6,770,000 total populations.

The results show that self-concept influenced the decision to use credit cards. In addition, the four dimensions of self-concept, namely self-control, responsibility, confidence, and self-esteem also influenced credit card users in managing their behaviours using credit cards with influence in medium category.

**Keywords:** Self-Concept, Decision to Use, Credit Card.

**Citation:** Gatot Wijayanto, Yuyus Suryana, Yevis Marty Oesman and Arief Helmi, 2019. The Influence of Self-concept in Using Credit Card on its Decision to Use. *Journal of Management Information and Decision Sciences*, 22(1): 55-69. Available at <https://www.abacademies.org/articles/the-influence-of-selfconcept-in-using-credit-card-on-its-decision-to-use-7941.html>

## The Strategy of Environmental School through the Program of National Adiwiyata School in Pekanbaru (High School Level)

**Authors:** Nurhafni, Almasdi Syahza, Auzar and Nofrizal

**Corresponding Author:** Almasdi Syahza

*International Journal of Environmental and Science Education*

**ISSN:** 2633-6537

**Publication Date:** 14 September 2019

**Abstract:** Purpose of this study is: (1) Analyze the effective strategies for the implementation of Adiwiyata schools in Pekanbaru and (2) Analyze the condition of environmentally-friendly infrastructures so that it can become a culture in Pekanbaru High Schools. The type of this research is an exploratory research (case study). In the early stage, there was a grouping of analysis variables at the research location which is in several Pekanbaru High Schools. This research was also carried out on the actors of teaching and learning activities as well as school managers who have activities with the sample set based on the key person method approach. A number of data obtained through interviews with selected respondents will also be carried out with an in-depth interview method (Bungin, 2008). As research samples, the key informants are school managers and policymakers who are considered representative to get the data needed. This initial data will be the basis for the preparation of the research questionnaire. As respondents, the key informants are students, teachers, principals, and administrative staffs. This research was conducted from September to November 2017 in several Pekanbaru High Schools.

**Keywords:** strategy of environmental school, program of National Adiwiyata School, education in high school

**Citation:** Nurhafni, Almasdi Syahza, Auzar and Nofrizal, 2019. The Strategy of Environmental School through the Program of National Adiwiyata School in Pekanbaru (High School Level). *International Journal of Environmental and Science Education*, 15(1): 1-11.  
<https://doi.org/10.29333/ijese/6289>



## Viral and non-viral causes in patients with hepatocellular carcinoma in Arifin Achmad General Hospital Riau Province during 2013-2017

**Authors:** Arfianti, Zulfatta Dwi Putra, Ekral Delhaldita, Ligat Pribadi Sembiring, Hendra Asputra

*Bali Medical Journal*

**ISSN:** 2302-2914

**Publication Date:** 30 December 2019

### Abstract:

**Background:** Hepatocellular carcinoma (HCC) is the six most common cancer and the fourth leading cause of cancer-related death worldwide. Recent reports have suggested an increasing prevalence of HCC without evidence of hepatitis B and C infection (non-viral HCC).

**Methods:** This was a descriptive study with cross-sectional approach that aimed to describe the distribution of viral and non-viral risk causes of hepatocellular carcinoma cases at Arifin Achmad General Hospital (AAGH), Riau Province in the period of 2013-2017. Data were obtained from medical records of HCC patients using total sampling method.

**Results:** We included 129 cases of whom 64 (49,6%) were associated with viral causes and 65 (50,4%) were non-viral HCC. Bivariate analyses showed that there was no age difference between viral and non-viral HCC patients but the prevalence of non-viral HCC was significantly higher in females than males (odds ratio [OR], 3,12; 95% confidence interval [CI], 1,2-8,1;  $p=0,016$ ). In addition, patients with alpha-fetoprotein (AFP)  $<400$  ng/mL were more frequently associated with non-viral HCC compared with those with elevated AFP  $\geq 400$  ng/mL (OR, 3,71; 95%CI, 1,49-9,26;  $p=0,004$ ).

**Conclusion:** There was an equal distribution of viral and non-viral causes in HCC cases at AAGH, Riau Province during 2013-2017. This suggests changing etiologies of HCC that may impact HCC surveillance.

**Keywords:** alpha-fetoprotein, gender, hepatitis B, hepatitis C, HCC surveillance, non-viral

**Citation:** Arfianti, Putra, Z.D., Delhaldita, E., Sembiring, L.P., Asputra, H. 2019. Viral and non-viral causes in patients with hepatocellular carcinoma in Arifin Achmad General Hospital, Riau Province during 2013-2017. *Bali Medical Journal* 8(3): 759-763. <http://doi.org/10.15562/bmj.v8i3.1584>





## In-service Training for Chemistry Teachers' Proficiency: The Intermediary Effect of Collaboration Based on Teaching Experience

**Authors:** Jimmi Copriady, Hutkemri Zulnaldi, Masnaini Alimin, Rustaman

*International Journal of Instruction*

**ISSN:** 1308-1470

**Publication Date:** October 2018

**Abstract:** This research determined the effect of in-service training, collaboration and teacher proficiency on chemistry subject based on teaching experience. A total of 184 teachers were involved in this study, only 64 of which had less than 10 years of teaching experience. The data were collected via questionnaires and analysed using the software SPSS AMOS 23. The MANOVA test indicated significant differences between in-service training and collaboration based on teachers' teaching experience and parallel results between teacher proficiency in chemistry and teaching experience. The SEM test showed that collaboration has a different intermediary effect on the relationship between in-service training and teacher proficiency. Therefore, chemistry teachers with less teaching experience required additional in-service training and collaboration to enhance their proficiency, whereas experienced chemistry teachers only required in-service training. Results of this study implied that schools should organize collaborative activities that involve teachers with various experiences. Teamwork and collaboration are expected to enhance teacher proficiency in the subject.

**Keywords:** collaboration, in-service training, teacher proficiency in chemistry, teaching experience, teachers

**Citation:** Copriady, J., Zulnaldi, H., Alimin, M., & Rustaman. (2018). In-service Training for Chemistry Teachers' Proficiency: The Intermediary Effect of Collaboration Based on Teaching Experience. *International Journal of Instruction*, 11(4), 749-760.

<https://doi.org/10.12973/iji.2018.11447a>

# Development of palm oil sector and future challenge in Riau Province, Indonesia

**Authors:** Almasdi Syahza and Brilliant Asmit

*Journal of Science and Technology Policy Management*

ISSN: 2053-4620

**Publication Date:** 20 January 2020

## **Abstract:**

### **Purpose**

This paper aims to present the development of palm oil sector and future challenge in Riau Province Indonesia, which includes sustainable plantation development.

### **Design/methodology/approach**

This research was conducted through a survey with developmental research method. The research location is in the Province of Riau, which is the potential development of oil palm plantation. The land areas of Riau are Kampar, Rokan Hulu and Kuantan Singingi, while the coastal areas are Pelalawan, Siak, Bengkalis, Indragiri Hilir, Indragiri Hulu and Rokan Hilir. The socio-economic and environmental aspects of sustainability level of palm oil plantations were analyzed using a multi-dimensional scaling approach that was modified into a Rap-Insus-Pom.

### **Findings**

Development of palmoil plantations results in land conversion, posing potential erosio. In anticipating environmental damage, the Government of Indonesia imposes the Indonesian Sustainable Palm Oil (ISPO) policy. The results of ISPO policy show that Indonesian crude palm oil products are environmentally friendly.

### **Originality/value**

This research is one of few studies that investigate the development of palm oil sector and future challenge in Riau Province, Indonesia. Riau Province still needs 13 units of palm oil mills with capacity of 60 tons per hour. Find strategies to regulate palm oil farming institutions and derivative products to enhance growth and economic development in the region and find production centers and development areas for palm oil local industries in potential regions.

**Keywords:** Customer Value, Self-Concept and Use Decision, Credit Card

**Citation:** Syahza, A. and Asmit, B. (2020). Development of palm oil sector and future challenge in Riau Province, Indonesia, *Journal of Science and Technology Policy Management*, 11 (2):149-170.

<https://doi.org/10.1108/JSTPM-07-2018-0073>

# Identification of Periostin as a Potential Biomarker in Gliomas by Database Mining

**Authors:** Ahmad Faried, Yulius Hermanto, Firman P. Tjahjono, Andrea Valentino, Muhammad Z. Arifin

*World Neurosurgery*

ISSN: 1878-8750

**Publication Date:** 28 November 2019

## Abstract:

### Background

Bioinformatics analysis integrating microenvironmental factors and single cell analysis segregated the glioblastoma (GBM) subtype into 3 subtypes: proneural, classic, and mesenchymal. Mesenchymal GBM tends to have the worst survival but benefits from aggressive treatment protocols. Therefore, it is clinically meaningful to identify relevant biomarkers to distinguish the mesenchymal subtype. Moreover, in developing nations with limited resources, rigorous examinations are costly and inefficient for patient care.

### Methods

In this study, we analyzed The Cancer Genome Atlas (TCGA)–Glioblastoma and TCGA–Low-Grade Glioma RNA sequencing (RNAseq) cohorts and confirmed that the mesenchymal subtype was associated with the worst prognosis.

### Results

We identified periostin (POSTN) as a mesenchymal subtype biomarker with prognostic value across histologic grades and confirmed the reliability of POSTN by gene expression meta-analysis combining TCGA, Chinese Glioma Genome Atlas (CGGA) and REMBRANDT (Repository for Molecular Brain Neoplasia Data) GBM cohorts (hazard ratio, 1.71 [range, 1.47–2.07],  $n = 693$ ) and LGG cohorts (hazard ratio, 2.55 [range, 1.61–4.05],  $n = 1226$ ).

### Conclusions

By using available online glioma databases, our study provided an insight into the expression of POSTN as an independent predictor for patients with glioma (GBM and LGG) and could be useful for diagnostic simplification to identify high-risk groups.

**Keywords:** CGGA Glioma Periostin (POSTN) Prognosis TCGA

**Citation:** Ahmad Faried, Yulius Hermanto, Firman P. Tjahjono, Andrea Valentino, Muhammad Z. Arifin, 2020. Identification of Periostin as a Potential Biomarker in Gliomas by Database Mining, *World Neurosurgery*, 135(1): e137-e163. <https://doi.org/10.1016/j.wneu.2019.11.077>



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## The Empowerment of social media Facebook in Language Learning at the University

**Authors:** Syafrial, Hadi Rumadi and Rezki Puteri Syahrani Nurul Fatimah

**Corresponding Author:** Hadi Rumadi

*The Asian EFL Journal*

ISSN: 1738-1460

**Publication Date:** October 2019

**Abstract:** The society and the government are concerned about the development of social media abuse, such as Facebook, Instagram and Youtube. The misappropriation of social media can potentially divide the nation's unity with the spreading of hoax news. It's as if the ITE Law that was authorized in 2008 cannot stop the abuse of social media. Although several people have 44 been punished due to violating the ITE Law. Even though social media can be empowered as a media in language learning. Social media can help students' in the process of language learning, especially related to students' participation and discussion toward the results of student creativity products in the teaching and learning process. The purpose of this research is to applying Facebook as a media to increase students' participation and creativity in language learning. The methodology used in this research is an experiment with using Facebook to discuss student tasks collectively without limits of space and time. The data collection techniques use observation, interview and documentation. The data analysis technique that used to compare the level of understanding of students with three learning models namely teacher learning, student learning and a combination model that empowers Facebook as a media for language learning. This research only compares the level of students' participation and knowledge of the assignments that given to them. For more details about the research design.

**Keywords:** social media, Facebook, language learning.

**Citation:** Syafrial, Hadi Rumadi and Rezki Puteri Syahrani Nurul Fatimah, 2019. The Empowerment of social media Facebook in Language Learning at the University. *The Asian EFL Journal*, 25(5): 43. Available at <https://www.asian-efl-journal.com/monthly-editions-new/2019-monthly-journals/volume-25-issue-5-1-2019-2/>



## Mediation Position based on Supreme Court Regulation No. 1 of 2016 concerning Procedure for Mediation in the Religious Courts

**Authors:** Mardalena Hanifah, Yaswirman, Sukanda Husin and Rembrandt

*International Journal of Innovation Creativity and Change*

**ISSN:** 2201- 1323

**Publication Date:** Desember 2019

**Abstract:** Mediation is a way of resolving disputes through the negotiation process to obtain agreement between the parties assisted by a mediator. To achieve a fair final outcome, without wasting too much cost, it remains effective and fully accepted by both parties in a voluntary dispute. Article 2 Supreme Court Regulation No. 1 of 2016 concerning Procedure for Mediation in Courts should not be ignored and it should be considered by various parties, because the legal consequences are that the decision is null and void if it does not carry out a mediation procedure. The court, which has been impressed as a law enforcement and justice institution, now appears as an institution seeking a peaceful solution for the parties. Settlement of cases with mediation currently practiced in the courts has special characteristics, when cases are registered in the court connected mediation. Mediation efforts will certainly also benefit the court because the use of mediation is expected to overcome the problem of case accumulation. Implementation of Supreme Court Regulation Number 1 of 2016 concerning Mediation Procedures in Courts, can be an attempt to resolve cases in the Religious Courts mediation is the main choice, because it can negotiate the wishes of the parties by means of “peace”. Because after all the fairness of the verdict, but it will be better and more just results of peace. The fairest of decisions handed down by judges will be deemed and felt fair by the winning party. As with peace, the results of sincere peace based on mutual agreement from the disputing parties are free from win and lose qualifications. They both win and both lose or win-win solution, so that both parties recover in harmony and brotherhood.

**Keywords:** Position, Mediation, Religious Courts.

**Citation:** Mardalena Hanifah, Yaswirman, Sukanda Husin and Rembrandt, 2020. Mediation Position based on Supreme Court Regulation No. 1 of 2016 concerning Procedure for Mediation in the Religious Courts. *International Journal of Innovation Creativity and Change*, 10(4): 297-309. Available at <https://www.ijicc.net/index.php/volume-10-2019/138-vol-10-iss-4>

## Integrated Geophysical Image of the Hot Spring in Rokan Hulu, Riau, Indonesia

**Authors:** Nur Islami and Mitri Irianti

*Bulletin of the Geological Society of Malaysia*

ISSN: 0126-6187; 2637-109X

**Publication Date:** December 2019

**Abstract:** The first study of the hydrothermal system through the geophysical image in the area of Rokan Hulu hot spring is presented in this paper. The research employed integrated geophysical survey methods which consist of a geomagnetic, geoelectrical resistivity, and very low frequency (VLF) survey. Direct surface resistivity measurement was proposed and used to obtain a correlation of geological conditions with subsurface resistivity values and to correlate with VLF data. The geoelectrical resistivity survey used Wenner configuration, with a minimum electrode distance of 5 m. While the VLF survey was taken at every distance of 6 m. Magnetic surveys were carried out with a spacing of about 0.5 km and covered an area approximately 9 km<sup>2</sup>. The results show that there is relatively lower magnetic value zone (about 65 nT) at the hot spring and extends to the southwest. The geoelectrical resistivity shows the possibility of water accumulation with resistivity value less than 150 ohm.m in the zone around the hot spring. While the VLF surveys show more conductive value which indicate the zone of fracture occurs at some places along the low geomagnetic anomaly zones. The surface temperature of the hot spring is 59°C with a constant discharge of about 7 l/s. The hot spring location is connected by fractures to the lower magnetic value zone, which the source of water is coming from the relatively higher elevation of the river surrounding the Rokan intrusion.

**Keywords:** Geoelectrical resistivity, hot spring, magnetic, VLF, Rokan Hulu

**Citation:** Nur Islami and Mitri Irianti, 2019. Integrated Geophysical Image of the Hot Spring in Rokan Hulu, Riau, Indonesia. *Bulletin of the Geological Society of Malaysia*, 68(1): 109-115.  
<https://doi.org/10.7186/bgsm68201910>

# The Effect of Treatment during A Haze/Post-Haze Year on Subsequent Respiratory Morbidity Status among Successful Treatment Tuberculosis Cases

**Authors:** Suyanto Suyanto, Alan Geater and Virasakdi Chongsuvivatwong

*International Journal Environmental Research and Public Health*

ISSN: 1660-4601

**Publication Date:** 23 November 2019

**Abstract:** The purpose of this study was to evaluate the respiratory morbidity status within the two to three years among successful (completed/cured) treatment of tuberculosis cases during a haze year (2015) and a post-haze year (2016). The study was conducted among 133 cases of a 2015 group and 103 cases of a 2016 group between January to March 2018 in Pekanbaru city, Indonesia. The St George Respiratory Questionnaire (SGRQ) was used to assess respiratory morbidity status. A higher score corresponds to worse respiratory morbidity. Based on a directed acyclic graph, quantile regression models were constructed to assess the associations between haze/post-haze year and the SGRQ (symptom, activity, impact, and total) domains score. The subsequent respiratory morbidity status of tuberculosis (TB) cases was poorer among respondents treated during a haze year (2015). Among SGRQ domains, only the activity domain score showed significant difference, in which the median for the 2015 group was 23.7 (inter-quartile range (IQR); 17.2, 30.9) compared to 18.4 (IQR; 11.9, 24.8) for the 2016 group. The effect was limited to the 2015 group who were exposed by an average PM10 index  $\geq 55$  during TB treatment. This raises concern for monitoring and improving the quality of life of TB patients treated during a haze year.

**Keywords:** TB; air pollution; respiratory morbidity; year of treatment

**Citation:** Suyanto Suyanto, Alan Geater and Virasakdi Chongsuvivatwong, 2019. The Effect of Treatment during A Haze/Post-Haze Year on Subsequent Respiratory Morbidity Status among Successful Treatment Tuberculosis Cases. *International Journal Environmental Research and Public Health*, 16(23): 1-11. <https://doi.org/10.3390/ijerph16234669>

## **Effect of Lactobacillus casei subsp. casei R-68 Isolated from Dadih on the Procarcinogenic Enzyme Activity and Fecal Microflora Count of Rats Challenged with Pathogenic Bacteria**

**Authors:** Usman Pato, Yusmarini Yusuf and Yudi Prasetya Nainggolan

*International Journal on Advanced Science, Engineering, Information Technology*

**ISSN:** 2088-5334

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**Abstract:** The human digestive tract is a complex ecosystem that may contain bacteria, yeast, and other microflora, which have harmful and beneficial effects on the host. Species of Lactobacillus and Bifidobacterium are most commonly used as probiotics. Lactobacillus casei subsp. casei R-68 (LCR-68) isolated from dadih, traditional fermented buffalo milk from West Sumatera has the potential to be used as probiotic. The purposes of the present study were to evaluate the ability of strain LCR68 to inhibit the growth of the pathogenic bacteria Listeria monocytogenes FNCC-0156 and Escherichia coli FNCC-19 and reduce the activity of fecal mutagen enzymes in Wistar rats. The in vivo test used 25 male Wistar rats with an average weight of 174 - 176 g. This study consisted of five groups of treatment with five rats of each group. The results show a significant increase in the growth in all groups, although a significantly lower weight gain was observed in rats challenged with Listeria monocytogenes and fed fermented milk LCR-68. The counts of aerobic and anaerobic microbes were the same in all groups. Significantly higher counts of lactic acid bacteria were determined after the application of fermented milk LCR68. Significantly lower counts of Escherichia coli were also observed after the application of fermented milk LCR68. The presence of LCR-68 in fermented milk reduced the activity of  $\beta$ -glucuronidase and  $\beta$ glucosidase significantly in the feces of Wistar rats. Therefore, the strain R-68 as a probiotic is expected to be able to prevent the formation of procarcinogenic compounds into carcinogens that cause cancer in the digestive tract.

**Keywords:** dadih; Lactobacillus casei; pathogenic bacteria; in vivo test; wistar rats.

**Citation:** Usman Pato, Yusmarini Yusuf and Yudi Prasetya Nainggolan, 2019. Effect of Lactobacillus casei subsp. casei R-68 Isolated from Dadih on the Procarcinogenic Enzyme Activity and Fecal Microflora Count of Rats Challenged with Pathogenic Bacteria, *International Journal on Advanced Science, Engineering, Information Technology*, 9(5): 1656-1662.

<https://doi.org/10.3390/ijerph16234669>



## The Effects of Zn/Natural Zeolite Ratio and Adsorbent Calcination on H<sub>2</sub>S Adsorption in Biogas on the Processing of Palm Oil Mill Effluent (Pome)

**Authors:** Freddy Manullang, Adrianto Ahmad and David Andrio

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*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 10 September 2019

**Abstract:** Biogas is a renewable energy source derived from organic material that is anaerobically degraded by bacteria in an oxygen-free environment. The main components of biogas are methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>). In addition, there are other relatively small amounts of gas, namely nitrogen (N<sub>2</sub>), hydrogen sulfide (H<sub>2</sub>S) and hydrogen (H<sub>2</sub>). The quality of biogas that is non-optimal can be improved by separating or eliminating impurity gases, one of which is hydrogen sulfide (H<sub>2</sub>S). Hydrogen sulfide (H<sub>2</sub>S) is a poisonous and odorous gas that causes corrosion, so it needs to be reduced in biogas. Hydrogen sulfide (H<sub>2</sub>S) in biogas can be reduced by adsorption methods using modified natural zeolites. The purpose of this study is to determine the effect of the natural Zn/zeolite impregnation ratio and the effect of the adsorbent calcination temperature on biogas purification and determine the concentration of hydrogen sulfide (H<sub>2</sub>S) from biogas purification. The adsorbent is synthesized with variation: natural Zn/zeolite ratio of 10%, 20%, 30% w / w and calcination temperature of 200°C, 300°C, 400°C. Adsorbents are characterized using X-Ray Diffraction (XRD) and Scanning Electron Microscope (SEM). The result of this research show that the optimum adsorption capacity of hydrogen sulfide (H<sub>2</sub>S) in biogas is obtained at a variable ratio of Zn/zeolite natural 20% and calcination temperature of 300°C is 6.36 mg S g adsorbent and H<sub>2</sub>S can be purified or adsorbed up to 99%.

**Keywords:** Adsorption, Adsorption Capacity, Biogas, Hydrogen Sulfide (H<sub>2</sub>S), Natural zeolites.

**Citation:** Freddy Manullang, Adrianto Ahmad and David Andrio. (2019). The Effects of Zn/Natural Zeolite Ratio and Adsorbent Calcination on H<sub>2</sub>S Adsorption in Biogas on the Processing of Palm Oil Mill Effluent (Pome), *Journal of Physics: Conference Series*, 1351 (012105): 1-8.

<https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012105>

## Effect of Time Fermentation and *Saccharomyces Cerevisiae* Concentration for Bioethanol Production from Empty Fruit Bunch

**Authors:** Josua Sugandi Siregar, Adrianto Ahmad and Said Zul Amraini

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*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** 10 September 2019

**Abstract:** Bioethanol is new renewable energy using the fermentation process from a substrate containing glucose. One of the materials which can convert to bioethanol is empty fruit bunch, which is in large amount in Indonesia. The plantation of palm oil has empty fruit bunch waste as much 23.988.293 tons in a year. The conversion from an empty fruit bunch to bioethanol also helps to reuse the waste which is not useful. There are a few steps to get bioethanol from an empty fruit bunch that is delignification of empty fruit bunch pollen using KOH solution which makes from empty fruit bunch ash getting from an incinerator. And then purification of pollen using H<sub>2</sub>O<sub>2</sub> 3% solution, hydrolysis cellulose becomes glucose solution using H<sub>2</sub>SO<sub>4</sub> 1% in process condition 100 °C and 60 minutes. Fermentation using temperature condition 30 °C, and stirring in 250 rpm. The variation of yeast *Saccharomyces cerevisiae* concentration which is 4 g/L, 6 g/L, and 8 g/L. And time variation in 0, 24, 48, 72, 96, and 120 hours. The research result is shown that maximum glucose from hydrolysis is 112,44 g/L. And the highest bioethanol concentration from the process is 5,5% (v/v) or 41,411 g/L in yeast concentration 6 g/L and 96 hours.

**Keywords:** Bioethanol, Fermentation, Empty Fruit Bunch, *Saccharomyces Cerevisiae*

**Citation:** Josua Sugandi Siregar, Adrianto Ahmad and Said Zul Amraini, 2019. Effect of Time Fermentation and *Saccharomyces Cerevisiae* Concentration for Bioethanol Production from Empty Fruit Bunch. *Journal of Physics: Conference Series*, 1351 (012104): 1-5.

<https://iopscience.iop.org/article/10.1088/1742-6596/1351/1/012104>

## Production of Second-Generation Bioethanol from Palm Fruit Fiber Biomass using *Saccharomyces cerevisiae*

**Authors:** A Ahmad, S R Muria and M Tuljannah

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** September 2019

**Abstract:** Indonesia was the largest producer and exporter of palm oil in the world. As the plantation area expands, the increasing number of palm oil process industries results in large amounts of waste product. The biggest waste was of palm fruit fiber (fiber cake). It was known that 1 ton of fresh fruit bunches (FFB) of palm oil will produced 13% or 130 kg of fiber cake. By look at the potential that can be generated from the fruit fiber of palm oil (fiber cake) coming from the CPO process industry has a value that to use as the main ingredients in the making of alternative bioethanol fuel. The purposes of this study were to synthesize bioethanol from the raw material of palm fruit fibers, to determine the influence of the amount of *Saccharomyces cerevisiae* weight on bioethanol, and to determine the optimum time of bioethanol production from the raw material of palm fruit fibers by separation hydrolysis and fermentation (SHF) method. The stages of this study were delignification used KOH solution obtained from the extract of Palm Empty Cluster Ash, then the purification process using 3% H<sub>2</sub>O<sub>2</sub> solution. Then the hydrolysis process using 2 M H<sub>2</sub>SO<sub>4</sub> for 3 hours at 100°C. The last process was fermentation. In the fermentation process, variations of *Saccharomyces cerevisiae* concentration were 4, 6, 8 and 10 gr/L and fermentation time were 24, 48, 72, 96, and 120 hours. In acid hydrolysis, a maximum sugar concentration of 131 gr/L was produced. The best *Saccharomyces cerevisiae* concentration in this study was 4 gr/L at the best fermentation time of 96 hours with the obtained bioethanol content of 7% or 55.25 g/L.

**Keywords:** Bioethanol, Fermentation, Hydrolysis, Palm fruit fiber, *Saccharomyces cerevisiae*

**Citation:** A Ahmad, S R Muria and M Tuljannah, 2019. Production of Second-Generation Bioethanol from Palm Fruit Fiber Biomass using *Saccharomyces cerevisiae*. *Journal of Physics: Conference Series*, 1295 (012030): 1-9. <https://iopscience.iop.org/article/10.1088/1742-6596/1295/1/012030>

## The effect of *Saccharomyces cerevisiae* concentrations on second generation bioethanol production from oil palm frond

**Authors:** A Ahmad, S R Muria and M Tuljannah

*Journal of Physics: Conference Series*

**ISSN:** 1742-6588

**Publication Date:** September 2019

**Abstract:** Oil palm is one of the plantation commodities that have important role in economic activity in Indonesia. With a total area of 11.30 million hectares and 75,517,083 tons of oil palm waste per year and it has a calorific value of 3350 kcal/kg, it has the potential to contribute alternative energy from the biomass. In addition to being utilized as an environmentally friendly renewable energy source, conversion of oil palm to bioethanol also helps to reduce untapped waste. Producing bioethanol from oil palm frond can be done through fermentation process. One of factors that affect the fermentation process is the number of cells of microorganisms. The microorganism used in this study is *Saccharomyces cerevisiae*. The purpose of this study was to determine the effect of *Saccharomyces cerevisiae* concentration on fermentation process on bioethanol produced and determine the best time of fermentation to bioethanol production from oil palm frond. The production of bioethanol from oil palm frond includes stages of delignification of oil palm frond using KOH solution obtained from empty fruit bunches ash extract, purification of oil palm using 3% H<sub>2</sub>O<sub>2</sub> solution, hydrolysis using 1% H<sub>2</sub>SO<sub>4</sub> with 100°C for 60 minutes, and fermentation using *Saccharomyces cerevisiae* with variation of *Saccharomyces cerevisiae* concentration 4 g/L, 6 g/L, 8 g/L, and 10 g/L. The maximum sugar concentration produced by the hydrolysis process was 117.55 g/L. The best bioethanol concentration was obtained at 3.29% (v/v) or 25.97 g/L at *Saccharomyces cerevisiae* 8 g/L concentration and 96 hours fermentation time.

**Citation:** A Ahmad, S R Muria and M Tuljannah, 2019. The effect of *Saccharomyces cerevisiae* concentrations on second generation bioethanol production from oil palm frond. *Journal of Physics: Conference Series*, 1295 (12029): 1-8. <http://dx.doi.org/10.1088/1742-6596/1295/1/012029>



## Characteristics of probiotic tapai made by the addition of *Lactobacillus plantarum* 1

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*International Journal of Agricultural Technology*

**ISSN:** 2630-0192

**Publication Date:** January 2019

**Abstract:** Tapai is one of the fermented products made from starch sources such as glutinous rice and cassava. The indigenous amylolytic lactic acid bacteria in the production of tapai was utilized and found the chemical, microbiological and sensory characteristics of the probiotic tapai. Tapai by the addition of various strains of *Lactobacillus plantarum* 1 as starter. The results showed that tapai added by various strains of *L. plantarum* 1 had slightly different characteristics with tapai made with the addition of yeast only as starter. Tapai supplemented by *L. plantarum* 1 strain had a lower pH value and alcohol content than tapai added with yeast only. The number of lactic acid bacteria ranged from 108 to 109 CFU/ml. Overall assay showed that tapai supplemented by *L. plantarum* 1 strain was preferably liked by panelists. Especially tapai supplemented by *L. plantarum* 1 RN2-53 was more preferred by panelists than tapai supplemented by *L. plantarum* 1 RN2-12112 and *L. plantarum* 1 RN1-23121 in term of colour, aroma, taste, and texture.

**Keywords:** *Lactobacillus plantarum* 1, glutinous rice, cassava, tapai

**Citation:** Yusmarini, Johan & Fitriani, V & Rahmayuni, S & Artanti, V.F. & Pato, Usman. (2019). Characteristics of probiotic tapai made by the addition of *Lactobacillus plantarum* 1. *International Journal of Agricultural Technology*, 15(1), 195-206. Available at [http://www.ijat-aatsea.com/pdf/v15\\_n1\\_2019\\_January/15\\_IJAT\\_15\(1\)\\_2019\\_Yusmarini.pdf](http://www.ijat-aatsea.com/pdf/v15_n1_2019_January/15_IJAT_15(1)_2019_Yusmarini.pdf)



## The Effectiveness of Teaching Materials for Graphic Organizers in Reading in Elementary School Students

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*Journal of Educational Sciences*

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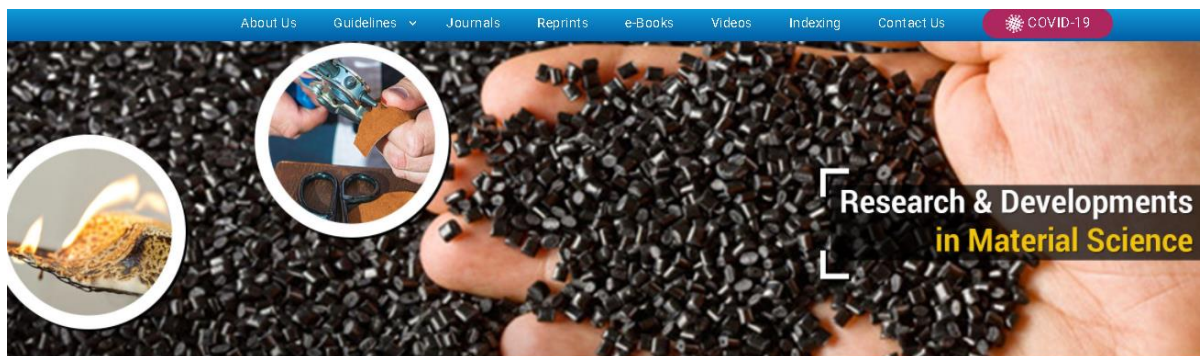
**Publication Date:** January 2019

**Abstract:** A teacher must be able to develop teaching materials in learning because it is a professional demand that can provide meaningful and enjoyable learning. The purpose of this study was to describe the effectiveness of developing graphic organizer teaching materials in reading in grade 4 of elementary school. The graphic organizer is a learning media used to read learning. This is a development research with consisting of 4 stages namely defining, designing, developing, and disseminating research results. Aspects namely need analysis and student analysis. In needs analysis, some analyzes were carried out covering curriculum, concepts, and assignments. While in the analysis of students looking at the suitability of teaching materials developed with the level of development of students. The design phase of teaching materials was made to plan the implementation of learning indicators, the average indicator was 95, and the learning objectives aspect was 93. The development phase was tested in SDN 38 Kota Pekanbaru with an average reading ability of 87.5, so it can be concluded that the effectiveness of teaching materials for graphic organizer in reading is very decent to use.

**Keywords:** Graphic Organizer, Reading, Teaching Material

**Citation:** Kurniaman, Otang & Zufriady, Zufriady. (2019). The Effectiveness of Teaching Materials for Graphic Organizers in Reading in Elementary School Students. *Journal Of Educational Sciences*, 3(1), 48-62. <http://doi.org/10.31258/jes.3.1.p.48-62>





## Thin Film Production and Characterization $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$ ( $x = 0.9$ ) for Capacitor Applications

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*Research & Development in Material Science*

**ISSN:** 2576-8840

**Publication Date:** January 24, 2019

**Abstract:** The thin films of Barium Strontium Titanate (BST) material of  $\text{Ba}_{0.1}\text{Sr}_{0.9}\text{TiO}_3$  were fabricated using sol-gel method and annealed at temperature 600 °C, 650 °C and 700 °C in order to obtain its crystalline structure. The thin films of BST were characterized using FESEM, XRD and Impedance of Spectroscopy. The results of characterization use FESEM at temperature of 600 °C, 650 °C and 700 °C to obtain thickness such as 51,36nm; 53,59nm and 87,09nm. The results of characterization use XRD with the temperature annealing. its angle  $10,26^\circ$  at temperature 600 °C, 650 °C and 700 °C to obtain the intensity 244, 280 and 300. The characterization uses Spectroscopy Impedance to obtain the values complex capacitance and dielectric constant are inversely proportional to the frequency and while the loss of dielectric values are proportional to the frequency. At frequency 100Hz with of the temperature 600 °C, 650 °C and 700 °C obtaining the complex capacitance of values which are  $5.59481 \times 10^{-11}\text{F}$ ;  $7.73048 \times 10^{-11}\text{F}$  and  $9.38054 \times 10^{-11}\text{F}$ . The dielectric constant values are 6.3215; 8.7350 and 10.5994. The loss of dielectric values is 0.0234; 0.0069 and 0.0066. The increasing temperature annealing the thickness value, the complex capacitance, the constant of dielectrics and the losses of dielectrics are increasing.

**Keywords:** Barium strontium titanite; Sol-gel method; XRD; FESEM; Impedance spectroscopy

**Citation:** Dewi, Rahmi. (2019). Thin Film Production and Characterization  $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$  ( $x = 0.9$ ) for Capacitor Applications. *Research & Development in Material Science*.

<http://doi.org/10.31031/rdms.2019.09.000717>



## Prospective Elementary Teachers' Knowledge of Comparing Decimals

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*International Journal on Emerging Mathematics Education*

ISSN: 2548-5806

**Publication Date:** March 2019

**Abstract:** The aim of this study is to investigate prospective elementary teachers' (PsETs) mathematical and didactical knowledge of comparing decimals. Thirty-two fourth-year PsETs from an elementary school teacher education study program in Indonesia participated in this study. Each PsET is asked to solve a mathematical task of comparing decimals presented in the hypothetical teacher task (HTT), and then the PsETs use their mathematical knowledge to build their didactical knowledge collectively (pairs). Their mathematical and didactic knowledge is analyzed based on the anthropological theory of the didactic, especially praxeology. The findings indicate that PsETs have various techniques to solve the comparing decimal task, but some of them find it difficult to explain those techniques.

**Keywords:** Anthropological Theory of the didactic, praxeologies, hypothetical teacher tasks, mathematical and didactical knowledge

**Citation:** Putra, Z.H., & Winsløw, C. (2019). Prospective Elementary Teachers' Knowledge of Comparing Decimals. *International Journal on Emerging Mathematics Education*, 3(1), 57-68.  
<http://doi.org/10.12928/ijeme.v3i1.11314>



## Influencing Factors:The Timeliness of Financial Reporting Submissions

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*Business and Management Studies*

**ISSN:** 2374-5924

**Publication Date:** March 2019

**Abstract:** The purpose of this study was to examine the effects of profitability, leverage, firm size, outsider ownership, the reputation of the public accounting firm and financial risk on the timeliness of financial report submissions. This study used a sample of all the trade, services and investment companies listed in Indonesia Stock Exchange in 2014-2016. A total of 78 companies were examined. Multiple linear regression was used to test the hypotheses. Results showed that profitability, outsider ownership, the reputation of the public accounting firm and financial risk had significant effects on the timeliness of financial report submissions, but leverage and firm size did not have the effect. The originality of this paper is proven by that sample used of trade, service and investment companies and by using the measure of an auditor's reputation. Both of which had been studied earlier. The implications from this study for regulators is that regulations can be better determined to oversee and ensure a high standard from the financial reporting mechanism in the Indonesia Stock Exchange.

**Keywords:** profitability, leverage, firm size, outsider ownership, reputation of the audit firm, financial distress

**Citation:** Savitri, Enni & Andreas, Andreas & Surya, Raja. (2019). Influencing Factors:The Timeliness of Financial Reporting Submissions. *Business and Management Studies*, 5(1), 43-51.  
<https://doi.org/10.11114/bms.v5i1.4144>

## **Production and Characteristics of Rebon Shrimp (*Mysis relicta*) Protein Hydrolysate with Different Concentrations of Papain Enzymes**

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*International Journal of Oceans and Oceanography (IJOO)*

**ISSN:** 0973-2667

**Publication Date:** 2019

**Abstract:** Rebon shrimp is one of the marine products with a very small size compared to other types of shrimp. Despite the fact that it is readily available and nutritionally rich, its usage has been limited, except that it is used as raw material for shrimp paste, cincalok and dried shrimp. Therefore, there is need to conduct more research on rebon shrimp in order to get more economically valuable products. The aim of this study is to produce rebon shrimp protein hydrolysates using an enzymatic process, with different concentrations of the papain enzyme. The non-factorial completely randomized design was used in this experimental study with 3 treatment levels - addition of 5%, 10% and 15% concentrations of papain enzyme. Proximate analysis was conducted to determine its ash, protein, and fat content. Its protein analysis was also conducted to determine all the amino acids present. The results showed that papain enzyme at a concentration of 15% (b/v) was best for producing the rebon shrimp protein hydrolysate. Also, the chemical composition of the protein hydrolysate produced include: ash content 3.41% (b / k), protein content 84.81% (b / k), and fat content 2.39% ash (b / k). The protein analysis resulted in 15 types of amino acid - aspartic acid, glutamic acid, serine, histidine, glycine, threonine, arginine, alanine, tyrosine, methionine, valine, phenylalanine, isoleucine, leucine and lysine. The glutamic acid has the highest amino acid level at 4.03% while histidine has the the lowest at 0.37%.

**Keywords:** Amino acids, enzymes, hydrolysates, concentrations, Papain

**Citation:** Suparmi, Harahap, Nursyirwani, Efendi.I, Dewita, Production and Characteristics of Rebon Shrimp (*Mysis relicta*) Protein Hydrolysate with Different Concentrations of Papain Enzymes, *International Journal of Oceans and Oceanography*, Volume 13, Number 1 (2019), pp. 189-198. Available at <https://www.ripublication.com/Volume/ijoov13n1.htm>

## Negative Correlation between Cytoglobin Expression and Intracellular ROS Levels in Human Skin Keloid Fibroblasts

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*The Indonesian Biomedical Journal*

ISSN: 2355-9179

**Publication Date:** April 2019

### Abstract:

**Background:** In our previous study, we found higher cytoglobin (Cygb) expression in keloid than normal tissue. Cytoglobin is a new globin family protein which function is still being studied to date. The purpose of this research is to elucidate the function of Cygb in human skin keloid fibroblasts (KFs), especially its role in intracellular reactive oxygen species (ROS) levels.

**Methods:** The study was conducted on human skin KFs obtained from primary culture. Inhibition of Cygb expression was achieved by using siRNA targeting Cygb. We compared the relative expression of Cygb between treatment and control group, and its effect on intracellular ROS levels. Gene expression was measured using quantitative real-time polymerase chain reaction (qRT-PCR) while the ROS level counted by dichlorodihydrofluorescein diacetate (DCFHDA) assay.

**Results:** There was an increase in intracellular ROS levels in the small interfering RNA (siRNA) (+) Cygb group compared to control group (1.673 vs. 1.260; 1.773 vs. 1.393; 1.710 vs. 1.360; respectively). There is a negative correlation between Cygb expression and ROS level ( $p < 0.05$ ;  $r = -0.651$ ).

**Conclusion:** There is a negative correlation between Cygb expression and intracellular ROS levels, we suggest Cygb acts as a ROS scavenger in human skin KFs.

**Keywords:** skin keloid fibroblasts, cytoglobin, siRNA, ROS

**Citation:** Siregar, Fajri & Silvia Hardiany, Novi & Jusman, Sri. (2019). Negative Correlation between Cytoglobin Expression and Intracellular ROS Levels in Human Skin Keloid Fibroblasts. *The Indonesian Biomedical Journal*, 11(1), 48-51. <https://doi.org/10.18585/inabj.v11i1.488>

## Analysis Of Multi-Stage Stochastic Optimization Model For Stochastic Transportation Problems

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*Journal of Transportation Systems*

**Publication Date:** 2019

**Abstract:** This paper presents a transportation model in the uncertain of variables. The transportation model formed from the variable of uncertainty is called the stochastic transportation model. In this transportation model presents is multi-stage stochastic transportation problems. The optimal solution is obtained by changing the stochastic transportation model into a deterministic transportation model, and by minimization cost on logistic intent and determines expectation cost at proximately, condition of expectation defined cost with every consideration and circumscribed.

**Keywords:** Stochastic programming problem, multi-stage stochastic programming problems, transportation programming model, stochastic transportation programming model.

**Citation:** Hasbiyati, Ihda, (2019). Analysis Of Multi-Stage Stochastic Optimization Model For Stochastic Transportation Problems. *Journal of Transportation System*. Volume 14, Number 1. Pp 21-25. Available at <http://matjournals.in/index.php/JoTS/article/view/3678>

## Danish Pre-service Teachers' Mathematical and Didactical Knowledge of Operations with Rational Numbers

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*International Electronic Journal Of Mathematics Education*

**ISSN:** 1306-3030

**Publication Date:** 2019

**Abstract:** The aim of this study is to investigate Danish pre-service teachers' (PSTs) mathematical and didactical knowledge of operations with rational numbers. This knowledge is studied through their collaborative activities to certain tasks related to the teaching of operations with rational numbers. An explicit model of the teachers' mathematical and didactical knowledge is designed based on the anthropological theory of the didactic (ATD) and used to analyse five-groups of PSTs' collaborative work. The findings show that the Danish PSTs prefer to use contextual or reallife situations in their teaching, but they encounter various challenges to realise general ideas in the context at hand.

**Keywords:** operations with rational numbers, mathematical and didactical knowledge, anthropological theory of the didactic, collaborative work.

**Citation:** Putra, Z. H. (2019). Danish Pre-service Teachers' Mathematical and Didactical Knowledge of Operations with Rational Numbers. *International Electronic Journal of Mathematics Education*, 14(3), 619-632. <https://doi.org/10.29333/iejme/5775>



## A framework for a comparative study of pre-service elementary teachers' knowledge of rational numbers

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*Educação Matemática Pesquisa*

**ISSN:** 1983-3156

**Publication Date:** 2019

**Abstract:** This paper presents a framework of a PhD research of the first author about a comparative study of preservice elementary teachers' knowledge of rational numbers between Indonesia and Denmark. To obtain the data, the authors design a series of hypothetical teacher tasks (HTTs), inspired by a paper of Durand-Guerrier, Winsløw, and Yoshida (2010). Subjects in this research are pre-service elementary teachers from a selection of different University Colleges in Denmark and from the elementary school teacher education study program, Riau University, in Indonesia. The praxeological reference models and the levels of didactic codetermination are used as tools to analyse the result.

**Keywords:** comparative study; elementary teachers' knowledge; rational numbers

**Citation:** Putra, Zetra & Winsløw, Carl. (2019). A framework for a comparative study of pre-service elementary teachers' knowledge of rational numbers. *Educação Matemática Pesquisa: Revista do Programa de Estudos Pós-Graduados em Educação Matemática*. 21. <https://doi.org/10.23925/1983-3156.2019v21i4p063-073>

## The Properties of Nitrogen Gas Breakdown Voltage under Direct Current Positive Polarity

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*International Journal of Electrical, Energy and Power System Engineering (IJEEPSE)*

**ISSN:** 2654-4644

**Publication Date:** June 2019

**Abstract:** The type of insulation gases that are usually used in the power circuit breaker (circuit breaker) is the sulfur hexafluoride ( $\text{SF}_6$ ) gas, nitrogen ( $\text{N}_2$ ) and carbon dioxide ( $\text{CO}_2$ ). Most of the electric power systems are using insulating materials such as sulfur hexafluoride ( $\text{SF}_6$ ). Sulfur hexafluoride gas ( $\text{SF}_6$ ) has a higher dielectric strength than the air. However, Sulfur hexafluoride ( $\text{SF}_6$ ) gas is not friendly environmentally and very impact on global warming. The purpose of this study was to test the breakdown voltage of nitrogen gas ( $\text{N}_2$ ) (more friendly environmental) as alternative insulation of sulfur hexafluoride ( $\text{SF}_6$ ) gas. This study was used sphere and needle electrodes with a distance of 0.5-2 cm and a pressure of 1-4 bar; it was tested for 20 times. From the test results, it obtained that the breakdown voltage of sphere electrodes is more significant than the needle electrodes. Sphere and needle electrodes with a distance of 2 cm and a pressure of 4 bar have a most excellent value of breakdown voltage at the voltage of 140 kV and 79 kV, respectively.

**Keywords:** Electrodes, nitrogen gas ( $\text{N}_2$ ), Weibull distribution, dielectric strength, breakdown voltage

**Citation:** Murdiya, F., Firdaus, Pardede, T., & Hamdani, E. (2019). The Properties of Nitrogen Gas Breakdown Voltage under Direct Current Positive Polarity. *International Journal of Electrical, Energy and Power System Engineering*, 2(2), 7-10. <https://doi.org/10.31258/ijeepse.2.2.7-10>



## Interest Rate Risk Of Banking Sector: The Effect Of Maturity Gap On Net Interest Income In Indonesia

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*Journal of Economics, Finance and Accounting*

**ISSN:** 2148-6697

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**Abstract:** Purpose - This study aims to examine how the interest rate risk management that has been reflected in banks' maturity gaps affect the net interest income (NII).

**Methodology** - The population in this study is all conventional commercial (non-Sharia) banks in Indonesia as many as 99 banks. Of the 99 banks, 57 banks were selected as the sample of in the study. Determination of the sample is based on these criteria: the availability of the bank's annual report containing financial statements providing data about the descriptions of interest rate risk management, which also provides complete data about bank's RSA and RSL from 2013 - 2017. There are five years of the research period, so 285 unit observations are used in the analysis. The study employs multiple regression analysis with panel data. Net interest income is derived from the difference between interest income and interest expense. The maturity gap is calculated as the difference between RSA and Risk RSL. The study uses a dummy variable of IRS, LDR, net NPL and ownership status of banks.

**Findings** - The results of the study show that maturity gap has a negative effect on NII and banks with positive gaps have higher NII than banks with negative gaps. These results imply that when the interest rate decreases, the widened positive gap will lower NII.

**Conclusion** - The conclusion of the research is that in conditions of declining interest rates, the more positive gap between RSA and RSL has decreased banks' NII. The practical implication of the results is that banks need to think about lowering the RSA by means of managing their assets, such as banks need to buy long-term securities, extend the loan maturity, and change the interest rate from the floating rate to a fixed rate. In terms of management liabilities, banks need to think about increasing RSL by giving premium interest rates for deposits with a maturity of less than one year, and by borrowing funds at fair interest rates.

**Keywords:** Indonesian banks, interest rate risk, interest rate sensitivity, maturity gap, net interest income.

**Citation:** Rokhmawati, A. (2019). Interest rate risk of the banking sector: the effect of maturity gap management on net interest income in Indonesia. *Journal of Economics, Finance and Accounting (JEFA)*, V.6(1), p.19-31. <http://doi.org/10.17261/Pressacademia.2019.1025>



## The Synthesis Of Magnetic Nanoparticles From Naturaliron Sand Of Kata Beach Pariaman West Sumatera Using Ball Milling Method As Environmental Material

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*MATEC Web of Conferences*

**Publication Date:** 2019

**Abstract:** Synthesis, magnetic, and structural properties and adsorption study of magnetic particles of  $\text{Fe}_3\text{O}_4$  have been carried out. Magnetic particles were synthesized from natural iron sand of Kata Beach Pariaman West Sumatera using ball milling method. The structural properties of the samples were determined using X-Ray Diffractometer (XRD) technique. Magnetic properties such as magnetization were measured based on hysteresis loop using vibrating sample magnetometer (VSM). Mass susceptibility of the sample was measured using Pasco magnetic probe. It was found that the mass susceptibility of magnetic particles increased significantly as ball milling time increased. Based on VSM results, the magnetic particle of  $\text{Fe}_3\text{O}_4$  has magnetization value of 32.26 emu/g with small coercivity of 174 Oe. Moreover, the results showed that ball milling method has succeeded to obtain magnetic particles. The increase of ball milling time resulted in an increase of magnetic moment of the sample. In this research, the magnetic particle of  $\text{Fe}_3\text{O}_4$  was added to a solution of methylene blue performed using shaker method. Atomic Adsorption Spectroscopy (AAS) method was used to study the methylene blue degradation.

**Citation:** The synthesis of magnetic nanoparticles from naturaliron sand of Kata beach Pariaman West Sumatera using ball milling method as environmental material Erwin Amiruddin, Adhy Prayitno *MATEC Web Conf.* 276 06014 (2019). <https://doi.org/10.1051/mateconf/201927606014>



## Indigenous People Social Function And Building Character Education (Study In Kampar Indigenous People To Sacred Grove In Kenagarian Rumbio, Riau Province)

**Authors:** Ahmal, Nana Supriatna, Kokom Komalasari, Erlina Wiyanarti

*Ponte International Scientific Researches Journal*

**ISSN:** 2694-4839

**Publication Date:** Feb 2019

**Abstract:** This paper explains the function and social in the character education building from environmental awareness value perspective in Kampar indigenous people for the sacred grove or hutan larangan in Kenagarian Rumbio, Riau Province. Data collection applied qualitative research method in form of observation, interview, and documentation. The observation research scopes are village condition, sociocultural and economic activity of the people, village elder or ninik mamak, public figure, the trader, the local society with in-depth interview, and include snowball sampling to maximize the data collection activity. The documentation activities are a report from village administration, traders report, or literature works from the expert. Data analysis applied Miles & Huberman analysis method, such as data reduction, data display, verification/conclusion and triangulation data validation, member checking, and expert opinion. There are three social functions or folklore practiced in the building of character education through informal education in indigenous people, petatah petiti or proverbs and sayings channel, pantun expression, and wise advice from ninik mamak or adat chief. Social capital existence from ninik mamak in development of character education through role model from ninik mamak as social behavior, an awareness in the indigenous people social life, and religious life of Kampar indigenous people based on true value.

**Keywords:** Education, Character, Sacred Grove, Indigenous People and Kampar

**Citation:** Ahmal, Supriatna, N, Komalasari, K, Wiyanarti, E, (2019). Indigenous People Social Function And Building Character Education (Study In Kampar Indigenous People To Sacred Grove In Kenagarian Rumbio, Riau Province). *Ponte International Scientific Researches Journal*. Volume 75 - Issue 2. Available at

<http://www.pontejournal.net/mainpanel/abstract.php?TOKEN=gRkgF5411G&PID=PJ-89GME>

## Removal Of COD And Total Nitrogen From Palm Oil Mill Effluent In Flat-Photobioreactor Using Immobilised Microalgae *Chlorella* Sp.

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*Food Research*

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**Publication Date:** April 2019

**Abstract:** Untreated palm oil mill effluent (POME) contains organic materials, tannin compounds and high in soluble solids that can damage the environment when discharged into inland waterways and cultivated lawns. Organic materials of the POME can be processed into an algae cultivation medium due to its mineral contents. In this study, *Chlorella* sp. was used to remove COD and total nitrogen in POME. *Chlorella* sp. has microscopic size, low specific gravity and, it is difficult to separate in wastewater. *Chlorella* sp. cells were trapped in the calcium alginate matrix to form a bead with a diameter of 3-4 mm. To obtain the highest removal efficiency of COD and the total nitrogen, different concentration of Na-alginate (4%, 6%, and 8%) were used to optimize the beads preparation at different contact times (1, 3, 5, and 7 days). Based on the results, the beads made from 8% Na-alginate concentration were able to eliminate, 11-62.46% total nitrogen efficiently, and 23-63.1% COD efficiently on the seventh day. This showed that higher Na -alginate concentration has higher removal efficiency.

**Keywords:** *Chlorella* sp., COD, Immobilization, Palm Oil Mill Effluent (POME), Total Nitrogen

**Citation:** Elystia, Shinta & Rezeki Muria, Sri & Anggraini, Lestina. (2018). Removal of COD and total nitrogen from palm oil mill effluent in flatphotobioreactor using immobilised microalgae *Chlorella* sp. *Food Research*, 3(2): 123-127. [https://doi.org/10.26656/fr.2017.3\(2\).130](https://doi.org/10.26656/fr.2017.3(2).130)

## Integrity and Performance of High School Teachers in Pekanbaru

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*Indonesian Journal Of Economics, Social, And Humanities*

**ISSN:** 2656-355X

**Publication Date:** 28 January 2019

**Abstract:** This study was aimed at finding if integrity affects the performance of High School Teachers in Pekanbaru. So the hypothesis of this study is that if the integrity has an influence on the performance of high school teachers in Pekanbaru. The method used in this study was a survey with correlational techniques. This technique was carried out to analyze the influence of two independent variables X with dependent variables Y. The population in this study were all high school teachers (178 teachers) and the samples were teachers who had received teacher certification at the SMAN Kecamatan 121 Tenayan Raya. Data were analysed using descriptive analysis techniques and inferential analysis to test hypotheses. The requirements for analyzing the data are: normality test, homogeneity test, and linearity test. The results showed that integrity had a significant effect with a positive direction on teacher performance in the Tenayan Raya High School in Pekanbaru. This is indicated by the regression coefficient of integrity against teacher performance of 0.083. The point is that if the integrity variable rises by one unit, an increase in teacher performance is 0.083. Furthermore, the effect of the variable integrity on teacher performance resulted in a value of 0.69%. This means that integrity contributes significantly to teacher performance by 0.69%. This contribution is in the very low category. Therefore, it can be concluded that integrity has a positive and significant effect on teachers' performance in Tenayan Raya High School. Key words: integrity, teachers performance.

**Keywords:** Integrity, Teachers Performance

**Citation:** Isjoni, I., Daud, A., & Azhar, A. (2019). Integrity and Performance of High School Teachers in Pekanbaru. *Indonesian Journal of Economics, Social, and Humanities*, 1(1), 51-57. <https://doi.org/10.31258/ijesh.1.1.51-57>

## Consumer Attitudes Towards Imported Canned Coffee Beverages in Riau Province, Indonesia: Alternative Marketing Strategies of Structural Model Approach

**Authors:** Novia Dewi, Yeni Kusumawaty

*IGI Global*

**EISBN13:** 9781522569817

**Publication Date:** 2019

**Abstract:** As the second largest traded product in the world, coffee has high potential and competitive market. Product excellence and competitiveness in the minds of consumers will determine product leadership. For coffee products, it is necessary to know the criteria that are in accordance with the characteristics and culture of Indonesian consumers. In this chapter, input stimulus variables that determine consumer behavior are viewed from the marketing mix aspects. These attributes were then analyzed using a Participatory Prospective Analysis to identify the position of the driving factors in influencing consumer attitudes. The results showed that the driving variables for consumer attitude towards consuming imported canned coffee drinks were affordable price, packaging, flavor, reference source, and availability. These attributes were located in the upper-left quadrant which shows strong influence and low-dependence between the attributes. Recommended alternative marketing strategies are institutional strengthening of marketing/distribution and development of marketing mix.

**Keywords:** Consumer Behavior, Strong Influence, Consumer Attitudes, Marketing Mix, Reference Source, Prospective Analysis, Consumer Attitude, Input Stimulus, The World, Left Quadrant

**Citation:** Dewi, N., & Kusumawaty, Y. (2019). Consumer Attitudes Towards Imported Canned Coffee Beverages in Riau Province, Indonesia: Alternative Marketing Strategies of Structural Model Approach. *IGI Global*, 16. doi: <https://doi.org/10.4018/978-1-5225-6980-0.ch012>

## Microstrip Antenna Design H-Shaped Planar Array 4 Elements Using Circular Slot for Fixed WiMAX Network 3.5 GHz Frequency

**Authors:** Ery Safrianti, Yoga Yusfarino, Feranita, Linna Oktaviana Sari

*International Conference on Electrical Engineering and Informatics (ICon EEI)*

**E-ISBN:** 978-1-5386-6000-3

**Publication Date:** 5 Agustus 2019

**Abstract:** Fixed WiMAX network access requires Customer Premise Equipment (CPE) that uses small and easy to integrate antennas. This research will design a 4 element microstrip antenna using an H-shaped patch with the addition of a circular slot in the center. Antennas are used for fixed WiMAX CPE applications at 3.5 GHz (3.4-3.6 GHz) working frequency. The substrate used is FR4 with dielectrics constant 4.4 and Duroid with dielectrics constant 2.2. The feeding technique used is microstrip line. Determination of antenna dimension is done by using mathematical equation. Result design using software simulation obtained VSWR antenna using FR4 was 1.013, return loss -43.803 dB and gain 4.7083. While VSWR antenna using Duroid substrate was 1.015, return loss -42.5923 dB, and gain was 8,486 dB. Characterization of rectangular and circular slot sizes affects the working frequency range. Antenna with FR4 substrate has optimal working frequency on rectangular stripe characterization of 4 mm, 4.5 mm, and 5 mm width with 2-3 mm slot size variation. Duroid substrate design antennas have optimal working frequency with rectangular piece characterization of 5 mm, 5.5 mm, and 6 mm and variations of 4 - 5 mm slot size.

**Keywords:** Microstrip, antennas, Microstrip, Substrates, Slot antennas, Gain, Microstrip antenna arrays, Optimization

**Citation:** Ery Safrianti, Yoga Yusfarino, Feranita, Linna Oktaviana Sari. (2019). Microstrip Antenna Design H-Shaped Planar Array 4 Elements Using Circular Slot for Fixed WiMAX Network 3.5 GHz Frequency. *International Conference on Electrical Engineering and Informatics (ICon EEI)*, <https://doi.org/10.1109/ICon-EEI.2018.8784325>



# Strategies For Developing Mangrove Ecotourism In Riau Province, Indonesia

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*Journal of Business on Hospitality and Tourism*

**ISSN:** 2527-9092

**Publication Date:** July 2019

**Abstract:** Mengkapan Mangrove Ecotourism, located in Siak Regency, Riau Province, was once visited by a large number of visitors soon after it was opened for public in 2015. Nevertheless, since the beginning of 2016, the number of visitors has been drastically dropped. One of the causes of this unfortunate condition is that there is no established planning to guide the development of the mangrove ecotourism. Therefore, this study was aimed to formulate strategies for developing the Mengkapan Mangrove Ecotourism by using the SWOT analysis. The data was collected through conducting interviews with related stakeholders, distributing questionnaires to them, and performing field observations. The collected data was then analyzed inductively to capture the key strategy alternatives. Based on the results of SPACE Matrix and SWOT Matrix, this study formulates the following priority strategies: diversifying tourist attractions and promoting them massively by using online media, creating tour packages, and making a cooperation with travel agents.

**Keywords:** Mangrove Ecotourism, Development Strategy, SWOT Analysis

**Citation:** Musadad, Musadad & Ibrahim, Mariaty. (2019). Strategies For Developing Mangrove Ecotourism In Riau Province, Indonesia. *Journal of Business on Hospitality and Tourism*, 5(1), 86-95. <https://doi.org/10.22334/jbhost.v5i1.142>

## Chemical and Minerals Composition of Dried Seaweed *Eucheuma spinosum* Collected from Indonesia Coastal Sea Regions

**Authors:** Andarini Diharmia, Dedi Fardiaz, Nuri Andarwulan

*International Journal of Oceans and Oceanography*

**ISSN:** 0973-2667

**Publication Date:** 2019

**Abstract:** This research is aimed to analyze the chemical and mineral composition of dried red seaweed *Eucheuma spinosum* from Nusa Penida, Sumenep, and Takalar. Analysis of the chemical composition was moisture, ash, protein, fat, fiber, and carbohydrate contents. The mineral element was macrominerals (Ca, Cl, K Mg, and Na) and micro minerals (Zn and Cu). The results of the analysis of carbohydrate content of dried *E. spinosum* from Nusa Penida, Sumenep and Takalar was 69.07-69.66% and fiber content 15.12-19.89% dry weight. The protein content of Nusa Penida, Sumenep dan Takalar were 6.04- 7.33% dry weight. The ash content of *E. spinosum* from Nusa Penida, Sumenep and Takalar were 23.35-24.66%, fat content 0.012-0.032 % dry weight. The macro minerals from Nusa Penida, Sumenep and Takalar were Ca(0.0455-0.796%), Cl (0.112-0.133%), K(2.881-3.539%), Mg (0.395-0.582%) and Na (0.0455-0.796%) and micro minerals was Zn (4.68-26.37 ppm) and Cu (0.036-0.175 ppm).

**Keywords:** Red Seaweed, *Eucheuma Spinosum*, Chemical Composition, Macro And Micro Minerals

**Citation:** Diharmi, A., Fardiaz, D., & Andarwulan, N. (2019). Chemical and Minerals Composition of Dried Seaweed *Eucheuma spinosum* Collected from Indonesia Coastal Sea Regions. Available at [https://www.ripublication.com/ijoo19/ijoo1913n1\\_05.pdf](https://www.ripublication.com/ijoo19/ijoo1913n1_05.pdf)





## Increasing Mothers' Knowledge Of Cervical Cancer Risk Through Peer Group Health Education With “Pinka” Method

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*Enfermería Clínica*

**ISSN:** 1130-8621

**Publication Date:** 7 February 2019

**Abstract:** The purpose of this research is to find out the effect of peer group health education in attempt to increase mothers' knowledge of cervical cancer Risk. Quasi experimental design with non-equivalent control group was used as the design of this study. A total of 128 mothers at risk of developing cervical cancer from Surya Indah and Beringin Indah Pangkalan Kuras, Pelalawan were chosen as samples using stratified random sampling technique. The results of this study showed a score increase up to 40.70% with p value 0.0000 ( $p < 0.05$ ) in the experimental group after the group received health education with "PinKa" method. The conclusion is that a health education increases mothers' knowledge about cervical cancer. Therefore, health education about cervical cancer is recommended to improve the awareness of cervical cancer so that cervical cancer can be detected earlier and its risks can be minimized.

**Keywords:** Cervical cancer; Health education; Mother; Peer group

**Citation:** Sri Utami, Wice Purwani, Increasing mothers' knowledge of cervical cancer risk through peer group health education with “PinKa” method, *Enfermería Clínica*, Volume 29, Supplement 1, 2019, Pages 52-55. <https://doi.org/10.1016/j.enfcli.2018.11.018>.

## Factors Influencing Business Efficiency Of Watershed Society In Kuantan Singingi Regency Kuantan Singingi District

**Authors:** H. Edyanus Herman Halim, Ishadi, Arika Fitriani

*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** August 2019

**Abstract:** Industry level correlates to productivity management. This research was conducted to find out the development of small and medium industries in Kuantan Singingi Regency. Special attention is given to small and medium industry because it is a small and medium-sized industry that is very helpful in generating employment and becoming a household income. The role of the government that has provided a lot of input in the effort to encourage the structure of small and medium industry in Kuantan Singingi Regency. From the results of the research, then obtained the variables to measure the productivity of Small and Medium Industry in Kuantan Singingi Regency include: (1) Business Growth (2) Overhead Cost (3) Labor Cost (4) Efficiency, which is moderated by roles (5) Government Assistance, the results of the study show that the average level of the small and mediumsized countries in Kuantan regency is still not efficient, so a strategy is needed to overcome them. To develop small and medium-sized industry are very necessary for stakeholders, including the role of universities, district or city government agencies related to it. It can determine what is the superior product of small and medium industry in Kuantan Singingi Regency.

**Keywords:** Capital Structure, Efficiency, Government, Featured Products

**Citation:** Herman Halim, E, Ishadi, Fitriani, A. (2019). Factors Influencing Business Efficiency Of Watershed Society In Kuantan Singingi Regency Kuantan Singingi District. *International Journal of Scientific & Technology Research*. Volume 8. Issue 8. Pages 1272-1279. Available at <https://www.ijstr.org/paper-references.php?ref=IJSTR-0819-21323>.

## Behavior Factors In Turnover Intentions (Study Of Accounting Personnel In Thre Riau Provincial Government)

**Authors:** Amries Rusli Tanjung, Muhammad Rasuli, Desmiyawati, Nur Azlina, Sri Indrastuty S.

*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** August 2019

**Abstract:** The purpose of this research was to examine the effect of 1) job stress to job satisfaction, 2) job stress to organizational commitment, 3) job stress to turnover intentions, 4) job satisfaction to turnover intentions, 5) organizational commitment to turnover intentions. Population is accountants who work in SKPD and PPKD Local Government in Riau Province. The sample were accounting staff who assisted the government in preparing financial statements in Bengkalis Regency, Kepulauan Meranti Regency and the Riau Provincial Government, totaling 138 accountants. Data analysis methods used SmartPLS. This study found that: (1) job stress does not affect on job satisfaction (2) job stress has a positive influence on organizational commitment. (3) job stress has a positive influence on turnover intentions. (4) job satisfaction has a negative influence on turnover intentions. (5) organizational commitment does not affect on turnover intentions.

**Keywords:** Job Stress, Job Satisfaction, Organizational Commitment And Turnover Intentions

**Citation:** Rusli tanjung, A, Rasuli, M, Desmiyawati, Azlina, N, Indrastuty S, S. (2019). Behavior Factors In Turnover Intentions (Study Of Accounting Personnel In Thre Riau Provincial Government). *International Journal of Scientific & Technology Research*. Volume 8. Issue 8. Pages 925-928. Available at <https://www.ijstr.org/paper-references.php?ref=IJSTR-0819-21135>



## Self-Efficacy And Attitude Of The Teachers Of SMAN Kuansing District Towards The Utilization Of ICT

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*Journal of Educational Sciences*

**ISSN:** 2581-2203

**Publication Date:** 24 January 2019

**Abstract:** The development of Information and Communication Technology (ICT) has a very big influence on education. With the enactment of the 2013 Curriculum, a technology-based curriculum, teachers as learning agents must continue to equip themselves with knowledge related to ICT. This descriptive study aims to describe and analyze self-efficacy and attitudes of the teachers of SMAN Kuansing District towards the utilization of ICT in learning activities. Obstacles faced by the teachers in utilizing ICT and the efforts that have been done to overcome the obstacles are also discussed. The research data was collected in August 2018. By using stratified random sampling technique, 55 teachers were determined as the sample. The instrument used was a questionnaire. Then, the questionnaire was analyzed through descriptive statistics to obtain frequencies and percentages. Finally, it can be concluded that the average score of self-efficacy of the teachers of SMAN in Kuansing District in utilizing ICT is 80.6% and the average score of their attitudes is 92.8%. It means that their self-efficacy and attitude are in very good levels. Although there are many obstacles faced by teachers in terms of facilities, infrastructure and human resources, the teachers have their own strategies to solve those obstacle.

**Keywords:** Attitude, ICT, Self-efficacy

**Citation:** Hadriana, Hadriana. (2019). Self-efficacy and Attitude of the Teachers of SMAN Kuansing District towards the Utilization of ICT. *Journal Of Educational Sciences*, 3(1), 25-37. <http://dx.doi.org/10.31258/jes.3.1.p.25-37>

## A Study Of Audit Judgment In The Audit Process: Effects Of Obedience Pressures, Task Complexity, And Audit Expertise –The Case Of Public Accounting Firms In Sumatra-Indonesia

**Authors:** Mudrika Alamsyah Hasan, Andreas

*International Journal Of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** July 2019

**Abstract:** There are several factors influencing audit judgment and they include obedience pressure, task complexity, and audit expertise. Therefore, the aim of this study was to examine the effects of these three factors on audit judgment, which is the policy of an auditor in determining the opinion of an audit result with reference to the formation of an idea or estimation of an object, event, or status. This research was conducted at a Public Accounting Firms operating in Sumatra-Indonesia with 72 auditors as respondents. Data were analyzed using multiple regression analysis. The results revealed that the obedience pressure and audit expertise had an effect on the audit judgment while task complexity did not. Therefore, it can be concluded that obedience pressure experienced by an auditor causes an error, while expertise leads to appropriate audit judgment.

**Keywords:** Audit Judgment, Obedience Pressure, Task Complexity, Audit Expertise

**Citation:** Alamsyah hasan, M, Andreas (2019). A Study Of Audit Judgment In The Audit Process: Effects Of Obedience Pressures, Task Complexity, And Audit Expertise –The Case Of Public Accounting Firms In Sumatra-Indonesia. *International Journal Of Scientific & Technology Research*. Volume 8. Issue 7. Pages 32-37. Available at <https://www.ijstr.org/final-print/july2019/A-Study-Of-Audit-Judgment-In-The-Audit-Process-Effects-Of-Obedience-Pressures-Task-Complexity-And-Audit-Expertise-the-Case-Of-Public-Accounting-Firms-In-Sumatra-indonesia.pdf>

## Accountability Of Village Funds Management

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*Journal of Applied Management (JAM)*

**ISSN:** 2302-6332

**Publication Date:** September 2019

**Abstract:** This study analyzes the accountability and transparency of village funds management in Riau Province of Indonesia. In particular, it focuses the analysis on the implementation, reporting, planning, and accountability stages, to review the community participation in management of village fund and the obstacles to its implementation. Research participants were chief of the villages, village secretaries and village treasurers of coastal villages in Riau Province. There were 31 respondents. Results showed that all stages of village management were in accordance with the existing provisions. Some obstacles were found in the program implementation. These include the lack of human resources, the community participating in all the procedures and stages of the village finances, the government conducting supervision, and giving guidance through counseling and training for village officials. In further research management of village financial using Siskeudes for financial reporting.

**Keywords:** Allocated Village Funds, Planning, Implementation, Reporting, Accountability

**Citation:** Savitri, Enni & Diyanto, Volta & Andreas, Andreas. (2019). Accountability Of Village Funds Management. *Jurnal Aplikasi Manajemen*, 17(3), 515-521.

<http://doi.org/10.21776/ub.jam.2019.017.03.16>

## Influence of Perception on AEC (ASEAN Economic Community) Towards Entrepreneurial Intention of Students at FISIP (Faculty of Social and Political Sciences) University of RIAU

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*International Journal of Innovative Science and Research Technology*

ISSN: 2456-2165

**Publication Date:** August 2019

**Abstract:** AEC (ASEAN Economic Community) implemented since January 1, 2016 has opened business opportunities for each member country including Indonesia. In its application AEC makes ASEAN region as a free market where production, distribution and consumption take place freely. Also, AEC makes ASEAN a balanced economic development, high-economic and fully integrated in the global economy. All business opportunities will bring positive perception that will affect someone's entrepreneurial intentions. Based on these thoughts, to measure the influence of the perception on AEC towards emergence of entrepreneurial intentions, this research was held. The research took respondents who are students at the FISIP (Faculty of Social and Political Sciences) UNRI (University of Riau) amounting to 175 people. Sampling technique is nonprobability sampling with purposive sampling methods. Sampling included 7 departments without any batch restrictions. Type of this research is descriptive research using quantitative approaches. Data was collected with a survey method using questionnaires. Then the data is analysed using parametric statistics that is t-test and simple linear regression. Results show that perception of students at FISIP UNRI on AEC in general is fairly good and positive. It can be seen from t-test results where value of  $\mu > 50$ . Similarly, entrepreneurial intention of students at FISIP UNRI shows quite good results. It is also seen from t-test results where value of  $\mu > 50$ . The research results also show that perception about AEC is significantly and positively influential towards the entrepreneurial intention of students at FISIP UNRI. It is seen from F-test results and a simple linear regression analysis. The F-test result indicates that F-count (7.227) is greater than the F-table (6.84). Moreover, a simple linear regression analysis test in coefficients table shows same result where significant value of t-count is 0.008 or smaller than 0.05. Thus it can be concluded that the perception about MEA is significantly and positively influential towards the growth of students' entrepreneurial intentions at FISIP UNRI.

**Keywords:** Perception, Entrepreneurial Intentions, AEC, Students.

**Citation:** Irwan Iskandar, Fiona. "Influence of Perception on AEC (ASEAN Economic Community) Towards Entrepreneurial Intention of Students at FISIP (Faculty of Social and Political Sciences) University of RIAU", *International Journal of Innovative Science and Research Technology (IJISRT)*, Volume, 4 Issue. 8, - 2019, PP: 854-859. Available at <https://ijisrt.com/assets/upload/files/IJISRT19AUG993.pdf>



## Aspleniaceae and Polypodiaceae from the coastal regions of Riau, Indonesia and their palynological study

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*Tropical Plant Research*

**ISSN:** 2349-1183

**Publication Date:** 31 August 2019

**Abstract:** The fern inventorization in the coastal area of Riau, Indonesia have never been reported. This study aimed to identify Aspleniaceae and Polypodiaceae species from the coastal region of Riau and examined their morphology and palynology. Samples were collected from the field using exploration method and were then prepared for palynological study. Spore observation was carried out using Scanning Electron Microcopy. A total of 7 species were identified in this study (3 Aspleniaceae species and 4 Polypodiaceae species), with 2 species are new record in the peridoflora checklist from Riau, i.e. *Asplenium longissimum* and *Asplenium glaucophyllum*. We observed monolete spore from all of the examined species.

**Keywords:** Paku - Riau pesisir - Pteridophyte - Spore.

**Citation:** Sofiyanti N. (2019). Aspleniaceae and Polypodiaceae from the coastal regions of Riau, Indonesia and their palynological study. *Tropical Plant Research*, 6(2): 326–334.  
<https://doi.org/10.22271/tpr.2019.v6.i2.042>



## Debt Policy: Affecting Factors and Their Impact on Company Values

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*Research Journal of Finance and Accounting*

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**Abstract:** One of the main sources of funding for operational activities and company expansion is derived from debt. The company's debt policy is a policy made by the management as the manager of the company. The debt policy will have an impact on the company value as reflected in the market price of the company's shares. This study aims to prove the factors that influence the company's debt policy and the impact of the debt policy on the company value. The factors that influence debt policy as an independent variable of this study are: managerial ownership, institutional ownership, company growth, free cash flow and company size. The company's debt policy is proxied by the Debt to Equity (DER) ratio and the company value is proxied by the Price to Book Value (PBV) ratio. The research sample is a manufacturing company selected based on criteria, so as to obtain as many as 91 companies registered in 2014-2016. Using multiple regression analysis on  $\alpha = 5\%$ , the results show that managerial ownership and Free cash flow affect the company's debt policy, while other variables have no effect on it. Debt policy did not affect the value of the company.

**Keywords:** Debt Policy, Company Value, Managerial Ownership, Free Cash Flow, Company size

**Citation:** Rofika, R., & Oktari, V. (2019). Debt Policy: Affecting Factors and Their Impact on Company Values. *Research Journal Of Finance And Accounting*, 10(14), 144-156. doi: <https://doi.org/10.7176/rjfa/10-14-14>

## Effect of Ownership Types on Informative Earnings Management

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*International Journal of Academic Research in Accounting, Finance and Management Sciences*

**ISSN:** 2225-8329

**Publication Date:** April 2019

**Abstract:** This research is aimed to examine (1) effect of managerial ownership on informative earnings management, (2) effect of institutional ownership on informative earnings management, (3) effect of foreign ownership on informative earnings management. Research sample are 123 manufacture companies listed in Indonesian Stock Exchange 2013-2017. Ownership measured by proportion of company's share held by management, institution, and foreign shareholders. Informative earnings management is dummy variable which measured by comparing discretionary accruals and earnings growth. Data analysis uses logistic regression test. Results show that managerial ownership has no effect on informative earnings management, indicates that there is still agency conflict between owner-manager as minority shareholders with majority shareholders. Institutional and foreign ownership has effect on informative earnings management, indicates that institution and foreign shareholders have effective monitoring to reduce opportunist earnings management and increase informative earnings management. As expected, shareholders will reduce opportunist earnings management and increase informative earnings management, because informative earnings management reduces information asymmetric and increases share value.

**Keywords:** Managerial ownership, Institutional Ownership, foreign ownership, Informative Earnings Management, Indonesian Stock Exchange

**Citation:** Putra, A. A., Mela, N. F. (2019). Effect of Ownership Types on Informative Earnings Management, *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 9(2): 74-82. <http://doi.org/10.6007/IJARAFMS/v9-i2/6031>

## Structure Elucidation of a Pentacyclic Triterpenoid and Phenolic from Stem Bark of *Vitex pubescens* Vahl

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*Journal of Chemical Natural Resources*

**ISSN:** 2656-1492

**Publication Date:** 2019

**Abstract:** Pentacyclic triterpenoid, betulinic acid (1) and phenolic, *p*-hydroxybenzoic acid (2), had been isolated for the first time from the stem bark of *Vitex pubescens* Vahl. The structure of compounds 1 and 2 was determined based on the interpretation of spectroscopic data including UV, IR, NMR (<sup>1</sup>H-NMR, <sup>13</sup>C-NMR, HMQC, HMBC, COSY) and MS, as well as by comparison with those reported data.

**Keywords:** *Vitex pubescens* Vahl, betulinic acid, *p*-hydroxybenzoic acid

**Citation:** Anwar, L., Santoni, A., Prima putra, D., & efdi, m. (2019). Structure Elucidation of an Pentacyclic Triterpenoid and Phenolic from Steam Bark of *Vitex Pubescens* Vahl. *Journal Of Chemical Natural Resources*, 1(1), 68-74. doi: <https://doi.org/10.32734/jcnar.v1i1.837>

## Students' Perception of Listening Lesson at University of Riau

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*ELS Journal on Interdisciplinary Studies on Humanities*

**ISSN:** 2621-0835

**Publication Date:** September 2019

**Abstract:** Listening is a skill in capturing the sounds of language by listening verbal language that receiving messages from other people's ideas thoughts or feelings. This study aims to describe students' perceptions of listening lesson in the learning process. The method used is quantitative survey method with a total sample of 50 students of Indonesian language and literature education FKIP University of Riau who join listening lesson. This study uses a questionnaire technique that is distributed to students of the Indonesian Language and Literature Education Program at the University of Riau. Questionnaires consist of 17 statements made in the form of a checklist with a range of assessments from 1 to 5. Technical data analysis through stages (a) changes the value of the category into an assessment score and (b) analyzes the score, (c) determines the category. The results showed that the response of the students based on the highest experience was the desire to obtain complete teaching material by 70%, the highest response of students to importance of media was if there were applications in listening lesson in accordance with current technology with a percentage of 80%, and The highest student responses about the need for evaluation of listening lesson was the feedback of listening proficiency criteria set by the lecturer at 68%. Then it can be concluded that students' perceptions of listening lesson are the desire for improvement in the media and applications in listening lesson that contain teaching material.

**Keywords:** Student Perceptions, Listening Lesson, College

**Citation:** Septyanti, E., & Kurniaman, O. (2019). Students' Perception of Listening Lesson at University of Riau. *ELS Journal on Interdisciplinary Studies in Humanities*, 2(3), 368-377. <https://doi.org/10.34050/els-jish.v2i3.7154>



## Application of Cooper-Jacobs Method for Sustainable Water Potential Management in Tenayan Raya Sub-District, Pekanbaru City

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*International Journal of Innovative Studies in Sciences and Engineering Technology (IJISSET)*

**ISSN:** 2455-4863

**Publication Date:** 2019

**Abstract:** In this article, a method is proposed to determine the limits of sustainable aquifer exploitation and identify soil lithology. The proposed method is based on a constant level pumping test using the Cooper-Jacob method. From this parameter it can be determined the lithology and potential of the aquifer tested for sustainable groundwater exploitation. Interpretation and utilization of groundwater potential needs to be done so that the government can get input for environmental management policies on groundwater resources that are environmentally friendly.

**Keywords:** Aquifer, Cooper-Jacobs, Ground water, lithology, management

**Citation:** Surbakti, A., & Muhammad, J. (2019). Application of Cooper-Jacobs Method for Sustainable Water Potential Management in Tenayan Raya Sub-District, Pekanbaru City. *International Journal of Innovative Studies in Sciences and Engineering Technology (IJISSET)*, 5(10), 5-8. Available at <https://ijisset.org/storage/Volume5/Issue10/IJISSET-050928.pdf>



## Two Dimensional Models with Integrated Environmental Factors for the Prediction and Management of Sustainable Groundwater in Bukit Raya District Pekanbaru, Indonesia

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*International Journal of Innovative Studies in Sciences and Engineering Technology (IJISSET)*

**ISSN:** 2455-4863

**Publication Date:** 2019

**Abstract:** In Bukit Raya Sub district Utilization and management of underground water has not been sustainable, because it has not met the provisions on the use of underground water resources in a sustainable manner. This will affect the condition of underground water and the environment. This can lead to the degradation of regional conditions, indirectly also caused by the management of upstream natural resources that affect the condition of groundwater, for example due to excessive exploitation of underground water by industries. This study aims to: Determine the influence of groundwater uptake by residents and industry as well as public facilities and animal husbandry on the condition of underground water aquifers in Bukit Raya Kota District. And determine the management model for potential underground water resources in the Bukit Raya District. The method used in this study is the experimental method of observing the study area to determine local geological conditions. The results showed that the consumption of underground water uptake from year to year increased due to increasing population and industry.

**Keywords:** Geological, management, resources, sustainable, Underground water.

**Citation:** Syech, R., & Muhammad, J. (2019). Two Dimensional Models with Integrated Environmental Factors for the Prediction and Management of Sustainable Groundwater in Bukit Raya District Pekanbaru, Indonesia. *International Journal of Innovative Studies in Sciences and Engineering Technology (IJISSET)*, 5(10), 5-8. Available at <https://ijisset.org/storage/Volume5/Issue10/IJISSET-050933.pdf>

## An Introductory Study on Activated Carbon Monolith Electrodes Fabrication from Teak Leaf Waste

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*Journal of Technomaterials Physics*

**ISSN:** 2656-0757

**Publication Date:** 28 February 2019

**Abstract:** A preliminary study has been conducted on supercapacitor carbon-electrode monolith prepared from teak leaf waste. The objective of this study is to know the electrochemical cell capacitance from carbon materials. The production of carbon electrode began with pre-carbonization process at 250°C for 2.5 hours, then proceeded to chemical activation using KOH activator with concentration of 0.3 M. Hydraulic Press was used with pressure at 8 ton to form the monolith. Then, the density was measured the carbonization. After that the sample was activated using CO<sub>2</sub> gas at 850°C burning temperature. Next after the carbonization, the density was measured by collecting mass, diameter and thickness data of the electrode. The specific capacitance was measured using Physics CV UR Rad-ER 5481 which is controlled by a cyclic voltammetry software with the potential window width of 0 –0.5 V and at a scan rate of 1 mV/s. The best density results obtained were 0.853 g/cm<sup>3</sup> before carbonization for sample code C24 and 0.605 g/cm<sup>3</sup> after carbonization for sample C30. The specific capacitance was found at 113.20 G/g for C32 and C38 electrodes.

**Keywords:** Teak leaf waste, activated carbon, supercapacitor

**Citation:** Taer, Erman. (2019). An Introductory Study on Activated Carbon Monolith Electrodes Fabrication from Teak Leaf Waste. *Journal of Technomaterials Physics*, 1(1), 31-38.

<https://doi.org/10.32734/jotp.v1i1.822>

## IOP Conference Series: Materials Science and Engineering

### The effect of time and number of balls on shaker milling process in hydroxyapatite powder synthesis

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*IOP Conf. Series: Materials Science and Engineering*

**ISSN:** 1757-899X

**Publication Date:** 2019

**Abstract:** The synthesis of hydroxyapatite (HA) from the shells of blood clams has been successfully performed by the low temperature hydrothermal method. To obtain uniform and nano-HA powder, size of obtained HA was reduced using shaker milling process. The purpose of this research was to determine the effect of time and the number of balls on the shaker mill process on hydroxyapatite particle size. The shells of blood clams were calcined at 1000 °C for 24 hours to obtain CaO powder. Then 55.63 gram (NH<sub>4</sub>)<sub>2</sub>HPO<sub>4</sub> dissolved in 600 mL of distilled water then added 45,91 gram of CaO at 90 °C to form slurry. The slurry was dried at 120 °C for 15 hours, and milled using shaker milling process with variation of time 1, 2 and 4 hours and variation of number 10, 20, and 30 balls. The peak intensities show the high percentage of HA with Tricalcium phosphate (TCP) presence in X-ray diffraction (XRD) analysis. Diameter of crystal produced is 67 nm, with time variation for 2 hours and number of 20 balls. Breuner-Emmet-Teller (BET) analysis result, with time ball milling for 1 hour and the number of 10 balls surface area of HA is 36,974 m<sup>2</sup>/g. The longer of milling process, the temperature will also increase causing clumps of particles resulting in an increase in particle size. The more the ball is used then the surface area of obtained hydroxyapatite will be smaller.

**Citation:** Fadli, Ahmad & Yenti, S & Rasyidin, R & Sari, M. (2019). The effect of time and number of balls on shaker milling process in hydroxyapatite powder synthesis. IOP Conference Series: Materials Science and Engineering. Available at <https://iopscience.iop.org/article/10.1088/1757-899X/532/1/012012>



## IOP Conference Series: Materials Science and Engineering

### Fabrication Of Porous Hydroxyapatite/Chitosan Composite Bodies Through Dip-Coating Method

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*IOP Conf. Series: Materials Science and Engineering*

**ISSN:** 1757-899X

**Publication Date:** 2019

**Abstract:** Porous hydroxyapatite have been attracting considerable attention for bone surgery. Relatively low mechanical strength of porous hydroxyapatite hampers its application for permanent bone implant. The aim of this work was to study the effect of chitosan concentration and time of coating on the physical, chemical and mechanical properties of porous hydroxyapatite/chitosan composites prepared using dip coating technique. Firstly, chitosan powder was dissolved into acetic acid with a concentration of 0.50 %, 0.75 % and 1.00 % (w/v). Subsequently the porous hydroxyapatite bodies were coated with chitosan using dipcoating method at dip time during 30, 45, 60 min. The composites bodies were dried in room temperature for 24 h. The hydroxyapatite/chitosan bodies with compressive strength in the range of 1.52 - 4.05 MPa, porosity of 75 – 78 %, pore size of 22.8 - 26.61  $\mu\text{m}$ , and density of 0.71 - 0.78  $\text{g/cm}^3$  were obtained. The increase of chitosan concentration from 0.50 % to 0.75 % can decrease the porosity from 78 % to 76 % and pore size from 28.25  $\mu\text{m}$  become 22.88  $\mu\text{m}$ . The compressive strength of the composites increased with the coating time.

**Citation:** Fadli, Ahmad & Saputra, Eleven & Komalasari, Komalasari & Arosyidin. (2019). Fabrication of porous hydroxyapatite/chitosan composite bodies through dip-coating method. IOP Conference Series: Materials Science and Engineering. Available at <https://iopscience.iop.org/article/10.1088/1757-899X/543/1/012039/pdf>

## The Oriented Attachment Crystal Growth Model in Hydrothermal Synthesis of Magnetite (Fe<sub>3</sub>O<sub>4</sub>) Nanoparticles

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*Journal of Applied Materials and Technology*

**ISSN:** 2686-0961

**Publication Date:** September 2019

**Abstract:** The magnetite nanoparticles (Fe<sub>3</sub>O<sub>4</sub>) are very promising nanomaterial to be applied as drug delivery due to their excellent superparamagnetic, biocompatibility and easily modified surface properties. These properties are influenced by the structure and size of the material which depend on the synthesis condition. Studying the evolution of crystal growth can help understand the mechanisms and factors that play a role in it more systematically. The purpose of this research is to study the evolution of crystal growth of magnetite nanoparticles in the hydrothermal system and determine the crystal growth kinetics using the Oriented Attachment Growth model. Magnetite nanoparticles were synthesized using a hydrothermal method from FeCl<sub>3</sub>, citrate, urea and polyethylene glycol at 210 °C for 1 - 12 hours at a various concentration of FeCl<sub>3</sub> (0.05 M, 0.10 M, and 0.15 M). The characterizations were conducted by X-ray Diffraction (XRD), Transmission Electron Microscope (TEM), Particle size analyzer (PSA), and Vibrating Sample Magnetometer (VSM). The XRD diffractogram indicated that the magnetite was begun to form at 3.5 hours synthesis. The crystallinity and the crystal size of magnetite rose with reaction time. The diameter of magnetite crystals was in the range of 9.4-30 nm. Characterization by TEM showed that the particles were formed from smaller particles which were then agglomerated. The characterization by PSA showed that an increase in FeCl<sub>3</sub> concentration made the particle size larger but the particle distribution narrower. PSA results also prove that the longer the reaction time, the more particle diameter increases will be. VSM result showed that the magnetite nanoparticle has superparamagnetic properties. The magnetite crystal growth can be fitted by the Oriented Attachment Growth model with an error of 29%.

**Keywords:** Crystal growth, Drug delivery, Hydrothermal, Magnetite nanoparticles, Oriented attachment model

**Citation:** Fadli, A., Amri, A., sari, E., Sukoco, S., & Saprudin, D. (2019). The Oriented Attachment Crystal Growth Model in Hydrothermal Synthesis of Magnetite (Fe<sub>3</sub>O<sub>4</sub>) Nanoparticles. *Journal of Applied Materials and Technology*, 1(1), 15-19. <https://doi.org/10.31258/Jamt.1.1.15-19>

## Optimization of Universitas Riau Data Network Management Using Software Defined Network (SDN)

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*International Journal of Electrical, Energy and Power System Engineering (IJEEPSE)*

**ISSN:** 2654-4644

**Publication Date:** October 2019

**Abstract:** Computer networks are one of the main parts in the telecommunications system. To support reliable network technology, a centralized network is needed so that network traffic can be managed more easily. Software-Defined Network (SDN) technology is a centralized network that provides a separation between control planes and data planes in different systems. This study discusses the optimization of network management at the University of Riau (UNRI) using SDN. Optimization is done by designing a UNRI computer network in the form of SDN then simulated using the Mininet. Quality of Service (QoS) analysis is performed from the measurement results using Wireshark. The network simulation results give a delay value of 0.506 ms, 0% packet loss, the throughput of 590,392 Mb / s and jitter of 0.093 ms. The SDN network provides better delay and jitter performance compared to conventional UNRI networks with a delay value of 13,874 ms, 0% packet loss, 635.1 Mb/s throughput and 2.6 ms jitter. UNRI's SDN network design is worth considering because it has better QoS values, delay, and jitter below ITU standards and conventional networks.

**Keywords:** optimization, computer networks, SDN, UNRI.

**Citation:** E. Safrianti, L. O. Sari, and R. A. Mahan, "Optimization of Universitas Riau Data Network Management Using Software Defined Network (SDN)", *IJEEPSE*, vol. 2, no. 3, pp. 10-14, Oct. 2019. <https://doi.org/10.31258/ijeepe.2.3.10-14>

## The Design of Portable Battery Charging Devices Using Motorcycle Wheel Round

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*International Journal of Electrical, Energy and Power System Engineering (IJEEPSE)*

**ISSN:** 2654-4644

**Publication Date:** October 2019

**Abstract:** The design of the utilization of motorcycle wheel rotation for portable battery charging aims to make a device that can be used to charge batteries or gadgets by utilizing motorcycle wheel rotation. This tool works by using the rotation of a motorcycle's wheels into electric power for charging powerbank or cellphoneneeds. This tool consists of 3 parts, namely dynamo, a rectifier circuit, and a regulator circuit. From testing the tools that have been made, it is proven that the device can work and produce an output voltage of 5V and a maximum current of 0.95A. The power produced is 4.75 Watt. This tool can charge a cellphone for 0-100% in 226 Minutes and charge a powerbank for 50% for 131 Minutes. The recommended speed of the motorbike when charging is 30Km / h.

**Keywords:** Chargers, Dynamos, Regulators, motorcycle rotation

**Citation:** F. Jalil, Firdaus, E. Safrianti, and A. Hidayat, "The Design of Portable Battery Charging Devices Using Motorcycle Wheel Round", *IJEEPSE*, vol. 2, no. 3, pp. 21-25, Oct. 2019.

<https://doi.org/10.31258/ijeepe.2.3.21-25>

## Evaluation Of Environment-Friendly School Program Based On Adiwiyata At Senior High School In Dumai City-Indonesia

**Authors:** Wan Roswita, Zulfan Saam, Yusni Ikhwan Siregar, Sukendi and Mubarak

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*International Journal of Current Research*

ISSN: 0975-833X

**Publication Date:** March 2019

**Abstract:** Environmental education has recommended by UNESCO four decades ago. Indonesian Government through Ministry for Environment Affairs and Ministry of National Education initiated an environmental education program as co-work program, called as Adiwiyata, for elementary and second education level school. Although, this program has ran for more ten years, it was found that many school facing problem in adopting curriculum and program. In Dumai city-Indonesia, State Senior High School (SMAN) 2 Dumai is projected to reach Adiwiyata School in national level, now the school remaining as Adiwiyata School in city level. As upgrading efforts to higher level, an assessment of the school preparation, program and progress to achieve national level is needed. This research give an evaluation of Adiwiyata program progress which adopted by SMAN 2 Dumai. We use qualitative and quantitative approachment in collecting all data through interviewing stakeholders, questionnaire, focus discussion group (FDG) and direct observation to evaluate environment-friendly behavior and program inside the school. Over all, the school has been conducted many efforts to fully adopt Adiwiyata program.

**Keywords:** Adiwiyata, Environmental education, Environment-friendly school.

**Citation:** Wan Roswita, Zulfan Saam, Yusni Ikhwan Siregar, Sukendi and Mubarak Mubarak, 2019. "Evaluation of environment- friendly school program based on adiwiyata at senior high school in Dumai city-Indonesia", *International Journal of Current Research*, 11, (03), 1833-1838. [doi: https://doi.org/10.24941/ijcr.34614.03.2019](https://doi.org/10.24941/ijcr.34614.03.2019)



## The Effect of Price on The Waterpark Visitors' Satisfaction

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*Journal of Business on Hospitality and Tourism*

**ISSN:** 2527-9092

**Publication Date:** 2019

**Abstract:** The quality of a good or service is mostly determined by the consumers. Accordingly, satisfying consumers can be attained by providing not only good quality products and services but also other factors, including price. Price issues faced by Queen Star Waterpark in Siak Regency of Riau Province in the past three years have decreased the number of visitors and raised visitors' complaints. This study, therefore, was aimed at finding out the effect of price on visitor satisfaction. The data was collected through conducting an interview with the waterpark manager and distributing questionnaires to 100 respondents as the samples chosen randomly through accidental sampling. To analyze the collected data, simple regression was used, while the hypothesis testing was performed through t-test and analysis of the coefficient of determination (R). The analysis results showed that the variable x (price) was proven to significantly affect the variable y (visitor satisfaction). This implies that the waterpark management should consider this and adopt a new approach to pricing.

**Keywords:** waterpark, price, visitor satisfaction

**Citation:** Mariaty Ibrahim & Musadad, 2019. The effect of price on the waterpark visitors' satisfaction. *Journal of Business on Hospitality and Tourism*. 01, 2019: 122-130.

DOI: <http://dx.doi.org/10.22334/jbhost.v5i1.143>



## Development of Thematic Teaching Materials Based on Discovery Learning in Elementary School

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*Journal of Teaching and Learning in Elementary Education (JTLEE)*

ISSN: 2622-3023

**Publication Date:** 1 February 2021

**Abstract:** The purpose of this research is to develop teaching materials using the discovery learning model to improve thematic learning outcomes in elementary schools. This research aims to develop thematic teaching materials based on the discovery learning model for fourth grade students of elementary school and to describe the feasibility of thematic teaching materials products based on the discovery learning model. This type of research is research and development (R&D). The development model used is the ADDIE (Analysis, Design, Develop, Implementation and Evaluate) model. The results of research on thematic teaching materials based on discovery learning are from the results of assessments carried out by media experts, material experts and students' responses during field trials. The results of the validation show that the overall score is 3.7 so that it is included in the "very good" category and the overall eligibility percentage is 93% so that it is included in the "very appropriate" category. Based on the above explanation, it can be concluded that the thematic teaching materials are based on discovery learning are suitable for learning for fourth grade students of elementary school.

**Keywords:** development; discovery learning; teaching materials.

**Citation:** Nur Wahyuni, Lala Jelita Ananda, 2021. Development of Thematic Teaching Materials Based on Discovery Learning in Elementary School. *Journal of Teaching and Learning in Elementary Education (JTLEE)*, 4(1), 122-130. DOI: <http://dx.doi.org/10.33578/jtlee.v4i1.7861>





## The Effect of Realistic Mathematic Approach on Students' Learning Motivation

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*Journal of Teaching and Learning in Elementary Education (JTLEE)*

ISSN: 2622-3023

**Publication Date:** August 2019

**Abstract:** This research is to determine the effect of realistic mathematical approach on students' learning motivation. The research method is pre-experiment of one group pretest posttest design. This study was conducted with 34 fifth grade students from a public school in Pekanbaru, Indonesia. The results indicate that students' learning motivation significantly increases. Among six indicators measuring students' learning motivation, the indicator of interesting activities in learning is the most increase, from 80.76% in pre-test to 86.40% in post-test. The average score of pretest in form of students' learning motivation questionnaire before applying treatment was 90.56 while score posttest after treatment was 95,09 and the results of the research hypotheses using the comparative t-test tcount (6.997) > ttable (2.039). This means that there is an effect of applying the realistic mathematical approach to students' learning motivation.

**Keywords:** Keywords: realistic mathematical approach, students' learning motivation, learning activities

**Citation:** Shindy Lestari, Syahrilfuddin Syahrilfuddin, Zetra Hainul Putra, Neni Hermita, 2019. The Effect of Realistic Mathematic Approach on Students' Learning Motivation. *Journal of Teaching and Learning in Elementary Education (JTLEE)*, 2(2), 145-156.

DOI: <http://dx.doi.org/10.33578/jtlee.v2i2.7335>



## Imaging and Programming Based Computation of Logistic Package Volumes Application on Automatic Mail Machines

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*Journal of Ocean, Mechanical and Aerospace Science and Engineering*

ISSN: 2354-7065

**Publication Date:** 30 Desember 2018

**Abstract:** At present the determination of weight and volume has been widely used to assist in the process of determining costs for freight forwarding services. Shipping costs are determined by the weight of the goods, but the weight of the goods consists of two types, namely actual weight and volume weight. The weight of the weighing will be used directly if the item or box is small, but if the item is large but the weight is real then the weight of the volume will be used. Algorithms that combine triangulation and 2D measurement techniques can be used to build 3D surfaces so they can measure the volume laser triangulation method and the area of 2D image measurement, then using a computer algorithm to get the results of 3D images to determine the volume of the object. The calculation process used in this study uses MATLAB software. MATLAB is the most efficient software for matrix-based numerical calculations and is widely used in mathematical calculations, development and algorithms, programming modeling, prototyping and simulation, data analysis, exploration and visualization, numerical and statistical analysis, and technical application development. The results of the study using MATLAB include students becoming more interested in learning and more independent in learning mathematics, can visualize data graphically to help analyze the data analyzed, and help in modeling the characteristics of variations in fuel mixtures which include density, viscosity, dynamic and kinematic viscosity.

**Keywords:** Camera, imaging, triangulation method, volume, MATLAB

**Citation:** PRAYITNO, Adhy et al. Imaging and Programming Based Computation of Logistic Package Volumes Application on Automatic Mail Machines. *Journal of Ocean, Mechanical and Aerospace -science and engineering-*, [S.l.], v. 62, n. 1, p. 1-4, dec. 2018.  
doi: <http://dx.doi.org/10.36842/jomase.v62i1.150>

## Anti-Bacterial and Anti-Fungal Activities from *Macaranga bancana* Leaves Extract

**Authors:** Rianti Putri, Rudi Hendra, Hilwan Y. Teruna

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*Pharmacology and Clinical Pharmacy Research*

ISSN: 2527-7322

**Publication Date:** 25 April 2019.

**Abstract:** *Macaranga bancana* is one of the Indonesian medicinal plants that is empirically used to treat infectious disease. The aim of this study was to evaluate anti-bacterial and antifungal activities of *M. bancana* against human pathogenic microbes, i.e., *Escherichia coli*, *Staphylococcus aureus*, and *Candida albicans*. The dried leaves of *M. bancana* were extracted using cold extraction method with n-hexane, dichloromethane, ethylacetate, methanol, and ethanol solvents. The evaluation of anti-microbial activity from these extracts at the concentration of 1000 µg/ml was conducted using microdilution method. Amoxicillin, cephadroxil, and ketoconazole were used as positive controls. All extracts showed 100% inhibitory activity against *S. aureus*, with the exception of ethanol extract which was 72.8%. Nevertheless, methanol and ethanol extracts showed 100% inhibitory activity against *E. coli*, while the lowest activity was shown by n-hexane extract (45.2%). All extracts exhibited 100% inhibitory activity against *C. albicans*. In conclusion, leaves extract of *M. bancana* is a potential source of anti-bacterial and anti-fungal agents.

**Keywords:** anti-bacterial, anti-fungal, *M. bancana*, microdilution

**Citation:** Rianti Putri, Rudi Hendra, Hilwan Y. Teruna, 2019. Anti-Bacterial and Anti-Fungal Activities from *Macaranga bancana* Leaves Extract. *Pharmacology and Clinical Pharmacy Research*, 4(1), 1-4. doi: <https://doi.org/10.15416/pcpr.v4i1.21376>

## Applied Mathematical Sciences

### A sixth-order two-step method for finding a multiple root of nonlinear equations

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*Applied Mathematical Sciences*

**ISSN:** 1314-7552

**Publication Date:** Januari 2019

**Abstract:** This article discusses a two-step method for finding multiple roots of nonlinear equations. We apply Newton's method for the first step and Osada's method for the second. This method has a six-order convergence and requires five function evaluations per iteration. From numerical simulation, we conclude that the proposed method is competitive to the compared methods and it can be used as an alternative method for two-step methods.

**Keywords:** Two-step method, Newton's method, Osada's method, multiple roots

**Citation:** Rahma, Siti & Imran, M & Syamsudhuha, Syamsudhuha. (2019). A sixth-order two-step method for finding a multiple root of nonlinear equations. *Applied Mathematical Sciences*. Vol. 13, 2019, no. 14, 793-803. <https://doi.org/10.12988/ams.2019.9795>

## Optimization of Portfolio Stock Selection with Meta Goal Programming

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*International Journal of Management and Fuzzy Systems*

**ISSN:** 2575-4947

**Publication Date:** 30 Juli 2019

**Abstract:** This article discusses the optimization of portfolio stock selection using the Meta Goal Programming (MGP) model. The optimization problem of stock portfolio selection with the MGP model is solved by combining the weight of trust in each type of MGP and comparing it with the Goal Programming (GP) portfolio. The final result is in the form of the selection of five stocks which are designated as optimal portfolios. This new MGP portfolio produces a higher return value and a lower standard MGP portfolio deviation compared to the GP portfolio.

**Keywords:** Goal Programming, Meta Goal Programming, Optimization, Portofolio, Stock

**Citation:** Eka Swastika Alwi Putri, Habibis Saleh, Moh Danil Hendry Gamal, Optimization of Portfolio Stock Selection with Meta Goal Programming, *International Journal of Management and Fuzzy Systems*. Vol. 5, No. 2, 2019, pp. 33-39. doi: <https://doi.org/10.11648/j.ijmfs.20190502.11>

## Identifying Pupils' Mental Model of the Day and Night Concept

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*Journal of Teaching and Learning in Elementary Education (JTLEE)*

**ISSN:** 2622-3023

**Publication Date:** 2 August 2019

**Abstract:** Many students and even teachers still cannot recognize the relevance of the model to build physical knowledge. The study of mental representations built by students in their interactions with the world, phenomena and artifacts, is an important line of research in science education. Therefore, it is not surprising that analogies play an important role in science education, because the construction of students in mental models of abstract phenomena must be rooted in some existing or previous experiences, to interpret more complex ideas. The purpose of this study is to investigate mental models elementary school students against the phenomenon of day and night. This research is quantitative descriptive. The research subjects were 20 students in grade six. The results showed that 20% of students had a low mental model (LMM), 45% of students had a moderate mental model (MMM), and 35% of students had a high mental model (HMM). Based on the results of the study it can be said that, (1) 20% of students cannot explain the concepts scientifically and students' understanding is at the level of symbolic representation. (2) 45% of students cannot explain the causes of a phenomenon, student understanding is at the level of macroscopic representation, (3) and 35% of students have concepts with understanding based on real-life observations with scientific concepts learned at school and students' understanding is at the level of representation of microcosms.

**Keywords:** Mental model, analogy, mental representation

**Citation:** Parlina, Aci & Hermita, Neni & Alpusari, Mahmud & Noviana, Eddy. (2019). Identifying Pupils' Mental Model of the Day and Night Concept. *Journal Of Teaching And Learning In Elementary Education (JTLEE)*, 2(2), 118-125. <http://doi.org/10.33578/jtlee.v2i2.7573>

## Application of PAIKEM GEMBROT Learning Model to Improve Fifth Graders' Science Learning Motivation

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*Journal Of Teaching And Learning In Elementary Education (JTLEE)*

**ISSN:** 2622-3023

**Publication Date:** Agustus 2019

**Abstract:** This study aims to determine students' learning motivation on the use of the PAIKEM GEMBROT model. This research conducted at public elementary school located in Pekanbaru. This study uses a quantitative approach due to the data collected is in the form of numbers which are then analyzed by statistics. By the problem under the study, this research is an experimental research using the pre-experiment type of one group pretest-posttest design. The subjects in this study were fifth graders' students from a Public Elementary School with a total of 30 students. The instrument in this study used a questionnaire. The results showed that the pretest score obtained a score of 35% than expected. This means that students' learning motivation in science is still very low. After the use of the PAIKEM GEMBROT model, the Posttest was conducted with the score obtained 69.41% than expected. This means that students' learning motivation in science is high. Based on the N Gain analysis, the influence of the PAIKEM GEMBROT model on student learning motivation was 52.94% with the medium category.

**Keywords:** Learning motivation, science learning motivation, PAIKEM GEMBROT

**Citation:** Lestari, Widya & Hermita, Neni & Kurniaman, Otang. (2019). Application Of PAIKEM GEMBROT Learning Model to Improve Fifth Graders' Science Learning Motivation. *Journal Of Teaching And Learning In Elementary Education (JTLEE)*. 2019: 164-173. DOI: <http://dx.doi.org/10.33578/jtlee.v2i2.7651>



## Development Strategy and Analysis of Fish Cultivation Business Using Local Raw Materials Using

**Authors:** Marnis

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*Saudi Journal of Business and Management Studies*

**ISSN:** 2415-6663

**Publication Date:** 2019

**Abstract:** The purpose of this study is to analyze the production costs of a fish farming business carried out by oil palm and rubber farmers in the village of Bencah Kelubi who have become alternative livelihoods for farmers and utilize existing natural resources (catfish innards) as raw material for feed (pellets) to support the business fish farming in ponds. This study uses survey and experimental research methods, namely conducting surveys of internal and external conditions that affect fish farming businesses; while the experiment was carried out by conducting an experiment in processing catfish offal solid waste into fish feed raw material. The appropriate strategy for developing catfish farming business in the village of Bencah Kelubi is to create a hatchery unit to produce seeds, creating catfish culture technology with appropriate applications.

**Keywords:**

**Citation:** Marnis. 2019. Development Strategy and Analysis of Fish Cultivation Business Using Local Raw Materials Using. *Saudi Journal of Business and Management Studies*. Available at <https://www.semanticscholar.org/paper/Development-Strategy-and-Analysis-of-Fish-Business/e5794972fe704ebccf08e327e4bcbca9c3f536d6?sort=relevance&citedPapersSort=relevance&citedPapersLimit=10&citedPapersOffset=10>

## Prevention of Land and Forest Destruction to Create Sustainable Forest in Pelalawan District, Riau Province, Indonesia

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*The International Journal Of Science & Technoledge*

**ISSN:** ISSN 2321-919X

**Publication Date:** 3 March 2019

**Abstract:** The aims of this research to identify and analyze the impact of the ecological, economic, and social caused by land and forest fires. This research was conducted in Pelalawan Regency, Riau Province, January-June 2017. This study uses qualitative and quantitative descriptive methods (Mix Method). Data and information collected in this study include qualitative and quantitative data, and the simulation is the community in Pelalawan District, Riau Province. Sampling clicking probability uses sampling, by simple random sampling with Slovin formula. Data analysis uses Partial Correlation. Further analysis of a using an eyebrow is an environmental factor in the form of social, economic and ecological. The study found that the p ola fire prevention and forest land with three patterns, namely empowerment patterns, patterns of oversight and enforcement patterns. These three patterns can be used by the Indonesian government for management and anticipate the land and forest fires in the future.

**Keywords:** Land and forest fire prevention, monitoring patterns, enforcement patterns, and prevention patterns, peatlands

**Citation:** Ibrahim, Harlen, Sukendi, Yusni Ikhwan Siregar. 2019. Prevention of Land and Forest Destruction to Create Sustainable Forest in Pelalawan District, Riau Province, Indonesia. *The International Journal of Science & Technoledge*. 16-21.

DOI: <http://dx.doi.org/10.24940/theijst%2F2019%2Fv7%2Fi3%2FST1903-011>



## Alternative Multiplying Triangular Fuzzy Number and Applied in Fully Fuzzy Linear System

**Authors:** Zulya Desmita, Mashadi Mashadi

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*American Scientific Research Journal For Engineering, Technology, and Science (ASRJETS)*

**ISSN:** 2313-4402

**Publication Date:** 10 Juni 2019

**Abstract:** In this paper, a new concept of arithmetic fuzzy number will be introduced using the broad area concept triangular fuzzy number so that we will get the form of multiplying fuzzy number in some cases. New arithmetic concept fuzzy number will be applied to solve the fully fuzzy linear system using Gauss Seidel method and the solution obtained is a single solution.

**Keywords:** Arithmetic Fuzzy Number, Fully Fuzzy Linear System, Triangular Fuzzy Number. 2010 Mathematics Subject Classification, 94D05, 08A72, 15B15

**Citation:** Zulya Desmita, Mashadi Mashadi. 2019. Alternative Multiplying Triangular Fuzzy Number and Applied in Fully Fuzzy Linear System. *American Scientific Research Journal For Engineering, Technology, and Science (ASRJETS)*. pp 113 -123. Available at [https://asrjetsjournal.org/index.php/American\\_Scientific\\_Journal/article/view/4887](https://asrjetsjournal.org/index.php/American_Scientific_Journal/article/view/4887)

## Area of Outer Napoleon In The Parallelogram and Area of Outer Semi Napoleon in The Kite

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*IOSR Journal of Mathematics (IOSR-JM)*

**ISSN:** 2278-5728

**Publication Date:** February 2020s

**Abstract:** Outer theorem Napoleon in the parallelogram, on each side of the parallelogram is constructed a square in outside direction, then each midpoint square if connected it will be shape square. This square is called the outer Napoleon quadrilateral. While outer semi Napoleon's theorem on a kite that is on each side of a kite is constructed square in outside direction, then each midpoint square if connected it will produce a rectangle that is not a square. This quadrilateral is called the outer semi Napoleon quadrilateral. In this paper, the area of the outer Napoleon will be discussed in the parallelogram and the area of outer semi Napoleon's of kites. The process of proof is done in a simple way, namely by using trigonometric concepts and using congruence.

**Keywords:** Parallelogram, Kites, Napoleon Theorem, Semi Napoleon Theorem

**Citation:** Mustika, Wahyuni & Mashadi, Mashadi & Gemawati, Sri. (2020). Area of Outer Napoleon In The Parallelogram and Area of Outer Semi Napoleon in The Kite. *IOSR Journal of Mathematics (IOSR-JM)*. Pp 31-37. DOI: <https://doi.org/10.9790/5728-1503023137>

## Alternative Fuzzy Algebra for Fuzzy Linear System Using Cramers Rules on Fuzzy Trapezoidal Number

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*International Journal of Innovative Science and Research Technology*

ISSN: 2456-2165

**Publication Date:** April 2019

**Abstract:** In this article will be given alternative positive fuzzy number and negative fuzzy number using the area of positive-x axis and negative-x axis, and then will given algebra modification in multiplying two numbers of fuzzy. The linear system will be solve using Cramer rules.

**Keywords:** Fuzzy trapezoidal numbers, fully fuzzy linear system, Cramer rules

**Citation:** Alternative Fuzzy Algebra for Fuzzy Linear System Using Cramers Rules on Fuzzy Trapezoidal Number. Helmi Kholida, Mashadi. 2019. *International Journal of Innovative Science and Research Technology*, 4(4), 494-498. <https://1library.net/document/qo391nkq-alternative-fuzzy-algebra-fuzzy-linear-cramers-trapezoidal-number.html>

## Algebraic Modification of Trapezoidal Fuzzy Numbers to Complete Fully Fuzzy Linear Equations System Using Gauss-Jacobi Method

**Authors:** Ahmad Syaiful Abidin, Mashadi Mashadi, Sri Gemawati,

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*International Journal of Management and Fuzzy Systems*

ISSN: 2575-4947

**Publication Date:** 2 September 2019

**Abstract:** This paper will discuss algebraic modification of trapezoidal fuzzy numbers with a general form of fully fuzzy numbers is  $\tilde{A}\tilde{x} = \tilde{b}$  with  $\tilde{A}$  is  $n \times n$  fuzzy matrix,  $\tilde{x}$  fuzzy vector, and  $\tilde{b}$  unknown fuzzy vector. The concept used in this paper is define positive or negative fuzzy numbers determined by the area on the left side of the x-axis and the right side of the x-axis. Furthermore, the concept will be applied to the multiplication of two fully fuzzy trapezoidal numbers to produce a new algebra that can be applied to a system of linear equations. At the end, an example of multiplication two fully fuzzy trapezoidal numbers using the Gauss-Jacobi method will be given. As a result compatible number will be obtained.

**Keywords:** Fully Fuzzy Number, Trapezoidal, New Algebra, Gauss-Jacobi Method

**Citation:** Ahmad Syaiful Abidin, Mashadi Mashadi, Sri Gemawati, Algebraic Modification of Trapezoidal Fuzzy Numbers to Complete Fully Fuzzy Linear Equations System Using Gauss-Jacobi Method, *International Journal of Management and Fuzzy Systems*. Vol. 5, No. 2, 2019, pp. 40-46. doi: <https://doi.org/10.11648/j.ijmfs.20190502.12>

## New Arithmetic Triangular Fuzzy Number for Solving Fully Fuzzy Linear System using Inverse Matrix

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*International Journal of Sciences: Basic and Applied Research (IJSBAR)*

ISSN: 2307-4531

**Publication Date:** 01 Juni 2019

**Abstract:** This paper present a new concept arithmetic of triangular fuzzy number, namely by using a board area concept of triangular fuzzy number, so that we will get a form multiplication of fuzzy numbers in some cases. This new arithmetic concept will be applied for solve the fully fuzzy linear system using inverse matrix. Furthermore, to illustration will given numerical examples of solving fully fuzzy linear system using inverse matrix with a case of multiplication positive fuzzy number and negative fuzzy number.

**Keywords:** triangular fuzzy number, arithmetic fuzzy number, fully fuzzy linear system 2010 Mathematics Subject Classification, 94D05, 08A72, 15B15.

**Citation:** Desi Ratna Anta Sari, Mashadi. 2019. New Arithmetic Triangular Fuzzy Number for Solving Fully Fuzzy Linear System using Inverse Matrix. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*, Volume 46, No 2, pp 169-180. Available at <https://www.gssrr.org/index.php/JournalOfBasicAndApplied/article/view/10044>

## Influence of Foreign Ownership, Ownership Concentrated, and Environmental Disclosure to Firm Value

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*Indonesian Journal of Economics, Social, And Humanities*

**ISSN:** 2656-355X

**Publication Date:** 04 Januari 2019

**Abstract:** This study aims to examine the effect of foreign ownership on firm value, the influence of ownership concentrated on firm value, the influence of the environmental disclosure on firm value. The population used in this study is a manufacturing company listed on the Indonesia Stock Exchange in 2014-2017. Samples were determined by using purposive sampling method and obtained sample of 13 companies with a total of 134 observations. Data analysis was done by multiple regression analysis using SPSS program. The results of the research indicate that: 1) foreign ownership influences on firm value, 2) ownership concentrated influences on firm value, 3) environmental disclosure influences on firm value.

**Keywords:** foreign ownership, ownership concentrated, environmental disclosure, firm value

**Citation:** Fitri, E., Savitri, E., & L, A. (2019). Influence of Foreign Ownership, Ownership Concentrated, and Environmental Disclosure to Firm Value. *Indonesian Journal of Economics, Social, and Humanities*, 1(2), 91-96. <https://doi.org/10.31258/ijesh.1.2.91-96>

## Productive Age Perspective Facing Demographic Bonuses in Riau Province

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*American Journal of Economics*

ISSN: 2166-4951

**Publication Date:** 2019

**Abstract:** Indonesia has entered a period where there are a large number of people of productive age, reducing the dependency ratio. The population of Riau Province in 2016 with unproductive and productive age groups showed that the ratio was 39.64% classified as unproductive age and 60.36% classified as productive age. The purpose of this study is to find out the perspective of productive age groups in competing on the international labor market. The results showed that from the socio-economic respondents, respondents' education was generally financed by parents with the highest composition of income levels, namely Rp. 3,000,001- Rp. 3,500,000, and there was interest from respondents to continue their further education. From the mastery of respondents' information about the international labor market, respondents were still minimal in knowing the opportunities and challenges of the demographic bonus, mastery of foreign languages generally has mastered, and mastery of technology was still not good, from the readiness of universities there was a supportive curriculum, but socialization to work abroad was still little and also cooperation with foreign universities and private institutions abroad is still small.

**Keywords:** Productive Age, Demographic Bonus, International Labor Market

**Citation:** Harlen, Deny Setiawan, Productive Age Perspective Facing Demographic Bonuses in Riau Province, *American Journal of Economics*, Vol. 9 No. 1, 2019, pp. 23-37. doi: <https://doi.org/10.5923/j.economics.20190901.05>

## Sag and Tension of 275 kV Transmission Line using Catenary

**Authors:** Dicky Novriandi, Azriyenni Azhari Zakri, Edy Ervianto

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*International Journal of Electrical, Energy and Power System Engineering (IJEEPSE)*

**ISSN:** 2654-4644

**Publication Date:** 2019-10-09

**Abstract:** This research will develop a catenary method to determine the sag and tension analysis on the 275 kV transmission line conductors. The catenary method is dependent on the equation of the weight of the conductor, the maximum tensile stress of the conducting wire, the length of the span, and the maximum sag of the conductor. The method will be used in determining the value of sag and tension with the design of the model using software AutoCAD. The results of research for the same tower sag height of 6.86 m, with a tension of 4610.83 kg and a conductor length of 401.06 m, while sag for the tower is not the same height of 8.14 m, with a tension of 4612.84 kg, and changes in conductor length 401.06 m. The increase in current causes the sag value to increase, when the minimum current sag value is 6.9828 m, and the maximum current sag value increases to 8.44 m. While the tension will decrease along so that temperature is increased the current minimum pressure of 4531.27kg, and at the time of maximum tension of 3749.728kg. Sag and tension are also affected by ambient temperature when the minimum temperature is 20 °C sags are 6.8621 m and when the maximum temperature is 40 °C sag increases to 7.793492 m. Tension will decrease with each increase in temperature when the minimum temperature is 20 °C tension 4610.538 kg when the maximum temperature is 40 °C the tension is reduced to 4062.345 kg.

**Keywords:** CSR, Catenary, Sag, Tension, Transmission Line

**Citation:** D. Novriandi, A. A. Zakri, and E. Ervianto, "Sag and Tension of 275 kV Transmission Line using Catenary", *IJEEPSE*, vol. 2, no. 3, pp. 15-20, Oct. 2019. <https://doi.org/10.31258/ijeepse.2.3.15-20>



## The Effect of Sales Growth, Capital Expenditure, and Working Capital Efficiency on Indonesian-Listed-Consumer-Goods Firms' Financial Performance with Capital Structure as Moderating Variable

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*Indonesian Journal Of Economics, Social, And Humanities*

**ISSN:** 2656-355X

**Publication Date:** 2019-01-28

**Abstract:** This study aims to determine the effect of sales growth, capital expenditure and working capital efficiency on financial performance which is moderated by the capital structure. The population in this study was all consumer goods industry firms listed on the Indonesia Stock Exchange in 2014-2017. Sampling in this study was based on purposive sampling and obtained as many as 35 firms. The analytical method used was Partial Least Square (PLS) analysis. The results showed that sales growth and capital expenditure do not significantly affect capital structure; working capital and capital structure has a positive and significant effect on financial performance. Meanwhile, as a moderating variable, capital structure is not able to moderate the influence of sales growth on financial performance. Capital structure weakens the effect of capital expenditure and efficiency working capital on financial performance.

**Keywords:** Sales Growth, Capital Expenditure, Working Capital Efficiency, Capital Structure, Financial Performance

**Citation:** Dovita, Y., Rokhmawati, A., & Fathoni, A. (2019). The Effect of Sales Growth, Capital Expenditure, and Working Capital Efficiency on Indonesian-Listed-Consumer-Goods Firms' Financial Performance with Capital Structure as Moderating Variable. *Indonesian Journal of Economics, Social, and Humanities*, 1(1), 1-15. <https://doi.org/10.31258/ijesh.1.1.1-15>

## The Use Of Virtual Laboratory To Improve Students' Conceptual Understanding In Acid Base Titration Subject

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*International Journal of Educational Best Practices (IJEBP)*

**ISSN:** 2581-0847

**Publication Date:** April 2019

**Abstract:** The research has been conducted to figure out the use of virtual laboratories on students' conceptual understanding of acid-base titration subject at SMAN 1 Tambusai. The study was an experimental research with one group pretest-posttest design. The sample consisted of one class, XI IPA2, a class that was treated with a virtual laboratory. The data analysis technique used was the t-test. Based on the results of the final data processing using the t-test, it was obtained that  $\text{sig } 5 \leq 0.05$ ; where  $0,000 \leq 0.05$ ; so it was concluded that there were significant differences between the mean scores of the pretest and posttest. This shows that there is an increase by the use of virtual laboratories towards the students' conceptual understanding

**Keywords:** Virtual Laboratory, Conceptual Understanding, Acid and Base Titration

**Citation:** Erni, Jimmi Copriady, Roza Linda. (2019). The Use Of Virtual Laboratory To Improve Students' Conceptual Understanding In Acid Base Titration Subject. *International Journal of Educational Best Practices*. P43-49. DOI: <https://doi.org/10.31258/ijeep.v3n1.p43-49>

## Contagion Effect Of Decrease In Auditor Quality And Earnings Management

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*International Journal Of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** October 2019

**Abstract:** This research aimed at examining the contagion effect of a decrease in auditor quality on the earnings management practices. The number of research samples was 79 companies within 2012-2015. The earnings management was measured using Jones Modified Model. The decrease in auditor quality is measured by the misstatement of financial statements. Based on the results of the regression analysis, the contagion effect of a decrease in auditor's quality in the previous period and the current period, increasing the practice of earnings management. These results indicate that the contagion effect of a decrease in auditor quality indicates misstatement that provides a gap for companies to practice earnings management. The misstatement was carried over to the following financial reporting period, there by improving earnings management practices in the following period. The misstatement was carried over to the financial statement of other companies with the same auditor. Accordingly, it increases the earnings management Index Terms— Contagion Effect; Auditor Quality, Earnings Management, Misstatement

**Citation:** Nanda Fito Mela. 2019. Contagion Effect Of Decrease In Auditor Quality And Earnings Management. *International Journal Of Scientific & Technology Research*. P 754-760.

<https://www.semanticscholar.org/paper/Contagion-Effect-Of-Decrease-In-Auditor-Quality-And-Mela/1708de2607d587d30925ba7d70c444dc00aa758a>

## Analysis of Entrepreneurial Orientation and Education Level of the MSMEs Actors in Improving MSMEs Performance in Bengkalis Regency

**Authors:** Desmiyawati, Amries Rusli Tanjung, Nur Azlina, Yesi Mutia Basri, Sri Indrastuty S.

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Research Journal of Finance and Accounting

ISSN: 2222-2847

**Publication Date:** July 31<sup>st</sup> 2019

**Abstract:** This research was aimed at identifying factors that affected the MSMEs performance in Bengkalis Regency, Riau Province. The research population was all MSMEs in Bengkalis Regency which amounted to 42,029 MSMEs, while the samples were 100 MSMEs selected using Slovin formula. The data occupied were primary data where the respondents were given a questionnaire/written questions regarding MSMEs performance, entrepreneurial orientation (proactiveness, innovativeness, and risk taking) and education level of MSMEs actors. Analyzing the data was done using multiple regression to find out the accuracy of correlation between entrepreneurial orientations (proactiveness, innovativeness, and risk taking) education level of the MSMEs actors on MSMEs performance. Hypothesis assessment was determined by  $\alpha < 0.05$ . Based on the results of this research hypothesis testing, it was proven that the entrepreneurial orientation (proactiveness, innovativeness, and risk taking) had effect on the MSMEs performance while the education level had no effect on the MSMEs performance in Bengkalis Regency.

**Keywords:** MSMEs, proactiveness, innovativeness, risk taking, education level and performance

**Citation:** Desmiyawati, Amries Rusli Tanjung, Nur Azlina, Yesi Mutia Basri, Sri Indrastuty S. 2019. Analysis of Entrepreneurial Orientation and Education Level of the MSMEs Actors in Improving MSMEs Performance in Bengkalis Regency. *Research Journal of Finance and Accounting*. P 1-9. DOI: <https://doi.org/10.7176/RJFA/10-13-01>



## The Characteristics Of Assessment Instrument For Creative Thinking Ability On Crude Oil Topic

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International Journal of Educational Best Practices (IJE BP)

ISSN: 2581-0847

**Publication Date:** 2 October 2019

**Abstract:** The development of globalization era also has an impact on the change in the world of education. The education which is demanded in the learning process is 21st-century learning. One of the important aspects of 21st century learning is requiring the students to have the ability to think creatively. Creative thinking ability of the students in the learning process is not apart from the teachers' role. The description of students' creative thinking ability is measured by conducting an assessment. This research aims to know the characteristics of assessment instruments for creative thinking on crude oil topic (construct validity, reliability, the level of difficulty, and question differentiation). This research used Research and Development (R&D) method which referred to Borg and Gall model. The technique of selecting the samples was Purposive Random Sampling. The research samples were 80 students of Grade XII Senior High School in Pekanbaru City. The technique of data analysis used SPSS Program 24.0. The results of the validity construct for each question is  $> 0,208$  with 18 questions are stated valid, the reliability test is 0,846. The percentage level of difficulty obtained 22,222% questions are categorized into easy, 61,111% questions are medium, and 16,667% questions are categorized into difficult. The percentage of question differentiation obtained 16,667% questions are good, 66,667% is fair, and 11,111% is bad.

**Keywords:** Assessment Instrument, Creative Thinking Ability, Crude Oil

**Citation:** Nanda Resti Monika, Maria Erna, Rasmiwetti. 2019. The Characteristics Of Assessment Instrument For Creative Thinking Ability On Crude Oil Topic. *International Journal of Educational Best Practices (IJE BP)*, 3(2), 75-84. <http://dx.doi.org/10.31258/ije bp.v3n2.p75-84>

## Progressive collapse of regular and irregular reinforced concrete moment frame

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*MATEC Web of Conferences*

ISSN: 2261-236X

**Publication Date:** 15 March 2019

**Abstract:** A technique to evaluate the potential progressive collapse of reinforced concrete structure was conducted in this study. The analysis involved the removal of several columns on critical location of the building according to General Services Administration (GSA) 2013 provision. In each analysis, the demand-capacity ratios (DCRs) of structural elements were examined and compared to the defined acceptance criteria. To avoid structural building collapse progressively, DCR ratio of regular and irregular buildings should be less than 2 and 1.5, respectively. The result showed that the structure did not collapse with the removal single column only. Further to this finding, several columns need to be removed so that it collapsed progressively. In the case of regular structure, progressive collapse occurred after removing five columns on the side of the regular structure, with the maximum DCR of 4.66. In the case of irregular structure, progressive collapse occurred after removing four columns on the horizontal side in the middle of structure with the maximum DCR of 3.44.

**Citation:** Ardian Yolanda, Zulfikar Djauhari, Ridwan and Enno Yuniarto. 2019. Progressive collapse of regular and irregular reinforced concrete moment frame. *MATEC Web of Conferences*. DOI <https://doi.org/10.1051/mateconf/201927601035>

## Synthesis and Characterization of Chitosan-Silica Membranes for Treating Hotel Wastewater Treatment as Affected by Mass of Poly Ethylene Glycol and Poly Vinyl Alcohol

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*J.Appl.Mat and Tech*

ISSN: 2686-0961

**Publication Date:** Aug 25, 2019

**Abstract:** Chitosan-Silica blended membranes were an attractive choice for the purification process because their porous size and morphology provide higher selectivity. In this study, the synthesis and characterization of chitosan-silica membranes were carried out with a mass variation of Poly Ethylene Glycol (PEG): 0,5; 2,5; 5 grams, Poly Vinyl Alcohol (PVA): 1, 2, 3 grams; and pressure 1, 2, 3 bars for the hotel wastewater treatment. The purpose of this study was to determine the characterization of chitosan-silica membranes obtained by SEM and tensile strength, and to determine the performance of membrane against the flux and rejection test with the effect of a mixture of PEG and PVA mass using raw materials in form of chitosan-silica. Tensile strength analysis showed that membrane with the highest tensile strength was 19,14 Mpa for PEG and 13,7 Mpa for PVA. The SEM test results showed a relatively small pore size of PEG 0,5 gram (0,061  $\mu\text{m}$ ) and PVA 2 grams (0,0284  $\mu\text{m}$ ). Flux and rejection results showed that membrane with 2,5 grams composition of PEG was the most effective in performance with the flux 18,19 L/m<sup>2</sup>.h and rejection elimination of BOD (50,76%), COD (46,09%) and TSS (48,00%). On the other hand, flux results showed that membrane with 3 grams composition of PVA was the most effective with the flux 20,13 L/m<sup>2</sup>.h and rejection elimination of BOD (62,84%), COD (64,73%) and TSS (38,40%). The characteristics of permeability, selectivity, and membrane pore statistics show that the silica membrane is an ultrafiltration membrane.

**Keywords:** chitosan, flux, membrane, rejection, silica, wastewater.

**Citation:** Jhon Armedi Pinem, Dessy Natalia Indah Panjaitan, Muhammad Rifai Siregar, Syamsu Herman Edy Saputra. 2019. Synthesis and Characterization of Chitosan-Silica Membranes for Treating Hotel Wastewater Treatment as Affected by Mass of Poly Ethylene Glycol and Poly Vinyl Alcohol. *J.Appl.Mat and Tech.* 1(1), 31-37. <https://doi.org/10.31258/Jamt.1.1.31-37>

## Removal of COD and total nitrogen from palm oil mill effluent in flatphotobioreactor using immobilised microalgae *Chlorella* sp.

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International Journal of Educational Best Practices (IJE BP)

ISSN: 2550-2166

**Publication Date:** 2018

**Abstract:** Untreated palm oil mill effluent (POME) contains organic materials, tannin compounds and high in soluble solids that can damage the environment when discharged into inland waterways and cultivated lawns. Organic materials of the POME can be processed into an algae cultivation medium due to its mineral contents. In this study, *Chlorella* sp. was used to remove COD and total nitrogen in POME. *Chlorella* sp. has microscopic size, low specific gravity and, it is difficult to separate in wastewater. *Chlorella* sp. cells were trapped in the calcium alginate matrix to form a bead with a diameter of 3-4 mm. To obtain the highest removal efficiency of COD and the total nitrogen, different concentration of Na-alginate (4%, 6%, and 8%) were used to optimize the beads preparation at different contact times (1, 3, 5, and 7 days). Based on the results, the beads made from 8% Na-alginate concentration were able to eliminate, 11-62.46% total nitrogen efficiently, and 23-63.1% COD efficiently on the seventh day. This showed that higher Na -alginate concentration has higher removal efficiency.

**Keywords:** *Chlorella* sp., COD, Immobilization, Palm Oil Mill Effluent (POME), Total Nitrogen

**Citation:** Elystia, Shinta & Rezeki Muria, Sri & Anggraini, Lestina. (2018). Removal of COD and total nitrogen from palm oil mill effluent in flatphotobioreactor using immobilised microalgae *Chlorella* sp. *Food Research*, 3. 126-130. DOI: [https://doi.org/10.26656/fr.2017.3\(2\).130](https://doi.org/10.26656/fr.2017.3(2).130)



## Web Based Wind Energy Conversion System Monitoring

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2018 2nd International Conference on Electrical Engineering and Informatics (ICon EEI 2018)

**ISSN:** 978-1-5386-6000-3

**Publication Date:** October 2018

**Abstract:** Wind energy is a promising alternative energy source that can be used to produce electricity. Wind energy is converted into electrical energy by the principle of converting the kinetic energy of the wind into electrical energy. This working system is often called the wind energy conversion system. Work equipment for this conversion process occurs at wind power plants. One part of the wind power generation system that is no less important is the monitoring section. Monitoring section functions to determine conditions and to control wind power plants. In this paper, a web-based monitoring system has been established. By using Arduino and a data logger system to store data on wind speed and voltage generated by the generator. Data obtained from the anemometer sensor and voltage sensor are processed by Arduino. Then the sensor data is stored on the SD card connected to the data logger shield. Furthermore, data can be viewed through the website based on data sent by GSM Shield sim900. So that users can monitor wind speed and voltage data through the website.

**Keywords:** Keywords—wind energy conversion system, monitoring, arduino, data logger, website.

**Citation:** Hamzah, Amir & Chaniago, Bayu & Suwitno, Suwitno & Hasyim Rosma, Iswadi & Gussyafri, Haji & Kurniawan, Iwan. (2018). *Web Based Wind Energy Conversion System Monitoring*. 179-182. <https://doi.org/10.1109/ICon-EEI.2018.8784337>

## Finite Element Modelling of Reinforced Concrete Beam Strengthened with Embedded Steel Reinforcement Bars

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Journal of Applied Materials and Technology

**ISSN:** 2686-0961

**Publication Date:** Aug 25, 2019

**Abstract:** The increased of loads on existing reinforced concrete infrastructure and the lack of initial design and construction will induce flexural and shear failure. Several methods have been introduced to increase the shear capacity of existing reinforced concrete elements with FRP, involving the use of plates or fabric externally bonded (EB) to the webs of the bridge beams, prestressed straps wrapped around the beams or bars mounted within grooves prepared in the near-surface mounted (NSM) technique. Typical Indonesian concrete bridges consisted main girders connected with diaphragm beams where the distance between those girders are very close. In particular case, where the webs of the beams are difficult to access, a novel approach is introduced, namely deep embedment (DE) method. Three reinforced concrete beam models are prepared for this study. One specimen is the control specimen and identified, as Beam-CS and the other two are the strengthened specimens and identified as Beam-SS-3EB and Beam-SS-5EB. All specimens have the same dimensions and reinforcement configuration. Specimen Beam-SS-3EB was strengthened with three rows of 6 mm embedded plain steel bars while specimen Beam-SS-5EB was strengthened with five rows of 6 mm plain steel bars. The results showed that element size significantly affects the load-displacement curve behaviour. The similarity of the hysteresis curve in the FE analysis using the 25 mm element size suggested a reasonably good agreement between the analytical calculation and the prediction result from the FE analysis. Furthermore, maximum reaction force for Beam-SS-3EB and Beam-SS-5EB were 30.30 kN and 31.77 kN, respectively, represents an increase of 17.67% and 23.29% compared to that of the Beam-CS.

**Keywords:** Finite Element Model Reinforced Concrete Beam Strengthening Deep Embedment Method

**Citation:** Nurman Chandra, Ridwan Ridwan, Muhammad Ikhsan. 2019. Finite Element Modelling of Reinforced Concrete Beam Strengthened with Embedded Steel Reinforcement Bars. Civil Engineering Department, Universitas Riau, Pekanbaru, Indonesia. *Journal of Applied Materials and Technology*, 1(1), 38-45. <https://doi.org/10.31258/Jamt.1.1.38-45>



## Development of Assessment Instruments to Diagnose the Ability of Students' Critical Thinking in Equilibrium Subject

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The 3rd International Conference on Science and Technology

**ISSN:** 2579-4086

**Publication Date:** May 2019

**Abstract:** This research aims to develop an assessment instruments to diagnose the ability of student's critical thinking in Chemical Equilibrium Subject at Senior High School. This research is a development model that refers to Research and Development (R&D) with the Borg & Gall model. Indicators of critical thinking in this research use 10 indicators which are validated by three chemists. The sample in this study amounted to 42 students of XI grade in high school of Kampar district. The data are analyzed using SPSS 23. The average of instrument validation results are  $> 0.78$  (very good). Test result of normality data is obtained normal data of 5 0.05, questions are constructively valid because  $t\text{-count} > t\text{-table}$ , reliability test of Cronbach's Alpha value is greater than 0.6 (very good), homogeneity test  $> 0.05$  that is 0.306, one-way ANOVA test shows that every level of school category tested has a significant difference in sig.  $< 0.05$ .

**Keywords:** critical thinking; cognitive assessment; chemical equilibrium.

**Citation:** Vicky Wahyudi, Maria Erna, Roza Linda, 2019. Development of Assessment Instruments to Diagnose the Ability of Students' Critical Thinking in Equilibrium Subject. *The 3rd International Conference on Science and Technology*, 3(1), 1-7. Available at <http://estech.org/index.php/IJSAT/article/view/184>

# Identification Acroporidae and Favidae by a newly approach called Reef Identification Knowhow Application-Reconstructed by 3D Imagery (RIKA-R3DI) Method

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**ISSN :** 2215-0161

**Publication Date:** Mei 2019

**Abstract:** With an increase on coral reefs vulnerability worldwide, an efficient and an integrated monitoring technique are required. Photographic and video methods are now becoming more attractive rather than conventional technique to optimize diver time. In this research, the level of effectiveness of RIKA-R3DI method was evaluated using Agisoft Photoscan. The method was based on the reconstructed images in three dimensional image assisted by a computer with Agisoft Photoscan to facilitate data processing. This research aims to identify Acroporidae and Favidae as the models of coral reef-building species. The samples were collected from the waters of Beralas Pasir Island, Bintan Regency. Visual engineering was conducted in the form of 3D viewing with attention to the corallite shape and size, as well as the color of the corals. The result was successful in identifying 4 species, i.e. *Acropora microphthalma*, *A. sarmentosa*, *Favia maritima*, *F. vietnamensis*. The keys benefit of this methodologies are:

- The RIKA-R3DI method allows to reduce diving time during direct visual observation.
- The method has high accuracy and is non-invasive, since it does not touch directly to the coral.
- The application of RIKA-R3DI can be used to identified the coral species and evaluate the coral health status base on the percent coverage.

**Keywords:** Coral identification 3D imagery reconstruction Coral reef Coral finder Acroporidae Favidae

**Citation:** Rika Kurniawan Aprilia Ariestasari Roiko Sunarwan Silalahi ItaKarlina Try Febrianto Dedy Kurniawan Viktor Amrifo Muhammad Abrar Agung Dhamar Syakti. Identification Acroporidae and Favidae by a newly approach called Reef Identification Knowhow Application-Reconstructed by 3D Imagery (RIKA-R3DI) Method, *MethodsX*, Volume 6, 2019, Pages 1084-1100.

<https://doi.org/10.1016/j.mex.2019.05.002>

## Corrosion Inhibition Mechanism of Mild Steel by Amylose Acetate/Carboxymethyl Chitosan Composites in Acidic Media

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*International Journal of Chemical Engineering*

ISSN: 1687-8078

**Publication Date:** Feb 2019

**Abstract:** This article details an investigation on the mechanism of corrosion inhibition of mild steel using amylose-acetate-blended carboxymethyl chitosan (AA-CMCh) in acidic media in the context of kinetic and thermodynamic parameters. The surface of mild steel was exposed to test solutions and evaluated using scanning electron microscopy (SEM) and energy dispersive X-ray spectroscopy (EDX). The activation energy ( $E_a$ ), free energy of adsorption ( $\Delta G$ ), enthalpy of activation ( $\Delta H_{ads}$ ), and entropy of activation ( $\Delta S_{ads}$ ) were determined in order to elucidate the mechanism of corrosion inhibition. The results confirmed that AA could be improved using CMCh as a corrosion inhibitor. The corrosion rate decreased from 1109.00 to 229.70 mdd (79.29%), while corrosion inhibition increased from 35.13 to 89.72%. Sulfate acid ( $H_2SO_4$ ) of 0.25 M also helped in decreasing the corrosion rate from 2664.4 to 1041.67 mdd (60.9%) while also in increasing corrosion inhibition from 56.94 to 68.31%. The calculated values for  $\Delta G$ ,  $\Delta H_{ads}$ , and  $\Delta S_{ads}$  were  $-33.22 \text{ kJ}\cdot\text{mol}^{-1}$ ,  $-48.56 \text{ kJ}\cdot\text{mol}^{-1}$ , and  $0.0495 \text{ kJ}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$ , respectively. The mechanism of corrosion inhibition of mild steel in the acidic condition is dominated and precipitated by the formation of the Fe-chelate compound, which was confirmed by the SEM/EDS spectrum. The reactions were spontaneous, exothermic, and irregular and takes place on the surface of mild steel.

### Keywords:

**Citation:** Maria Erna Herdini Herdini, and Dedi Futra, Corrosion Inhibition Mechanism of Mild Steel by Amylose-Acetate/Carboxymethyl Chitosan Composites in Acidic Media, *International Journal of Chemical Engineering*, 2019:1-12. <https://doi.org/10.1155/2019/8514132>

## Legislation to Reduce Land Conflicts in Indonesian Provinces

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*Environmental Policy and Law*

**ISSN:** 10.333/EPL-180109

**Publish date:** Maret 2019

**Abstract:** Land related conflicts take place everywhere in the world and West Sumatra and Riau provinces, where villagers and large-scale palm oil plantation companies have often been going at each other since mid-1998, are not exempt from this reality. These conflicts are closely related to the process of land control or land acquisition by both local governments and companies. This paper discusses the issue of legal protection for communal land (referred to as tanah ulayat hereafter) rights in both West Sumatra and Riau provinces. This is an empirical research seeking to find out to what extent laws and regulations protect traditional communities' land rights in both West Sumatra and Riau provinces. It uses case study and root cause analysis in an attempt to dissect the root-causes of long existing customary land conflicts in both West Sumatra and Riau provinces. Data were collected through in-depth interviews, surveys, laws/regulations, news papers and magazines. This study reveals that the dismissal of customary law, the inconsistency of communal land transfer process through customary law (hukum adat), the exclusion of traditional communities from land transfer negotiations, and unkept promises are, among many others, the reasons of land conflict escalation in West Sumatra and Riau provinces.

**Keywords:** Legal Protection, Communal land, Land Conflicts and Customary Law Community.

**Citation:** Hanifah, Mardalena Ardiyanto, Syaifullah Yophi Tegan, 2019, Hilaire Legislation to Reduce Land Conflicts in Indonesian Provinces *Environmental Policy and Law* Volume 48, issue 6 <https://doi.org/10.3233/EPL-180109>

## High gain 5G MIMO antenna for mobile base station

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*International Journal of Electrical and Computer Engineering (IJECE)*

**ISSN:** 2088-8708

**Publish date:** Feb 2019

**Abstract:** This article presented a millimeter wave antenna which operated at 38 GHz for 5G mobile base station. The MIMO (Multiple Input Multiple Output) antenna consisted of 1x10 linear array configurations. The proposed antenna's size was 88 x 98 mm and printed on 1.575 mm-thick Rogers Duroid 5880 substrate with dielectric constant of  $\epsilon_r=2.2$  and loss tangent ( $\tan\delta$ ) of 0.0009. The antenna array covered along the azimuth plane to provide the coverage to the users in omnidirection. The simulated results showed that the single element antenna had the reflection coefficient (S11) of -59 dB, less than -10 dB in the frequency range of 35.5-39.6 GHz. More than 4.1 GHz of impedance bandwidth was obtained. The gain of the antenna linear array was 17.8 dBi while the suppression of the side lobes was -2.7 dB. It showed a high array gain throughout the impedance bandwidth with overall of VSWR were below 1.0646. It designed using CSTmicrowave studio.

**Citation:** Yusnita Rahayu Indah Permata Sari Dara Incam Ramadhan Razali Ngah. High gain 5G MIMO antenna for mobile base station. *International Journal of Electrical and Computer Engineering (IJECE)*, Vol. 9, No. 1, February 2019, pp. 468~476.  
<https://doi.org/10.11591/ijece.v9i1.pp468-476>

## Enhanced charge transfer activity in Au nanoparticles decorated ZnO nanorods photoanode

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*Physica E: Low-dimensional Systems and Nanostructures*

ISSN: 1386-9477

**Publish date:** July 2019

**Abstract** Charge-transfer and photoactivity at an interface of a photoactive materials, such as ZnO, is critically influence the performance of dye-sensitized solar cell (DSSCs). The performance of DSSCs utilizing Au decorated ZnO nanorod photoanode with Au nanoparticles grown at seven different growth times from 0.12 up to 6 min were studied. It was found that the charge transfer characteristic of DSSCs devices utilizing Au decorated ZnO nanorods increased with the increasing of Au nanoparticles size and density and optimum at Au nanoparticles size of ca. 15 nm and density of approximately 4–10 nanoparticles/nanorods. At this condition, the charge transfer resistance as low as  $7.4\ \Omega$  was recorded. This is equivalent to power conversion efficiency of 1.11%. The charge transfer resistance gradually declined when the growth time further elongated. The efficient charge transfer can be associated to the excellent catalytic properties of Au nanoparticles on ZnO nanorods. This also improves its carrier transport in the device as judged from significantly low dark current properties. The improvement of light absorption can also be considered to improve the performance, attributed to the surface plasmon resonance (SPR) effect of the gold nanoparticles. The preparation of Au nanoparticles decorated ZnO nanorods and the mechanism of charge transfer characteristics will be discussed.

**Citation:** Iwantono Siti KhatijahMd Saad FeraAnggelina Awitdrus Muhamad Adam Ramli Akrajas AliUmar. Enhanced charge transfer activity in Au nanoparticles decorated ZnO nanorods photoanode. *Physica E: Low-dimensional Systems and Nanostructures*, Volume 111, July 2019, Pages 44-50.

<https://doi.org/10.1016/j.physe.2019.03.001>



## Biosensor signal improvement using current mirror topology for dissolved oxygen measurement

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*Measurement Science and Technology*

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**Publish date:** April 2019

**Abstract** A biosensor system for dissolved oxygen level detection based on a current mirror method has been designed and characterized. Most biosensor systems implement a transimpedance circuit to convert the flowing current on the sensor to an output voltage signal. These systems are voracious and susceptible to instability and noise due to the configuration of the circuit used. The power supply is also impractical due to the bipolar polarity needed, and the systems consume more power since they use more active devices in the op-amp. These disadvantages need to be overcome when special requirements are needed such as low-noise measurement in dissolved oxygen level detection, and for battery-powered and low-power devices for *in situ* and remote area measurement. Differing from transimpedance, current mirror circuits convert the flowing current to the output voltage by copying the current with a ground-referenced input and output, and use fewer active devices. The proposed current mirror circuit aims to diminish the noise of the output and minimize the power consumption through reducing the active devices used. The results show some significant signal quality improvements when using the current mirror circuit, where the noise response of the current mirror circuit is ten times lower than the transimpedance circuit.

**Citation:** Lazuardi Umar, Yanuar Hamzah and Rahmondia N Setia. Biosensor signal improvement using current mirror topology for dissolved oxygen measurement. *Measurement Science and Technology et al* 2019 *Meas. Sci. Technol.* **30** 065102. <https://doi.org/10.1088/1361-6501/ab0675>

# Praxeological Change and the Density of Rational Numbers: The Case of Pre-service Teachers in Denmark and Indonesia

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*EURASIA J Math Sci Tech Ed*

**ISSN:** 1305-8223

**Publish date:** Maret 2019

**Abstract:** The present study aims to introduce the notion of praxeological change, developed based on the Anthropological Theory of the Didactic, to describe a necessity of changing mathematical praxeologies when passing from natural to rational numbers. It is applied to study and compare Danish and Indonesian pre-service teachers' (PSTs) knowledge of the density of rational numbers. They work in pairs to solve and discuss a hypothetical teacher task, which involves both mathematical and didactical tasks, related to the density of rational numbers. The findings highlight significant differences of the mathematical and didactical knowledge which are shared by the Danish and Indonesian PSTs. In particular, the Danish PSTs are more successful than the Indonesian PSTs in proposing didactical praxeologies to support pupils' praxeological change. They use the mathematical idea of converting fractions into decimals or vice versa and representing fractions and decimals on the same number line, while the Indonesian pairs tend to suggest pupils to order fractions and decimals based on the ordering properties of natural numbers.

**Keywords:** praxeological change anthropological theory of the didactic hypothetical teacher task density of rational numbers

**Citation:** Zetra Hainul Putra. Praxeological Change and the Density of Rational Numbers: The Case of Pre-service Teachers in Denmark and Indonesia. *EURASIA J Math Sci Tech Ed*, 2019, Volume 15 Issue 5, Article No: em1711. <https://doi.org/10.29333/ejmste/105867>

## Exploring Teacher Perceptions and Motivations to ICT Use in Learning Activities in Indonesia

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Journal of Information Technology Education

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**Publish date:** Januari 2019

**Abstract:** This study aims to investigate the perceptions and motivations of state senior high school teachers in rural districts in Indonesia towards ICT use in learning activities. Background: In 2013, Indonesian government launched an ICT-based curriculum known as 2013 Curriculum. According to this curriculum, ICT must be integrated into all subjects as learning resources and media. Even though there are growing numbers of research investigating teacher perceptions and motivation to ICT use in teaching and learning process, little has focused on teachers in rural districts in Indonesia. Research on ICT use in education in Indonesia generally focuses on teachers in urban areas. Methodology: The data of this study were collected through a set of questionnaires administered to 616 senior high school teachers from four rural districts in Indonesia. The questionnaire reliability was analyzed using the Cronbach Alpha with the help of SPSS software. The percentage was mainly used in the descriptive analysis. Whereas, Mann-Whitney U-test was used for inferential statistics as the data were not normally distributed. Contribution: Even though this study has limitation related to sample size, the results contribute to the existing theory and practice related to ICT integration in Indonesia. This study could be an incentive for improving readiness of teachers in rural areas regarding ICT use in learning activities. Findings: The results of this study indicated that the teachers had a good level of perception and motivation toward ICT integration in learning activities. However, they still faced with several issues related to facilities and technical expertise. Recommendations for Practitioners: The school principals together with related parties in the Education Office have to work together in designing IT training programs for teachers so that they have more knowledge and skills related to the use of ICT in teaching and learning activities and at the same time they can increase their confidence in using ICT.

**Citation:** Mahdum, Hadriana, & Safriyanti, M. (2019). Exploring teacher perceptions and motivations to ICT use in learning activities in Indonesia. *Journal of Information Technology Education: Research*, 18, 293-317. <https://doi.org/10.28945/4366>

## The effect of alpha-lipoic acid on expression of VCAM-1 in type 2 diabetic rat

**Authors:** Ismawati, Mukhyarjon, Enikarmila Asni and Ilhami Romus

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**Abstract:** Macrovascular diabetes complications are generally caused by a process called atherosclerosis. Evidences suggest that to initiate atherosclerosis, oxidated low-density lipoprotein (oxLDL) has to promote the expression of adhesion molecule. Several studies have evidenced the relevance of oxidative stress and atherosclerosis. However, the protective effect of alpha-lipoic acid (ALA) at atherosclerosis still needs to be explored. This study is aimed at investigating the concentration of plasma oxLDL and the expression of adhesion molecule of type 2 diabetes mellitus (DM) using rat model. Eighteen male rats were segregated into three groups labeled as control group, DM group and DM+ALA group. Type 2 diabetes was induced by intraperitoneal injection of streptozotocin (50 mg/kg) followed by nicotinamide (110 mg/kg). ALA was administered at a dose of 60 mg/kg body weight/day throughout the feeding period of 3 weeks. Plasma oxLDL concentration was measured by enzyme-linked immunosorbent assays and expression of vascular cell adhesion molecule-1 (VCAM-1) was measured by immunohistochemistry. Expression of abdominal aortic adhesion molecule was assessed by calculation with Adobe Photoshop CS3. Analysis of variance test was used to compare the concentration of plasma oxLDL and expression of adhesion molecule. A P-value of 0.05 was considered statistically significant. Plasma oxLDL was lower in diabetic rat+ALA compared with the diabetic rat. Percentage of area VCAM-1 in DM+ALA group was lower than DM group. There were no significant differences between groups in intensity of VCAM-1. In conclusion, ALA showed protective effects against early atherosclerosis in diabetic rats.

**Keywords:** Atherosclerosis, Vascular cell adhesion molecule-1, Diabetes mellitus

**Citation:** Ismawati, Mukhyarjon, Enikarmila Asni and Ilhami Romus The effect of alpha-lipoic acid on expression of VCAM-1 in type 2 diabetic rat. *PMC*, 52(2): 176–182.

<https://doi.org/10.5115/acb.2019.52.2.176>

## Production and Characterization of Precipitated Silica from Palm Oil Mill Fly Ash Using CO<sub>2</sub> Impregnation and Mechanical Fragmentation

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**Abstract** In this research, sol-gel precipitation using CO<sub>2</sub> impregnation and mechanical fragmentation method was applied to produce precipitated silica from Palm Oil Mill Fly Ash (POMFA). Carbon dioxide (CO<sub>2</sub>) was used in order to reduce the cost of the process and to enable sodium hydroxide recovery. The precipitation process was done in a stirred temperature-controlled baffled glass precipitator. The response surface method with the central composite design was applied to optimize the stirring speed and the CO<sub>2</sub> flow rate. The pH and the temperature of the precipitation process were varied for tailoring the specific surface area of the precipitated silica. The mechanical fragmentation and wet crushing process were applied to control the agglomerate particle size of the precipitated silica obtained. The results show that precipitated silica with a specific surface area in the range of 50 - 140 m<sup>2</sup>/g can be obtained.

**Keywords:** Carbon dioxide; Mechanical fragmentation; Palm oil mill fly ash; Precipitated silica; Sol-gel precipitation

**Citation:** Panca S. Utama Ram Yamsaengsung Chayanoot Sangwichien. Production and Characterization of Precipitated Silica from Palm Oil Mill Fly Ash Using CO<sub>2</sub> Impregnation and Mechanical Fragmentation. *Braz. J. Chem. Eng.* 36 (1). <https://doi.org/10.1590/0104-6632.20190361s20170458>

# MANAGEMENT CONTROL SYSTEM AND ITS EFFECT ON ORGANIZATIONAL CITIZENSHIP BEHAVIOUR AND TURNOVER INTENTION

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Polish Journal of Management

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**Abstract:** To realize the vision and mission of a company, human resources, especially managers have a very important role. Effectiveness, efficiency, and good performance must be owned by managers. Therefore, understanding and controlling the behavior of managers is something that must be done. With this requirement as a formal system in the company, management control systems are functioning to control a wide range of business activities, and it can be used to influence the behavior of managers. Organizational citizenship will encourage managers to do more business and in turn organizational citizenship is expected to reduce negative behaviors of employees such as turnover intention. This study examines: (1) the influence of organizational citizenship, 2) the role of organizational citizenship on turnover intention; and 3) the role of organizational citizenship as a mediating variable in the relationship between management control systems and turnover intention. This study has used the primary data analysis through questionnaire technique and applied descriptive and structural models to examine the relationship between variables. The results show that management control systems have a positive influence on organizational citizenship behavior, while organizational citizenship behavior has a negative influence on turnover intention. Further analysis shows that organizational citizenship behavior controls turnover intention.

**Keywords:** management control systems (MCS), organizational citizenship behaviour (OCB), turnover intention, warp partial least square 5.0, Indonesia

**Citation** Ria Nelly Sari , Raisya Zenita , Aura Pratadina , Normah Omar. Management Control System And Its Effect On Organizational Citizenship Behaviour And Turnover Intention. *Polish Journal of Management Studies* 2019; 19 (2): 343-352. <https://doi.org/10.17512/pjms.2019.19.2.29>

## Sensitivity of Heterotrophic Bacteria in the Low-Salinity Water Areas and Estuary in Siak District toward Pathogenic Bacteria in Fish

**Authors:** F. Feliatra, Rizki Hamdani, Iesye Lukystyowati, and Irvina Nurachmi

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*International Journal of Microbiology*

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**Abstract:** The high rate of bacterial diseases in fishes and shrimps has lead scientists seek for natural antibiotic products that would act as a solution. An example of this product is the secondary metabolic products from heterotrophic bacteria. These bacteria could easily be found in many water regions and estuaries, including the Siak District, Riau, Indonesia. Therefore, this study aims at determining the ability of bacterial isolates in inhibiting the growth of pathogens (*Vibrio alginolyticus*, *Aeromonas hydrophila*, and *Pseudomonas* sp.). The research was conducted from June to September 2018. It actuates the type of heterotrophic bacteria in the sampling area using the PCR technique. The phylogenetic structure of bacterial isolates obtained during this study was assessed by nucleotide sequencing of the 16S rRNA gene. The antagonism test showed that bacteria had the ability to inhibit the growth of pathogens (*Vibrio alginolyticus*, *Aeromonas hydrophila*, and *Pseudomonas* sp.). The results showed that 25 pure bacterial isolates were obtained, in which 10 of those were carried out by DNA sequencing; hence, it could be used as antimicrobes. Based on the analysis of 16S rDNA, 10 isolates were identified: 6 were *Bacillus cereus* and 2 were *Pseudomonas aeruginosa* with homology levels ranging from 97 to 99%, while the remaining two were suspected as the new species of isolates. From the result, it could be concluded that heterotrophic bacteria are found to be better used as antipathogens against *Vibrio alginolyticus* than *hydrophila* and *Pseudomonas* sp.

**Citation:** F. Feliatra, Rizki Hamdani, Iesye Lukystyowati, and Irvina Nurachmi. 2019. Sensitivity of Heterotrophic Bacteria in the Low-Salinity Water Areas and Estuary in Siak District toward Pathogenic Bacteria in Fish. *International Journal of Microbiology* Volume 2019. <https://doi.org/10.1155/2019/7456410>

## Analysis of the fabric of undisturbed and pluviated silty sand under load over time

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*European Journal of Environmental and Civil Engineering*

ISSN: 2116-7214

**Publish date:** Januari 2019

**Abstract:** Microstructure of two undisturbed silty sands with 4% fines and 35% fines is described and quantified. The materials were sampled by the gel push sampling method. Upon reloading to their *in situ* stresses, the material fabric was fixed by resin impregnation. A qualitative and quantitative comparison of the microstructure was made with laboratory prepared dry deposited specimens (15% fines) which were loaded over different periods of time. The microstructure is quantified statistically by measuring particle orientation and the distribution of spatial distance between particles. Both undisturbed and reconstituted specimens show a preferred horizontal particle orientation, with little detectable change over time in the reconstituted samples. Spatial microstructural change was assessed using new parameter called index of dispersion. A greater index of dispersion suggests a more interlocked structure (hence, more structurally stable sample). Analysis of the reconstituted samples show that index of dispersion tends to increase with ageing, with the denser sample displaying greater change over time than the looser sample. Values of index of dispersion of reconstituted samples (15% fines) tend to lie between those of the undisturbed sample with 35% silt fines and with 5% fines, showing that this measure is not independent of the particle size distribution.

**Keywords:** Microstructure apparent particle orientations spatial distancesilty sandundisturbeddry deposition

**Citation:** Elisabeth Bowman Muhamad Yusa. 2019. Analysis of the fabric of undisturbed and pluviated silty sand under load over time. *European Journal of Environmental and Civil Engineering*, 25(4), 737-756. <https://doi.org/10.1080/19648189.2018.1541825>





## Produktive Age Perspective Facing Demografic Bonuses in Riau Province

**Authors:** Harlen, Deny Setiawan

**Corresponding Author:** Harlen

American Journal of Economics

**ISSN:** 2166-496X

**Publish date:** 2019

**Abstract:** Indonesia has entered a period where there are a large number of people of productive age, reducing the dependency ratio. The population of Riau Province in 2016 with unproductive and productive age groups showed that the ratio was 39.64% classified as unproductive age and 60.36% classified as productive age. The purpose of this study is to find out the perspective of productive age groups in competing on the international labor market. The results showed that from the socio-economic respondents, respondents' education was generally financed by parents with the highest composition of income levels, namely Rp. 3,000,001- Rp. 3,500,000, and there was interest from respondents to continue their further education. From the mastery of respondents' information about the international labor market, respondents were still minimal in knowing the opportunities and challenges of the demographic bonus, mastery of foreign languages generally has mastered, and mastery of technology was still not good, from the readiness of universities there was a supportive curriculum, but socialization to work abroad was still little and also cooperation with foreign universities and private institutions abroad is still small

**Citation** Harlen, Deny Setiawan. Produktive Age Perspective Facing Demografic Bonuses in Riau Province. *American Journal of Economics*, 2019; 9(1): 23-37.

<https://doi.org/10.5923/j.economics.20190901.05>

## Raman amplifier performance in pre-amplifier use for optical fiber communication systems

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*Telecommunication, Computing, Electronics and Control*

**ISSN:** 1693-6930

**Publish date:** 2019

**Abstract:** The development of telecommunications networks is currently dominated by fiber optics. The fiber optic has become a waveguide medium transmitting information with high frequency bands, high capacity and high speed. An optical amplifier is required to maintain electromagnetic signals when they propagate in far distance. One of the amplifiers, Fiber Raman Amplifiers (FRA) which is the light scattering from the light that comes with the phonon in the lattice of amplification medium produces photons that are coherent with the incoming photons. Many amplifiers are commonly used but the problems not only come from the amplifier but also the component circuit and system. By simulation method, FRA circuit is designed and operated in the form of pre-amplifiers to maintain a better signal from material interference and geometry. The simulation results show that the lowest BER value and the highest Q-factor are found at a distance of 10km depicted by eye diagram.

**Keywords:** fiber optics; fiber Raman amplifiers; optical amplifiers; optics

**Citation:** T. Saktioto, S. P. Dewi, R. F. Syahputra, Okfalisa Okfalisa, Syamsudhuha Syamsudhuha  
*Telecommunication, Computing, Electronics and Control*, Vol 17, No 5. , pp.2194~2199

**DOI:** <http://dx.doi.org/10.12928/telkomnika.v17i5.12594>

## Growth performance and carcass quality of river catfish *Hemibagrus nemurus* fed salted trash fish meal

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The Egyptian Journal of Aquatic Research

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**Abstract** The objective of the study was to examine the substitution effect of fish meal by salted trash fish meal in the diet on the growth performance and carcass quality of river catfish *Hemibagrus nemurus*. Four diets (34% protein and 3.25 kcal g<sup>-1</sup> digestible energy) were tested; the control diet contained fish meal without salted trash fish meal (FM), and the other diets were salted trash fish meal diets with fish meal, which was reduced and proportionally replaced by salted trash fish meal 50% (STFM-50), 75% (STFM-75), 100% (STFM-100); and a commercial diet (CD), containing 31.79% protein and 2.94 kcal digestible energy, was used as a reference diet. The juvenile catfishes (with average in body weight  $50 \pm 2.26$  g) were stocked into 2 m × 2 m × 1.20 m floating net cages at a density of 50 fish cage<sup>-1</sup>, and fed experimental diets at satiation, twice a day at 7.00 AM and 17.00 PM for 12 weeks. The results showed that the substitution of fish meal by salted trash fish meal up to 75% did not give significant effect on pelleted diet water stability, growth performance (survival rate, weight gain, specific growth rate, feed efficiency, protein efficiency) and carcass quality (body proximate composition, amino acid profile, edible flesh, dress-out percentage, carcass waste and sensory quality) of the fish ( $P > 0.05$ ). However, complete substitution (100%) reduced protein retention and fish body protein ( $P < 0.05$ ). Compared to commercial diet, the substitution of fish meal by salted trash fish meal up to 75% produced higher protein retention, fish body protein and sensory quality of the fish ( $P < 0.05$ ). Therefore, it is concluded that the salted trash fish meal can be included in the diet of river catfish *H. nemurus* up to 75%.

**Keywords:** Salted trash fish Fish meal Feed utilization Growth performance Carcass quality

**Citation** Bustari Hasan Iskandar Putra Indra Suharman Dian Iriani Zainal A.Muchlisin Volume 45, Issue 3, September 2019, Pages 259-264 <https://doi.org/10.1016/j.ejar.2019.07.005>

## Stochastic analyses for managing risk of delay in Duri oil construction projects, Indonesia

**Authors:** Ari Sandyvitri

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*International Journal of Construction Management*

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**Abstract:** This article objective was to identify, assess, simulate, and mitigate risks of delay for the construction of new pressure maintenance (NPM) project located in Duri, Indonesia, based on the combination of stochastic and sensitivity analyses. These both analyses methods are not new but relatively unique to be applied in the area of oil industry especially in Indonesia in generating specific result findings. There were identified 16 major activities are sensitive causing the construction delay. Five significant risks such as; delay in procuring labors, material, and equipment, as well as changes in design and specifications, contributed to the project delay. Based on the stochastic risk analyses, it was identified that an 80% probability of the project would delay for 48 working days. These risks were classified as a high-risk project (delay > 20% from the initial construction project schedule). After conducting risk simulation and risk mitigation measures there were 80% probabilities for reducing the construction delay up to 52.08%. The application of these methods and 6 stages in managing risks would be as an important reference for the oil industry stakeholders in the identification, assessing, and mitigating any possible delays and risks during the construction phase systematically.

**Keywords** Stochastic sensitivity risks mitigation construction delayoil projects probabilities

**Citation** Ari Sandyvitri. 2019. Stochastic analyses for managing risk of delay in Duri oil construction projects, Indonesia. *International Journal of Construction Management* .

<https://doi.org/10.1080/15623599.2019.1644762>

## Analysis of Economic Learning Success

**Authors:** Henny Indrawati, Caska,

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*International Journal of e-Collaboration*

**ISSN:** 1548-3681

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**Abstract** The purpose of this article is to (1) analyze the economics basic competencies difficult to be mastered by the students, (2) investigate the factors causing low student competencies on the NE in economics subject for the related basic competencies and find the solution to overcome the problems, and (3) formulate the appropriate model to improve success in economics learning. This study analyzed the variables that determine the success of students in economics learning. There are several points that can be concluded from the findings of the study, they are: 1) the competence of students in economics learning is in the poor category; 2) variables that determine the success of economics learning; 3) student motivation for learning was the most effect variable in determining the success of economics learning. From several studies that have been done, there has been no study that combines all the variables in determining the success of learning.

**Keywords:** Parent Support, School Management, Student Motivation, Teacher Ability

**Citation:** Henny Indrawati, Caska. 2019. Analysis of Economic Learning Success.

*International Journal of e-Collaboration* Volume 15 Issue 4, 3.

<https://doi.org/10.4018/IJeC.2019100102>

# Irregular Shifting of RF Driving Signal Phase to Overcome Dispersion Power Fading

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*Photonics*

**ISSN:** 2304-6732

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**Abstract:** The main problem with the radio-over-fiber (RoF) link is the decrease in the recovered radio frequency (RF) power due to the chromatic dispersion of the fiber known as dispersion power fading. One of the methods for dealing with dispersion power fading is to use the optical single sideband (OSSB) modulation scheme. The OSSB modulation scheme can be generated by biasing the dual-drive Mach–Zehnder modulator (DD-MZM) to the quadrature bias point (QBP) and shifting the RF drive signal phase ( $\theta$ ) by  $90^\circ$ , which is called the regular  $\theta$ . However, the OSSB modulation scheme only overcomes dispersion power fading well at the modulation index ( $m$ )  $< 0.2$ . This paper proposes an irregular  $\theta$  method to overcome dispersion power fading at all  $m$ . There are two irregular  $\theta$  for every  $m$  used. The irregular  $\theta$  managed to handle dispersion power fading better than OSSB modulation scheme did at every  $m$ . Specifically, the irregular  $\theta$  could handle the dispersion power fading well at  $m \leq 1$ . In sum, the irregular  $\theta$  could overcome the dispersion power fading at any RF frequency and optical wavelength without having to re-adjust the transmitter.

**Keywords:** radio over fiber; dispersion power fading; dual-drive Mach–Zehnder modulator (DD-MZM); irregular phase shift

**Citation:** Ujang, F.; Firmansyah, T.; Priambodo, P.S.; Wibisono, G. Irregular Shifting of RF Driving Signal Phase to Overcome Dispersion Power Fading. *Photonics* 2019, 6, 104.

<https://doi.org/10.3390/photonics6040104>

## Ce Anomaly in I-Type Granitic Soil from Kuantan, Peninsular Malaysia: Retention of Zircon in the Weathering Product

**Authors:** A. Ghani, Muzammil Shahjamal, T. Ng, Noer El Hidayah Ismail, M. Zulkifley, N. Islami, L. Quek, A. Bakar, M. A. Hassan, Jasmi Hafiz Abdul Aziz, Amira Fahira Masor

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*Sains Malaysiana*

ISSN: 0126-6039

**Publish date:** 2019

**Abstract** This paper describes the Ce anomaly observed in granitic soil from the humid, tropical area of Kuantan, Pahang, Peninsular Malaysia. Three granite rock soil profiles from Kuantan, were sampled and all samples were analysed for rare earth elements. All the profiles of the granitic soil samples show prominent positive Ce anomalies, with the Ce/Ce\* ratio values ( $Ce/Ce^* = Ce_N/\sqrt{La_N.Pr_N}$ ) ranging from 1.2 to 125.1.  $Ce^{4+}$  is compatible in zircon because it has also the same charge and a similar ionic radius as to  $Zr^{4+}$  ( $Ce^{4+} = 0.97 \text{ \AA}$ ;  $Zr^{4+} = 0.84 \text{ \AA}$ ). The retention of zircon in the weathering product of the granitic rocks will increase the Ce content in the soil. Thus it is likely that the positive Ce anomaly in the REE profile of the Kuantan Granites may also have resulted from retention of zircon in the weathering product.

**Keywords** Ce anomaly; granitic soils; mineral zircon; rare earth elements; zircon

**Citation** . A. Ghani, Muzammil Shahjamal, T. Ng, Noer El Hidayah Ismail, M. Zulkifley, N. Islami, L. Quek, A. Bakar, M. A. Hassan, Jasmi Hafiz Abdul Aziz, Amira Fahira Masor Ce Anomaly in I-Type Granitic Soil from Kuantan, Peninsular Malaysia: Retention of Zircon in the Weathering Product. *Sains Malaysiana*, 48(2), (2019): 309–315. <https://doi.org/10.17576/jsm-2019-4802-06>

## Biomining of Platinum by *Escherichia coli*

**Authors:** Sahar Shar Frank Reith Esmail Shahsavari Eric M Adetutu Yuana Nurulita Khalid Al-Hothaly Nagalakshmi Haleyur Andrew Ball

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**Abstract** The widespread use of platinum in many industrial applications has led to its release into the environment at elevated concentrations with potential adverse effects on human and environmental health. However, the nature of interactions between mobile platinum complexes and the biotic components of the environment, which are increasingly being exposed to platinum, is poorly studied. The aim of this study was to assess the impact of Pt(IV)-chloride on the growth and activity of the well-characterized bacteria *Escherichia coli*. Bacterial survival and viability in the presence of different concentrations of Pt(IV)-chloride were assessed in liquid culture, while platinum retention was assessed using experimentation with sand-filled columns with the residual platinum concentration measured by atomic absorption spectroscopy. Bacterial biomining of platinum was studied with scanning electron microscopy. The results showed that *E. coli* tolerated PtCl<sub>4</sub> at concentrations of up to 10,000 µM over 21 days and remained viable after 112 days of incubation with PtCl<sub>4</sub> at 10,000 µM in sand columns. Overall, 74 wt.% and 50 wt.% of platinum was mined in *E. coli* and blank sand columns, respectively. The results of this study confirm that *E. coli* is capable of biomining platinum. The results confirm that the interaction of platinum with bacteria is not limited to known metal-resistant bacterial species

**Keywords** platinum; *E. coli*; platinum; sand-filled columns; cell viability; atomic absorption spectroscopy; scanning electron microscopy

**Citation** Shar, S.S.; Reith, F.; Shahsavari, E.; Adetutu, E.M.; Nurulita, Y.; Al-hothaly, K.; Haleyur, N.; Ball, A.S. Biomining of Platinum by *Escherichia coli*. *Metals* 2019, 9, 407.  
<https://doi.org/10.3390/met9040407>



## Nanorose-like $\text{ZnCo}_2\text{O}_4$ coatings synthesized via sol–gel route: morphology, grain growth and DFT simulations

**Authors:** Ella Awaltanova, Amun Amri, Nicholas Mondinos, Mohammednoor Altarawneh, T. S. Y. Moh, Hantarto Widjaja, Lee Siang Chuah, Hooi Ling Lee, Chun Yang-Yin, M. Mahbubur Rahman Idral Amri Iwantono Iwantono Zhong-Tao Jiang

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*Journal of Sol-Gel Science and Technology*

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**Abstract** Ternary cobalt-based metal oxide ( $\text{ZnCo}_2\text{O}_4$ ) has been successfully coated onto aluminum substrate via sol–gel method. The coatings were characterized by X-ray diffraction (XRD), field emission scanning electron microscopy (FESEM), energy dispersive X-ray (EDX) and UV–Vis–NIR spectrophotometry. Thermal degradation of the coatings was probed by thermogravimetric analysis (TGA) and differential thermal analysis (DTA). Model of crystal growth kinetics and density functional theory (DFT) calculations further probed the crystalline structure evolution. The predicted  $\text{ZnCo}_2\text{O}_4$  crystalline structures were confirmed by XRD and EDX. The grain growth kinetic model for  $\text{ZnCo}_2\text{O}_4$ , derived from Lifshitz–Slyozov–Wagner (LSW) theory, determined that the growth of crystalline phases is unaffected by the annealing temperature; however, the crystallites' sizes decreased with the increase in precursor concentration. DFT analysis indicated that structural energy stability between the bulk state and slabs of  $\text{ZnCo}_2\text{O}_4$  was at two oxygen layers (O-layers) with an optimum grain width of 17.21 Å. Interestingly, the morphology of  $\text{ZnCo}_2\text{O}_4$  represented a rose-like template structure formed by inter-connecting layers of nanosheets. This unique surface morphology enhanced the optical absorbance properties up to  $\alpha = 70.7\%$ .

**Citation** Awaltanova, E., Amri, A., Mondinos, N. et al. Nanorose-like  $\text{ZnCo}_2\text{O}_4$  coatings synthesized via sol–gel route: morphology, grain growth and DFT simulations. *J Sol-Gel Sci Technol*, 90, 450-464 (2019). <https://doi.org/10.1007/s10971-019-04987-4>

# Studies of annealing impact on the morphological, opto-dielectric and mechanical behaviors of molybdenum-doped CrN coatings

**Authors:** M. Mahbubur Rahman, Khalil Ibrahim, Hatem Taha, Amun Amri, Xiaoli Zhao, Humayun Kabir, T. S. Y. Moh, Bouraire Ahmed, Zhi-feng Zhou, Raba'ah Syahidah Azis, Md Abul Hossain, Mohammednoor Altarawneh, Zhong-Tao Jiang

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**ISSN:** 0040-6090

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**Abstract:** In the present study, molybdenum doped chromium nitride coatings deposited onto silicon substrates via unbalanced magnetron sputtering, in as-deposited and annealed conditions, at 500–800 °C in steps of 100 °C, were studied to reveal their temperature dependent structural, morphological, optical and mechanical behaviors. An analysis of these features was carried out using X-ray diffraction (XRD), field emission scanning electron microscopy (FESEM), ultraviolet visible (UV–Vis) spectroscopy, nanoindentation and finite element modeling (FEM) techniques. XRD results exhibited a significant improvement in the crystallinity of the Molybdenum (Mo)-doped chromium nitride (CrN) coatings along (111) and (200) diffraction planes, as the annealing temperatures increased. The lattice parameters gradually decreased from 4.20 to 4.12 Å as the temperature increased. The same tendency was also observed for lattice microstrains and residual stresses. Smooth grain-like surfaces were observed by FESEM imaging techniques. At an annealing temperature of 700 °C, the spectral absorptance of Mo:CrN films attained its peak value (86%), whereas the energy band-gaps were reduced from 2.48 to 1.14 eV. The other optical parameters such as complex dielectric constants, Urbach energy values, and steepness parameters of these coatings were also discussed. The hardness and elastic modulus of the as-deposited Mo:CrN films were estimated to be 18.4 and 287 GPa, respectively. At a film thickness of 1.0 µm, the highest stress of 20 GPa was evaluated, via FEM studies, at the interface between the film and the substrate. As the film thickness was enhanced, the stress level decreased. At higher annealing temperatures, both the mechanical hardness (H) and the elastic modulus (E) of Mo-doped CrN coatings dwindled.

**Keywords** Annealing temperature Molybdenum doped chromium nitride Thin film coatings Lattice constants Residual stress Solar absorptance Optical band-gap Hardness

**Citation:** M. Mahbubur Rahman, Khalil Ibrahim, Hatem Taha, Amun Amri, Xiaoli Zhao, Humayun Kabir, T. S. Y. Moh, Bouraire Ahmed, Zhi-feng Zhou, Raba'ah Syahidah Azis, Md Abul Hossain, Mohammednoor Altarawneh, Zhong-Tao Jiang. Studies of annealing impact on the morphological, opto-dielectric and mechanical behaviors of molybdenum-doped CrN coatings. *Thin Solid Films*, Volume 677, 1 May 2019, Pages 119-129 <https://doi.org/10.1016/j.tsf.2019.03.016>



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## Soliton and Breather Splitting on Star Graphs from Tricrystal Josephson Junctions

**Authors:** Susanto, H. & Karjanto, Natanael & Zulkarnain, & Nusantara, Toto & Widjanarko, Taufiq

**Corresponding Author:** Susanto

**Abstract:** We consider the interactions of traveling localized wave solutions with a vertex in a star graph domain that describes multiple Josephson junctions with a common/branch point (i.e., tricrystal junctions). The system is modeled by the sine-Gordon equation. The vertex is represented by boundary conditions that are determined by the continuity of the magnetic field and vanishing total fluxes. When one considers small-amplitude breather solutions, the system can be reduced into the nonlinear Schrödinger equation posed on a star graph. Using the equation, we show that a high-velocity incoming soliton is split into a transmitted component and a reflected one. The transmission is shown to be in good agreement with the transmission rate of plane waves in the linear Schrödinger equation on the same graph (i.e., a quantum graph). In the context of the sine-Gordon equation, small-amplitude breathers show similar qualitative behaviors, while large-amplitude ones produce complex dynamics.

**Keywords:** soliton; breather; sine-Gordon equation; Schrödinger equation; star graph; quantum graph

**Citation:** Susanto, H. & Karjanto, Natanael & Zulkarnain, & Nusantara, Toto & Widjanarko, Taufiq. (2019). Soliton and Breather Splitting on Star Graphs from Tricrystal Josephson Junctions. *Symmetry*. 11. 271. <https://doi.org/10.3390/sym11020271>

## Biometric and genetic differences in kelabau (*Osteochilus spp.*) as revealed using cytochrome c oxidase subunit 1

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Biometric and genetic differences in kelabau

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**Abstract:** Kelabau (*Osteochilus spp.*) is a freshwater fish commonly found in the rivers of Riau, Indonesia. Researchers believe that these are *Osteochilus kelabau*; however, accurate taxonomic determination of these fish in Riau waters has not been made. The purpose of this study was to facilitate the identification of the kelabau based on its morphology and genetics using biometric and cytochrome c oxidase subunit 1 (CO1) analyses, respectively. Methods: Fish samples were collected from the Siak, Kampar and Rokan rivers in Riau Province, Indonesia. The DNA of 90 fish was extracted from the caudal fins using a DNA extraction kit, after which it was amplified using primers Fish-F1 and Fish-R1. Sequencing was conducted by Applied Biosystems MacroGen Korea, and the DNA sequences were then edited and aligned using MEGA v. 7. All samples were BLAST-searched for identification using the National Center for Biotechnology Information and BOLD System. Phylogenetic trees were constructed, and similarity index was calculated using accession numbers AP011385.1 and KC631202.1 in GenBank. Results: Analysis of the consensus barcode sequence for 86 species revealed a high percentage of barcode matches (96%–97% in GenBank and 96.6%–96.76% in the BOLD System). The nucleotide distance between groups of kelabau from the different rivers based on the Kimura 2-parameter model gave the following results: 0.05% between groups from the Siak and Kampar rivers, 0.09% between those from the Siak and Rokan rivers and 0.05% between those from the Kampar and Rokan rivers. The nucleotide distance between the groups in the Siak (0.09%), Kampar (0.00%) and Rokan (0.10%) Rivers indicated that the kelabau in those rivers were related to each other.

**Keywords:** DNA barcoding, Kelabau Fish, Common Rivers of Riau, Population Structutre

**Citation:** Asiah N, Junianto J, Yustiati A *et al.* Biometric and genetic differences in kelabau (*Osteochilus spp.*) as revealed using cytochrome c oxidase subunit 1 [version 1; peer review: 3 approved with reservations]. *F1000Research* 2019, 8:177.  
<https://doi.org/10.12688/f1000research.17319.1>

## AN ETHNOSCIENCE STUDY IN CHEMISTRY LEARNING TO DEVELOP SCIENTIFIC LITERACY

**Authors:** C. A. Dewi Y. Khery M. Erna

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**Abstract** The low scientific literacy index of Indonesian students is due to lack of attention to socio-cultural environment. Also, there are still many contents, the context, and processes in chemistry learning that have not been achieved as learning resources for developing the domain of scientific literacy into four main areas. They are science content, competence, or science process, the context of the application of science and attitude. This study intended to develop scientific literacy through ethnoscience pedagogic in chemistry learning. The method of this study was qualitative descriptive with the retrieval of data through direct observation, questionnaires, and interviews. The results of the study showed that the needs of: (1) the curriculum emphasis on the development of chemistry literacy for students; (2) the skills of chemistry lecturers in designing learning programs by using local potential in their respective regions; (3) the early discussion on the material coverage the basic concepts of chemistry and (4) the emphasis not only on chemistry content but also on context, processes, and attitudes. Thus it can be concluded that the development of scientific literacy needs to be done by focusing on the preparation of future generations of scientific literacy with curriculum content that pays attention to culture and daily life to make it more contextual.

**Keywords:** chemistry learning, ethnoscience, scientific literacy

**Citation:** DEWI, C. A.; KHERY, Y.; ERNA, M. An Ethnoscience Study in Chemistry Learning to Develop Scientific Literacy. *Jurnal Pendidikan IPA Indonesia*, [S.l.], v. 8, n. 2, p. 279-287, june 2019. doi: <https://doi.org/10.15294/jpii.v8i2.19261>

## **An overview of physical activities among family members with risk of type 2 diabetes mellitus in Pekanbaru**

**Authors:** Gamyatri Utami Risma defiwofirst Siti LanggaLubis

**Corresponding Author:** Gamyatri Utami

**ISSN:** 1130-8621

**Publish date:** 2019

**Abstract:** Genetic has interrelated with the development of type 2 diabetes mellitus (DM). Individuals at high risk of type 2 DM have a strong family history and physical inactivity in their lifestyle. This study was aimed to determine physical activity among family members with risk of type 2 DM in Pekanbaru.

**Keywords:** Family member Physical activity Risk of type 2 diabetes mellitus

**Citation:** Gamyatri Utami Risma defiwofirst Siti LanggaLubis An overview of physical activities among family members with risk of type 2 diabetes mellitus in Pekanbaru.

*Enfermería Clínica*, Volume 29, Supplement 1, March 2019, Pages 26-29.

<https://doi.org/10.1016/j.enfcli.2018.11.012>

# ANALYSIS OF ELECTROCARDIOGRAM RECORDING LEAD II IN PATIENT WITH CARDIOVASCULAR DISEASE

**Authors:** Safri Wan Nishfa DewiErwin

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*Enfermería Clínica*

ISSN: 1130-8621

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**Abstract:** Electrocardiogram (ECG) is currently considered as an important diagnostic tool to monitor and evaluate patients with cardiovascular disease. This study aims to determine and analyze ECG recording patients with cardiovascular disease and analyze the specific characteristics of ECG for each cardiovascular diseases with and without complication.

**Keywords:** Cardiovascular disease Electrocardiogram (ECG) Ischemia CAD Lead II

**Citation:** Safri Wan Nishfa Dewi Erwin. 2019. Analysis of Electrocardiogram Recording Lead Ii In Patient With Cardiovascular Disease. *Enfermería Clínica*, Volume 29, Supplement 1 Pages 23-25. <https://doi.org/10.1016/j.enfcli.2018.11.011>

## Characteristics and Factors Associated With Medical Waste Management Behaviour in Private Dental Health Services in Pekanbaru City

**Authors:** Oktavia Dewi, Sukendi Sukendi, Yusni S Ikhwan, and Elda Nazrianti

**Corresponding Author:** Sukendi

**ISSN:** 1857-9655

**Publish date:** Januari 2019

**Abstract:** Medical waste is a problem when its amount is accumulated as well as the way the private dental healthcare still manages improperly. **AIM:** This study aims to define types and the number of medical wastes, also to analyse behaviour toward waste management and its associated factors. **MATERIAL AND METHODS:** The research used a quantitative analytic approach and cross-sectional design with 149 private dental practice populations in total. There were 60 dentists obtained using systematic random sampling in Pekanbaru. Data processed by conducting summation medical waste and counting the percentage of behaviour's variables. Data collected within 20 days were processed with dental waste laboratory tests and chi-square analysis. **RESULTS:** The result showed that dental, medical wastes average was  $0.3 \pm 0.07$  kg/day which is 69% infectious, 27% toxic, and 4% radioactive. Overall results showed associated factors related to waste management behaviour were knowledge, training attainment, availability of facilities, and the use of personal protective equipment. **CONCLUSION:** The numbers of medical waste from dental health services in Pekanbaru were still low. More than half the Dentist had poor behaviour in dental, medical waste management. It is recommended to the dental profession organisation to cooperate with City Health Office to hold management training on medical waste in dental health care to educate and raise dentists' awareness to be able to manage the waste of dental health services properly and by the regulations.

**Keywords:** Medical waste, Private dental healthcare, Waste management behaviour, Training, Facilities, Personal protective equipment

**Citation:** Oktavia Dewi, Sukendi Sukendi, Yusni S Ikhwan, Elda Nazrianti. Characteristics and Factors Associated With Medical Waste Management Behaviour in Private Dental Health Services in Pekanbaru City. *Open Access Maced J Med Sci*. 2019 Jan 15; 7(1): 157-161.

<https://doi.org/10.3889/oamjms.2019.039>



## Comparison of cellular lightweight concrete with addition of palm oil midribs

**Authors:** Sujianto Zainuri Adrianto Ahmad Feliatra

**Corresponding Author:** Feliatra

*International Journal of Civil Engineering and Technology*

**ISSN:** 0976-6316

**Publish date:** 2019

**Abstract** Riau Province, Indonesia, has oil palm plantations that continue. Based on statistical data (BPS Indonesia, 2017) in 2016 the area of oil palm plantations in Riau province was 2,430,500 hectares and the potential for large oil palm midrib waste. In order for waste not to cause problems, the waste must be utilized, one of them added as a mixture of CLC. The purpose of this study was to find a mixture of ingredients made from CLC (Cellular Lightweight Concrete) fibers using materials added to oil palm midribs. The assessment of product feasibility was determined based on the compressive strength, water absorption and density of the CLC products produced by the fiber. The study was presented using a descriptive method. The research conducted is quantitative research using experimental approaches and laboratory research. The findings of this study are that the best addition of oil palm midribs is 2.5% of the weight of cement. The conclusion is the best addition of oil palm midribs in the CLC job mix is 2.5% of the weight of cement with an average compressive strength of 44.60 kg/cm<sup>2</sup> at 28 days; The average water absorption value at 28 days is 10.94%; The average density value at 28 days is 1.33 gr/cm<sup>3</sup>; the job mix consists of Zainuri, Sujianto, Adrianto Ahmad and Feliatra <http://www.iaeme.com/IJCIET/index.asp> 2370 editor@iaeme.com 480 kg of cement; 720 kg of sand; 207.5 liters of water mortar; 44 liters of air foam agent; 2.0 liters of foam agent and palm oil midribs 2.5% of the weight of cement.

**Keywords** CLC; compressive strength; midrib; fiber

**Citation:** Sujianto Zainuri Adrianto Ahmad Feliatra, Comparison of Cellular Lightweight Concrete with Addition of Palm Oil Midribs. *International Journal of Civil Engineering and Technology*, 10(3), 2019, pp. 2369-2376. Available at [https://iaeme.com/Home/article\\_id/IJCIET\\_10\\_03\\_237](https://iaeme.com/Home/article_id/IJCIET_10_03_237)

## Correlation between family support and quality of life among Hypertensive patients

**Authors:** Sofiana Nurchayati Wasisto Utomo Darwin Karim

*Enfermeria Clinica*

**ISSN:** 1130-8621

**Publish date:** 2019

**Abstract** The study objective were to determine family support, assess HRQol and examine whether family support correlates to Qol amelioration among patients with hypertension.

### **Method**

Quantitative study with retrospective designs was used to carry out this research. Data collection for Qol and family support were to measure condition of the hypertensive patients for the last month. Meanwhile, blood pressure values as a criterion to select research participants based on the current measurement during the study. Data was collected from 30 participants who selected by using convenience sampling technique from hypertensive patients in Teluk Kenidai Village, Kampar. Ethical consideration was obtained by approval of the research committee in University of Riau.

### **Result**

Univariate analysis shown that majority of participants are female (24 or 80%), the most of them have suffered from mild hypertension (15 or 50%) and dominated by length of the disease 1–5 years (14 or 46.7%). Descriptively, majority of the participants have good level of Qol (17 or 56.7%) and good of family support (19 or 63.3%). Furthermore, inferential statistic (chi-square) has shown that p value is  $0.454 > \alpha (0.05)$  indicates that there is no correlation between family support and Qol.

**Keywords:** Family support Hypertension Hypertensive patient Quality of life

**Citation:** Sofiana Nurchayati Wasisto Utomo Darwin Karim. Correlation between family support and quality of life among hypertensive patients. *Enfermeria Clinica*, Volume 29, Supplement 1, March 2019, Pages 60-62. <https://doi.org/10.1016/j.enfcli.2018.11.020>

## Denoising Small Signals Using Averaging Methods in Arduino

**Authors:** Z. Zaid, I. Mustaffa, M. M. M. Aminuddin, M. D. H. Gamal

**Corresponding Author:** Mustaffa

*International Journal of Integrated Engineering*

**e-ISSN :** 2600-7916

**Publish date:** 2019

**Abstract** Electroencephalograms (EEG) acquired from the scalp is a small amplitude and low frequency signal, with noise accumulation which originates from spontaneous activity of the human brain. Averaging methods are frequently used in reducing noise in EEG signals during the post processing stage and never in real time. The methods are frequently engaged in waveform measurements in order to reduce the additive noise and at the same time, retaining significant parts of the noisy instances. This paper describes averaging methods used in real time. The processes are emulated using MATLAB and then implemented in Arduino. The correlation and the SNR between the input signal and output of the averaging methods were calculated and compared.

**Keywords** rduino; MATLAB; averaging; realtime acquisition

**Citation** Z. Zaid, I. Mustaffa, M. M. M. Aminuddin, M. D. H. Gamal. Denoising Small Signals Using Averaging Methods in Arduino. *International Journal of Integrated Engineering*, VOL 11 NO 4, (2019), 292-298. DOI: <https://doi.org/10.30880/ijie.2019.11.04.034>

## International Journal of Algebra

### Derivations in BG-Algebras

**Authors:** Kamaludin Sri Gemawati Kartin

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International Journal of Algebra

**ISSN:** 1314-7595

**Publish date:** 2019

**Abstract** In this paper, the notion of left-right (resp. right-left) derivation in BG-algebra is introduced and some related properties are investigated. Also the notion of left derivation of BG-algebra is studied and some of its properties are investigated.

**Keywords** BG-algebras, (l, r)-derivation, (r, l)-derivation, left derivation

**Citation** Kamaludin Sri Gemawati Kartin. 2019. Derivations in BG-Algebras. *International Journal of Algebra*, Vol. 13, 2019, no. 5, 249 – 257. <https://doi.org/10.12988/ija.2019.9620>



## DNA barcoding of *Telmatherinidae* family in Lake Towuti, South Sulawesi, Indonesia

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AACL Bioflux

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**Abstract** *Telmatherinidae* is a family of endemic fish in South Sulawesi. The study is aimed at identifying the molecular gene of the endemic fish of the *Telmatherinidae* family in Towuti Lake, South Sulawesi, to identify and analyze genetic diversity, genetic marking, genetic distances, genetic characterization, and dendrogram of the fish. DNA barcoding in this research used the Cytochrome c Oxidase I (COI) gene. Amplification of mitochondrial COI gene regions was conducted by using COI Fish F2 and COI Fish R 2 primer. Data analysis, total isolation of DNA, Polymerase Chain Reaction (PCR), Electrophoresis, gel purification, and sequencing Basic Local Alignment Search Tool (BLAST) were performed. The results showed that DNA sequence was 681 bp. Meanwhile, analysis of dendrogram suggested that the fish of *Telmatherinidae* family in Towuti Lake are similar to the fish in the *Paratherina*, *Telmatherina* and *Tominanga* genera. The genus *Telmatherina* including *Telmatherina celebensis*, *Telmatherina bonti*, and *Telmatherina opudi* showed 85% significant shared similarity with *Atherina* sp. Only 84% similarity of genus *Telmatherina* was found in *Pristigenys alta*, *Parexocoetus brachypterus*, *Cypselurus hiraii*, and *Hypoatherina tsurugae*. Meanwhile, genus *Paratherina*: *Paratherina striata* and *Paratherina wolterecki* have 83-84% similarity with *Scorpiis lineolata*, *Hyporhamphus affinis*, *Cypselurus hiraii*, *Parexocoetus brachypterus*, and *Pristigenys alta*. In addition, genus *Tominanga*: *Tominanga sanguicauda* has 84% similarity with *Hypoatherina tsurugae*, *Cypselurus hiraii*, *Prognichthys sealei*, *Hyporhamphus affinis*, and *Pristigenys alta*.

**Key Words:** genetic diversity, *Telmatherinidae*, COI gene, dendrogram, Lake Towuti.

**Citation:** Jayadi Jayadi, Ilmiah Ilmiah, Siti Hadijah, Muhammad Kasnir, Dewi I. Roslim. DNA barcoding of *Telmatherinidae* family in Lake Towuti, South Sulawesi, Indonesia. *AACL Bioflux*, 2019, Volume 12, Issue 4. Available at <http://www.bioflux.com.ro/docs/2019.1208-1215.pdf>

## 1P1O: A Large Scale Distributed Virtual Environment

**Authors:** Elfizar, Mohd Sapiyan Baba Tutut Herawan

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Lecture Notes in Electrical Engineering

**ISSN:** 1876-1100

**Publish date:** 2019

**Abstract** Virtual Environment (VE) is a simulation application that is widely used for the development of computer generated synthetic environments. A Distributed VE (DVE) allows many users to access a VE concurrently from different locations. Most current DVEs are still using simulator-centric architecture that views VE operations as a set of homogenous simulators, each aggregating data structure and all the actors operating on the data structure. This architecture limits the number of users involved in the DVE. It reduces users' experiences because the area of VE is restricted. When the number of objects increases, the VE also runs more slowly. Although other architectures appear such as Distributed Scene Graph and Sirikata, the simulator still manages many objects in the simulation. It also restricts the number of objects and users involved in the VE. This paper proposes a new architecture to enable large scale distributed virtual environment. A simulator separation method is developed based on objects consisting of, one process for one object (1P1O). The 1P1O architecture has core component that comprises several simulators. In order to maintain the object, each simulator has two engines: physics engine and scripts engine. To maintain the consistency of the simulation, we introduce Universe that stores all objects state generated by simulators. Universe is responsible to store the state updates and disseminate them to interested simulators. Based on the mathematics model developed in this research, 1P1O architecture has complexity lower than the current DVE architecture. It means that the 1P1O architecture is more scalable than the current architecture.

**Keywords:** Distributed virtual environment 1P1O model Large scale DVE

**Citation:** Elfizar, Baba M.S., Herawan T. (2019). 1P1O: A Large Scale Distributed Virtual Environment. In: Abawajy J., Othman M., Ghazali R., Deris M., Mahdin H., Herawan T. (eds) *Proceedings of the International Conference on Data Engineering 2015 (DaEng-2015). Lecture Notes in Electrical Engineering*, vol 520. Springer, Singapore. [https://doi.org/10.1007/978-981-13-1799-6\\_3](https://doi.org/10.1007/978-981-13-1799-6_3)

## A concept analysis of maternal role in pregnant adolescent

**Authors :** Erika

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*Enfermería Clínica*

**ISSN:** 1130-8621

**Publish date:** 2019

**Abstract** The attributes are accepting pregnancy at young age, bonding and getting attached with their unborn baby, taking care of unborn baby, recognizing risk related to their pregnancy, dealing with emotions, and preparing for labor. The antecedents included: personal factor, environmental factors, and psychological factors. The consequences are improving adolescent health during pregnancy, increasing confidence, reducing the high risk of pregnancy at a young age, and giving birth safely. Empirical references to maternal roles of pregnant adolescent include their responsibility of the pregnancy, protecting unborn baby from harm, knowledge about pregnancy, changing behavior, and emotional well-being.

**Keywords:** Maternal role Pregnant adolescent Concept analysis

**Citation:** Erika, Erika. (2019). A concept analysis of maternal role in pregnant adolescent. *Enfermería Clínica*. 29. <https://doi.org/10.1016/j.enfcli.2018.11.008>

## A new method for dual fully fuzzy linear system with trapezoidal fuzzy numbers by QR decomposition

**Authors:** Sri Gemawati I Nasfianti Mashadi Mashadi Abdul Hadi

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IOP Conf. Series: Journal of Physics: Conf. Series 1116

ISSN: 1742-6596

**Publish date:** 2019

**Abstract:** In this paper, we will discuss a new methods to solve dual fully linear system of the form , where and are  $n \times n$  fuzzy matrices consisting of positive trapezoidal fuzzy numbers. The unknown vector is consisting of  $n$  positive trapezoidal fuzzy numbers and the constant and are vectors consisting of  $n$  positive trapezoidal fuzzy numbers, using QR decomposition method. Finally, we will illustrate our method by some example.

**Citation:** Gemawati, Sri & Nasfianti, I & Mashadi, Mashadi & Hadi, Abdul. (2019). A new method for dual fully fuzzy linear system with trapezoidal fuzzy numbers by QR decomposition. *Journal of Physics: Conference Series*. 1116. 022011. <https://doi.org/10.1088/1742-6596/1116/2/022011>





## Alternative study; processing the results of smallholder oil palm fruit bunches at a "sharia" palm oil processing plant in Riau Province

**Authors:** Pazli

**Corresponding author:** Pazli

Res. J. Agriculture and Forestry Sci.

ISSN: 2320-6063

**Publish date:** 2019

**Abstract** Processing of plantation products, namely oil palm fruit bunches, produces primary production such as; crude palm oil and by-products such as palm kernel, shell, fibers and high acid. The results of processing oil palm fruit bunches, which are material descriptions in main production and by-products, provide maximum benefits to factories that process oil palm fruit bunches, but have not provided an increase in income value to farmers who supply oil palm fruit bunches to processing plants, and even marginalize the role of palm fruit-producing farmers and increasingly alienates farmers from their aspirations to prosper in oil palm cultivation. What is the fact of the usefulness of the processing of oil palm fruit bunches which describes the fruit oil palm material and the increase in the value of income from the marketing of production received by the producers of palm fruit bunches (independent oil palm farmers) and those obtained by the palm fruit bunches processing plants practiced so far? The design of the model for the utilization and marketing of the main production, the side production of the plantation to be sharia dimension?

**Keywords** Processing and utilization of palm fruit bunches production "Sharia.Introduction

**Citation** Pazli Alternative study; processing the results of smallholder oil palm fruit bunches at a "sharia" palm oil processing plant in Riau Province. *Res. J. Agriculture & Forestry Sci.*, Volume 7, Issue (1), Pages 1-8, January,8 (2019). Available at [http://www.isca.in/AGRI\\_FORESTRY/Archive/v7/i1/1.ISCA-RJAFS-2018-033.php](http://www.isca.in/AGRI_FORESTRY/Archive/v7/i1/1.ISCA-RJAFS-2018-033.php)

## Effect of Temperature on Physical and Electrochemical Properties of the Monolithic Carbon-Based Bamboo Leaf to Enhanced Surface Area and Specific Capacitance of the Supercapacitor

**Authors :** B. Armynah, E. Taer, Z. Djafar , Wahyu H. Piarah , D. Tahir

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*International Journal of Electrochemical Science*

ISSN: 1452-3981

**Publish date:** 2019

**Abstract** Several analysis have been conducted on the physical and electrochemical properties of monolithic carbon-based bamboo leaf for supercapacitor application. Therefore, the main focus of this study was to analyze the relationship between pore diameter, surface area, and specific capacitance. The variations of pore diameter were found using the activation temperature in the range of 750 °C, 800 °C, 850 °C, and 900 °C. The carbon electrode was prepared in the monolithic form to ensure there is no disturbance with the natural pore of the electrode in the presence of adhesives. The physical properties analyzed include (i) thermal properties, (ii) surface morphology, (iii) elemental content (iv) crystallinity properties and (v) N<sub>2</sub> gas adsorption-desorption isotherm. Furthermore, the specific capacitance was determined through the use of Cyclic Voltammetry (CV) as the electrochemical characteristic. It was discovered that the specific capacitance varies with average pore diameter such that a higher specific capacitance was found with pore diameters smaller than 1.5 nm and the value increased with the size. This research was supported by analysis of surface morphology, elemental content, thermal resistance, and degree of crystallinity.

**Keywords** bamboo leaf; activated carbon; biomass

**Citation** B. Armynah, E. Taer, Z. Djafar , Wahyu H. Piarah , D. Tahir Effect of Temperature on Physical and Electrochemical Properties of the Monolithic Carbon-Based Bamboo Leaf to Enhanced Surface Area and Specific Capacitance of the Supercapacitor. *Int. J. Electrochem. Sci.*, 14 (2019) 7076 – 7087, <https://doi.org/10.20964/2019.08.59>

## Effect of wildfires on tropical peatland vegetation in Meranti Islands District, Riau Province, Indonesia

**Authors :** Sinta Haryati Silviana, Bambang Hero Saharjo, Sigit Sutikno

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BIODIVERSITAS

ISSN: 1412-033X

**Publish date:** 2019

**Abstract** Silviana SH, Saharjo BH, Sutikno S. 2019. Effect of wildfires on tropical peatland vegetation in Meranti Islands District, Riau Province, Indonesia. *Biodiversitas* 20: 3056-3062. Wildfires are one of the main causes of forest destruction, disturbing forest sustainability. Wildfires are mainly caused by human activities, such as land clearing, wood harvesting, draining, etc. Wildfires could induce the loss of vegetation. This study was aimed at assessing the effect of wildfires on both vegetation biomass and necromass on coastal peatland ecosystems in Sungaitohor Village, Tebing Tinggi Timur Sub-district, Meranti Islands District, Riau Province, Indonesia. Analysis of vegetation and both above and below the ground biomass composition were performed. The approach used a paired sample with 4 replications (n = 4 burnt, n=4 unburnt). The variables observed in every research sites was analyzed using Student-T test. Models were generated and then validated to understand the effect of fires on biomass. The results showed that there was a significant difference in the studied parameters between the unburned area and burned area ( $P < 0.01$ ). Wildfires affected the quantity of living plants (biomass) which was indicated by the fact that biomass is unburnt and burnt areas were in the ratio of 2.67: 1. The quantity of dead plants (necromass) was greater in the burned plots than in the unburnt plots. All these findings suggest that high intensity of forest fires had occurred in the study sites.

**Keywords:** Biomass, burned peatlands, fire, necromass, unburned peatland

**Citation** Silviana SH, Saharjo BH, Sutikno S. 2019. Effect of wildfires on tropical peatland vegetation in Meranti Islands District, Riau Province, Indonesia. *Biodiversitas* 20: 3056-3062. <https://doi.org/10.13057/biodiv/d201039>



## First report of morphological and molecular identification of greater scissortail *Rasbora caudimaculata* from Rokan Hulu District, Riau Province, Indonesia

**Authors :** Arief A. Purnama, Jismi Mubarak, Ika Daruwati, Dewi I. Roslim, Roza Elvyra

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AACL Bioflux

ISSN: 1844-9166

**Publish date:** 2019

**Abstract.** The greater scissortail (*Rasbora caudimaculata*) is an appreciated food fish, widely distributed, and being subject of economical fishery in Indonesia. *R. caudimaculata* is commonly found in Indonesian rivers plenteously. In the villages of Riau Province many people use this species as daily food. *R. caudimaculata* in Indonesia is distributed in Java, Sumatra, Borneo, Natuna Besar, Lombok, Bali, Sumbawa and Nias. In Rokan Hulu district *R. caudimaculata* can be found in rivers around oil palm plantations and secondary forests. In addition to the morphological characters in fish there are genetic characters, which function to provide genetic information. Information on genetic diversity can be obtained by analyzing the gene encoding proteins from mitochondrial DNA. Among the protein coding genes that are often used to study genetic diversity are cytochrome genes b. Further analysis was made to access the utility of partial cytochrome c oxidase subunit 1 (CO1) gene to delineate the mullet specimens. PCR amplification was conducted using the universal primers and approximately 660-bp of partial CO1 gene was sequenced for all specimens. Molecular identification was performed by deploying the specimens' partial CO1 gene in the GenBank using the basic local alignment search tool (BLAST). The *R. caudimaculata* of Rokan Hulu was no confirmed as 100% similar with other *Rasbora* species. The morphological characters of the *R. caudimaculata* specimens in this study are congruent with those that have been described by previous studies. The identification of this species is important as it could be added into the vast and intricate taxonomic status of *R. caudimaculata*. Moreover, it serves as a basis of gen stock identification for fishery management of Indonesian stocks.

**Key Words:** *Rasbora* sp., genetic identification, cytochrome c oxidase subunit 1 (CO1), morphological measurement, specimen, blast analysis.

**Citation** Purnama, A.A. & Mubarak, J. & Daruwati, I. & Roslim, D.I. & Elvyra, Roza. (2019). First report of morphological and molecular identification of greater scissortail *Rasbora Caudimaculata* from Rokan Hulu District, Riau Province, Indonesia. *AACL Bioflux*. 12. 34-41. Available at <http://www.bioflux.com.ro/docs/2019.34-41.pdf>

## Formation and UV-Vis Studies of Lead Sulfide Nanoparticles

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Journal of Nano- and Electronic Physics

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**Publish date:** 2019

**Abstract** An elegant technique of synthesizing semiconductor lead sulfide nanoparticles (PbS-NPS) embedded in Langmuir-Blodgett (LB) films is presented here. Stearic acids have been used as a matrix to form and grow the quantum-sized PbS. Pure Y-type Pb-salts of stearic acid (SA) LB films were prepared at a dipping speed of 15 mm/min and surface pressure of 28 mN/m. PbS-NPs were formed inside LB films of SA by exposure the LB films to hydrogen sulfide (H<sub>2</sub>S) gas. The preparation of PbS-NPs is discussed in terms of particle formation and growth. The presence of PbS-NPs was investigated by UV-visible absorption. It was found that the PbS-NPs within SA LB films indicated a large blue shift of the optical absorption edge. The estimation of the size distribution performed by optical measurements allows one to attribute the particle range a few nanometers. This figure seems to depend upon the reaction conditions as well as the quality of the initial LB films.

**Keywords:** (LB) films PbS-NPs Energy gap

**Citation:** Hamzah, Yanuar & Iwantono, B. & Nabok, A. (2019). Formation and UV-Vis Studies of Lead Sulfide Nanoparticles. *Journal of Nano- and Electronic Physics*. 11. 02029-1. [https://doi.org/10.21272/jnep.11\(2\).02029](https://doi.org/10.21272/jnep.11(2).02029)



## BACTERIAL CONSORTIUM UTILIZATION IN DEGRADATION OF PETROLEUM FROM PETAPAHAN, RIAU

**Authors:** Irda Sayuti , Yusni Ikhwan Siregar , Bintal Amin , Anthoni Agustien Akmal Djamaan

**Corresponding Author :** Irda Sayuti , Yusni Ikhwan Siregar , Bintal Amin

International Research Journal of Pharmacy

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**Abstract:** The process of petroleum degradation using the right combination of microbes in a mixed culture will guarantee the success of the petroleum degradation process. In a consortium, several types of bacteria works together to degrade oil-polluting compounds in accordance with the specificity of the substrate. This study used a collection of hydrocarbonoclastic bacterial isolates using three consortia namely consortium I using 7 isolates, consortium II using two new isolates and consortium III using the group of Pseudomonas bacteria. Test of oil degradation level was based on the degradation level parameters on Total Hydrocarbon Petroleum (TPH) and calculated by gravimetric method. The Chemical Oxygen Demand (COD) test was calculated using the Dichromate Reflux Technique Standard method and analysis of petroleum compounds which had been degraded was done by GC-MS method. From the research that has been carried out using three consortiums, consortium 1 was showed the best result, which used 7 different types of isolates. Consortium 1 is the best consortium in degrading petroleum with a TPH level of 77.70 % and a COD reduction of 89.83 %. The results of GC / MS analysis of mixed culture by using 7 bacterial isolates contained 4 compounds that were 100 % degraded, namely 7- methyltridecane, tetradecana, 1- eikosane, and triacontane.

**Keywords:** mixed culture, consortium, hydrocarbonoclastic bacteria, petroleum, Petapahan, Riau

**Citation** Irda Sayuti et al. 2019. Bacterial Consortium Utilization In Degradation Of Petroleum From Petapahan, Riau. *Int. Res. J. Pharm*, 10(5). <https://doi.org/10.7897/2230-8407.1005155>



## Potential Development of Leading Commodities in Efforts to Accelerate Rural Economic Development in Coastal Areas Riau, Indonesia

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**Abstract:** This study is aimed at finding out the level of speaking anxiety experienced by a group of pre-service English teachers at a university in Indonesia and investigating the factors contributing to their speaking anxiety. Using cluster random sampling, this mixed-method research took 30 pre-service English teachers from the same class as the research participants. The data were collected through questionnaires and semi-structured interviews. The questionnaires were adapted from FLCAS (Foreign Language Classroom Anxiety Scale) designed by Horwitz et al (1986). The result of the questionnaire shows that the students' speaking anxiety is overall in the mildly anxious level. It was identified that there were six students (20%) in the level of very anxious, seven students (23%) in the level of anxious, 14 students (47%) in the mildly anxious level, one student (3%) in the relaxed level, and two students (7%) in the very relaxed level. The interview data indicated that the anxiety was likely because of several inter-related factors: social, linguistic, and personal factors. The social factors include fear of making mistake, feeling under pressure dealing with people, afraid of negative evaluation by teachers, worrying of losing face; the linguistic factor relates to students' lack of English ability (grammatical issues, proper pronunciation, and vocabulary). While from the personal factor deal with issues such as low motivation and family problems.

**Keywords:** Speaking, Speaking anxiety, Pre-service English teachers

**Citation:** Daud, A., Ras, F., Novitri & Audia, C. P. (2019). Factors Contributing to Speaking Anxiety: A Case Study of Pre-Service English Teachers. *Journal of Educational Sciences*, 3(3), 412-422. <https://doi.org/10.31258/jes.3.3.p.412-422>





## Synthesis and in Silico Studies of a Benzenesulfonyl Curcumin Analogue as a New Anti Dengue Virus Type 2 (DEN2) NS2B/NS3

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Indonesian Journal of Pharmacy

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Publication Date: 9 April 2019

**Abstract:** Curcumin has been reported can interact with multiple molecular targets involved in a large variety of diseases. Accumulated evidence indicated curcumin plays an inhibitory role against infection of numerous viruses. Some studies have been reported that curcumin can interfere the infection processes of dengue virus. In this work, a benzenesulfonyl curcumin, (3*E*,5*E*)-3,5-bis(4-methoxybenzylidene)-1-(phenylsulfonyl) piperidin-4-one (compound **2**) has been synthesized by two steps of reactions. The structure of compound **2** has been established based on the interpretation of spectral data include UV, FT-IR, MS/MS, <sup>1</sup>H and <sup>13</sup>C NMR. Then, the in silico studies have been also performed to predict the potency of compound **2** as inhibitor for dengue virus Type 2 (DEN 2) NS2B/NS3 protease. The in silico studies showed that compound **2** has hydrogen bonding with His51 residue, and amazingly that the other catalytic triad such as Asp75 and Ser135 were also showed interactions with the ligand. It is presumably that this compound showed very good activity against DEN2 and can be developed as a new inhibitor for dengue viruses.

**Keywords:** Curcumin, Dengue virus, Molecular docking, Molecular dynamic.

**Citation:** Adel Zamri, Hilwan Yuda Teruna, Eni Nur Rahmawati, Neni Frimayanti, and Ihsan Ikhtiarudin, 2019. Synthesis and in Silico Studies of a Benzenesulfonyl Curcumin Analogue as a New Anti Dengue Virus Type 2 (DEN2) NS2B/NS3. *Indonesian Journal of Pharmacy*, 30: 84-90. <https://doi.org/10.14499/indonesianjpharm30iss2pp84-90>



## Impacts of Food Prices on The Economy: Social Accounting Matrix and Microsimulation Approach in Indonesia

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Review of Urban and Regional Development Studies

**ISSN:** 1467-940X

**Publication Date:** 1 January 2019

**Abstract:** This study investigated the impacts of increasing the prices of heavily protected food commodities in Indonesia on producer and consumer prices. It also evaluated the changes in household living expenses and poverty. The Indonesian Food Social Accounting Matrix was developed along with a price multiplier matrix–microsimulation approach that was used to analyze problems. Poor rural households were the most negatively affected by the increments in food prices. This result contrasted with the standard political argument stating that high rice prices will decrease poverty, particularly in rural areas where the poor live or work as farmers. Of all the food commodities observed, the changes in the rice prices had the most substantial impact on both producer and consumers price, as well as the households' living cost, particularly low-income households. Therefore, an increase of 25% in rice price will raise urban, rural, and national poverty levels by 0.13%, 0.10%, and 0.11%, respectively.

**Keywords:** Food Prices, Accounting Matrix, Microsimulation

**Citation:** Misdawita, Hartono, D., & Nugroho, A. (2019). Impacts Of Food Prices On The Economy: Social Accounting Matrix And Microsimulation Approach In Indonesia. *Review of Urban and Regional Development Studies*. <https://doi.org/10.1111/rurd.12099>

## FTTH Network Expansion Modeling and Link Budget for Housing Locations

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International Journal of Electrical, Energy and Power System Engineering (IJEEPSE)

**ISSN:** 2654-4644

**Publication Date:** February 2019

**Abstract:** The location of the research was carried out at Villa Melati Permai II Housing which is on the Melati Indah Street, Tampan District, Pekanbaru City. Villa Melati Permai II is categorized as middle to upper-class housing but does not have its access network. This research will make the modeling of FTTH (Fiber To The Home) networks with network feasibility parameters to produce quality and appropriate FTTH networks. Manual calculation on the feasibility of FTTH networks using the power link budget and rise time budget shows results within the feasibility limit, which does not exceed the maximum limit for the power link budget of -27 dBm and rise time budget below the total time of bit rates. Calculation with NRZ (Non-Return to Zero) coding produces a downstream value of 0.2813 ns and upstream 0.562 ns. System performance parameters that show signal to noise ratio and bit error rate deliver good quality. Signal to noise ratio exceeds the minimum limit of PT. Telkom standard that is 21.5 dB and the bit error rate does not exceed the optical link standard which is  $10^{-9}$ . Good performance is also shown by eye pattern in optical simulation that displays amplitude signals with the same time and shows clear differences between bits 1 and bits 0.

**Keywords:** FTTH, Power Link Budget, Rise Time Budget, BER, eye pattern

**Citation:** Safrianti, Ery & Mukti, Widyantoro. (2019). FTTH Network Expansion Modeling and Link Budget for Housing Locations. *International Journal of Electrical, Energy and Power System Engineering*, 2(1), 22-26. <https://doi.org/10.31258/ijeepe.2.1.22-26>

## Application of Rainwater Harvesting Technology to Supply Sustainable Domestic Water

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*International Journal of Electrical, Energy and Power System Engineering (IJEEPSE)*

**ISSN:** 2654-4644

**Publication Date:** February 2019

**Abstract:** Rainwater harvesting that is good and right by the needs of household clean water is one of the problems for the people in the islands in Indonesia, especially Merbau Island which is located in the Kepulauan Meranti Regency, Riau Province. The only source of clean water that can be enjoyed easily and cheaply is rainwater. Rainfall on Merbau Island ranges between 2.000 – 4.000 mm per year which is classified as moderate. A survey of 100 randomly selected people was conducted, with a questionnaire containing components for rainwater harvesting (RWH) and other core questions. If available rainfall is used optimally, the need for clean water on the island can be met. Calculation of rainwater for cooking, drinking and washing needs is estimated to be around 15 lpcd. The data obtained is rainfall in 2016 with a total rainfall of 1,754 mm, roof storage area of 36 m<sup>2</sup>, and the type of roof used is zinc. Rain cycle V2 simulation produces a 3 m<sup>3</sup> volume rainwater storage tank, with a construction cost of Rp. 10,365,000. This tank can meet the needs of clean water for five family members for a year.

**Keywords:** Rainwater Harvesting, Domestic, Sustainable, Supply

**Citation:** Joleha, & Mulyadi, Aras & Wawan, & Suprayogi, Imam. (2019). Application of Rainwater Harvesting Technology to Supply Sustainable Domestic Water. *International Journal of Electrical, Energy and Power System Engineering*, 2(1), 10-14. <https://doi.org/10.31258/ijeepe.2.1.10-14>

## A Compact Design of Transparent Microstrip Antenna For Wireless Car-to-Car Communication System

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*International Journal of Electrical, Energy and Power System Engineering (IJEEPSE)*

**ISSN:** 2654-4644

**Publication Date:** June 2019

**Abstract:** In this paper, a compact design of transparent rectangular microstrip antenna with a slotted ground plane has been designed and evaluated to support Intelligent Transportation System (ITS). The proposed antenna consists of a single element using transparent conductive film AgHT-4 layered on a plain glass substrate, fed by a single 50Ω SMA port. The antenna is working on 5.9 GHz based on IEEE 802.11p for Wireless Access in Vehicular Environment (WAVE) Standard. The design concept is to have an arc shape slot out of the ground plane of a microstrip patch antenna to enable wideband frequency. The proposed antenna provides ultrawide impedance bandwidth around 750 MHz (5.48-6.23 GHz) at a center frequency of 5.9 GHz. The proposed transparent antenna has a directivity gain of 6.266 dBi.

**Keywords:** transparent antenna, Arc shape slot antenna, car to car communication, ITS

**Citation:** Rahayu, Y., D.A, R., & B. P, Y. (2019). A Compact Design of Transparent Microstrip Antenna For Wireless Car-to-Car Communication System. *International Journal of Electrical, Energy and Power System Engineering*, 2(2), 12-15. <https://doi.org/10.31258/ijeepe.2.2.12-15>

## Productive Age Perspective Facing Demographic Bonuses in Riau Province

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*American Journal of Economics*

**ISSN:** 2166-496X

**Publication Date:** September 2019

**Abstract:** Indonesia has entered a period where there are a large number of people of productive age, reducing the dependency ratio. The population of Riau Province in 2016 with unproductive and productive age groups showed that the ratio was 39.64% classified as unproductive age and 60.36% classified as productive age. The purpose of this study is to find out the perspective of productive age groups in competing on the international labor market. The results showed that from the socio-economic respondents, respondents' education was generally financed by parents with the highest composition of income levels, namely Rp. 3,000,001- Rp. 3,500,000, and there was interest from respondents to continue their further education. From the mastery of respondents' information about the international labor market, respondents were still minimal in knowing the opportunities and challenges of the demographic bonus, mastery of foreign languages generally has mastered, and mastery of technology was still not good, from the readiness of universities there was a supportive curriculum, but socialization to work abroad was still little and also cooperation with foreign universities and private institutions abroad is still small.

**Keywords:** Productive Age, Demographic Bonus, International Labor Market

**Citation:** Harlen, Deny Setiawan, Productive Age Perspective Facing Demographic Bonuses in Riau Province, *American Journal of Economics*, Vol. 9 No. 1, 2019, pp. 23-37.  
<https://doi.org/10.5923/j.economics.20190901.05>.

## Computed Thermal Imaging For Terahertz Radiation Mapping On Tissue Surface Texture

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*International Journal of Advanced Research in Engineering Innovation*

**ISSN:** 2682-8449

**Publication Date:** 15 August 2021

**Abstract:** THz power density-based thermal imaging has been explored to the image of biological tissue theoretically. To rely on mapping the relative temperature and thermal parameters noninvasively, we propose the THz power density-based thermal thermography in application of imaging for a texture of tissue surface. Two-dimensional thermal tomography images of biological tissue were obtained with using a power density range of (10 - 250) mW.mm<sup>-3</sup> and a frequency range of (0.1-1) THz. The axial and lateral resolutions are characterized. Theoretically computed thermal tomography on the transient 1D heat conduction uses several types of biological tissue in the millisecond to picoseconds time range. The results for time intervals of one second or longer show a constant temperature or a steady state centered about one temperature. By contrast, millisecond to picoseconds time ranges display a small but significant temperature change as the depth varies about 0 °C which correlated with the contrasting tissue structures. The steady-state body temperature for second range and the transient-state for significant small change in milliseconds-picoseconds range toward thermal equilibrium is not restricted to be axial and radial depth or spatially invariant. THz power density-based thermal tomography irradiates surface texture of muscle-tumor tissue that gives a good quantitative description of geometrical structures. Morphology of tissue provides boundaries of images, their skeletons, and many preprocessing and post processing techniques, especially in edge thinning and pruning. The primary application of morphology occurs in binary images. The vertices of the tissue surface texture graph are highlighted and its adjacency matrix and several parameters of the graph are also displayed. This characteristic is physiologically realistic and technically accessible.

**Keywords:** thermal imaging, THz radiation, mapping, tissue surface

**Citation:** Krisman; DEWI, Rahmi; HAMDI, Muhammad. Computed Thermal Imaging For Terahertz Radiation Mapping On Tissue Surface Texture. *International Journal of Advanced Research in Engineering Innovation*, [S.l.], v. 1, n. 1, p. 12-21, aug. 2019. Available at: <http://myjms.mohe.gov.my/index.php/ijarei/article/view/6563>

## The Effect of Firm Cash Flow on Investment Decision Moderated by Financial Constraint and Mispricing

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*Indonesian Journal of Economics, Social, and Humanities*

**ISSN:** 2656-355X

**Publication Date:** 28 July 2019

**Abstract:** This study aims to examine the effect of cash flows on investment decision that is moderated by financial constraint and mispricing. The population of the study was all listed-manufacturing firms in Indonesia from 2014 to 2016. Samples were chosen based on the availability of firms' financial report covering the period of the study. By using moderated regression analysis where financial constraint and mispricing as moderating variables, the study concluded that financial constraint weakens the effect of cash flow on investment. Although lower financially constrained-firms have an opportunity to choose their source of funding, they prefer to finance their investment from an internal source of funding (from cash flows) due to lower risk. Furthermore, mispricing does not have a role as a moderating variable. In this condition, overvalued firms are indifferent from choosing the source of funding. Finally, when financial constraint and mispricing are signed as a moderating variable, they weaken the effect of cash flow on investment. It means that firms with lower financial constraint and overvaluation prefer to use external funding by issuing new common stocks because it provides a lower cost of capital.

**Keywords:** cash flows, financial constraint, investment decision

**Citation:** Rokhmawati, A. (2019). The Effect of Firm Cash Flow on Investment Decision Moderated by Financial Constraint and Mispricing. *Indonesian Journal of Economics, Social, and Humanities*, 1(2), 77-90. <https://doi.org/10.31258/ijesh.1.2.77-90>



## Bluetooth Based Home Control and Real-Time Energy Consumption Monitoring System through Smartphone

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*Indonesian Journal of Economics, Social, and Humanities*

**ISSN:** 2654-4644

**Publication Date:** 2 October 2019

**Abstract:** Energy consumption is one of the most important, for it is necessary to control the use of home lighting as needed. Monitoring is important, in order to know the quality of electricity supply in the system, identifying disruption events, and to calculate the amount of electrical energy consumption periodically. To achieve the objectives mentioned above, two schemes for home control and monitoring the electrical quantities in real-time have been developed. The first scheme presents Bluetooth based home control. It uses an HC-05 Bluetooth module and Bluetooth Controller mobile application for switching on / off the appliances. Relay and LEDs are used as loads to demonstrate the working of the system. This system is based on Arduino Uno microcontroller board. Arduino Integrated Development Environment (IDE) is used for developing the necessary software. The second scheme uses the current sensor ACS712-20A for monitoring of voltage, current, and energy consumption. The measurement results include voltage, current, power, and the amount of energy consumption that is displayed by LCD 16\*2.

**Keywords:** Bluetooth, Smart Home, Monitoring System, Energy Consumption

**Citation:** Y. Rahayu and M. I. Hidayat, "Bluetooth Based Home Control and Real-Time Energy Consumption Monitoring System through Smartphone", *IJEEPSE*, vol. 2, no. 3, pp. 5-9, Oct. 2019.  
<https://doi.org/10.31258/ijeepse.2.3.5-9>





Propose a **Special Issue**

## Parking Lot Optimization in Parallelogram Using the Concept Area of Rectangular and Right Triangle

**Authors:** Ihda Hasbiyati , Widiawati Putri , Arisman Adnan , Ahriyati , Hasriati

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*Pure and Applied Mathematics Journal*

**ISSN:** 23269812

**Publication Date:** 9 October 2019

**Abstract:** Parking lots are one of the most important elements of transportation infrastructure. Parking lots with good design and the selection of suitable parking angles will provide optimal vehicle capacity. In this article, we will discuss the parking lot in the form of a Parallelogram with a broad concept of area, for parking a private car vehicle. In this paper, the land in the form of a jug is formed of two right and rectangular triangles. The method used is a linear program method that is formed from the broad concept of the area with the help of lingo software. The results obtained from this article are the forms of Parallelogram which are formed from two right triangles which are used divided into two parts, namely a right triangle with a base and a height of half a rectangle resulting in a total parking area of 873,600 square meters, with the number of car vehicles that can be parked on the inside of a parking lot with a 90 degree angle is as much as 520 car vehicles. So it can be concluded that the numbers formed from two right triangles and rectangles produce the optimal number of vehicles with a 90 degree parking angle.

**Keywords:** Linear Program, Parking Design, Parking Angle, Parking Capacity, Area

**Citation:** Ihda Hasbiyati, Widiawati Putri, Arisman Adnan, Ahriyati, Hasriati, Parking Lot Optimization in Parallelogram Using the Concept Area of Rectangular and Right Triangle, *Pure and Applied Mathematics Journal*. Vol. 8, No. 4, 2019, pp. 77-82.

<https://doi.org/10.11648/j.pamj.20190804.12>



## Thin Film Production and Characterization $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$ ( $x = 0.9$ ) for Capacitor Applications

**Authors:** Rahmi Dewi<sup>1</sup>, TS Luqman Husain S, Krisman, Zuhdi and Hamdi

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*Research and Development in Material Science*

ISSN: 2576-8840

**Publication Date:** 24 January 2019

**Abstract:** The thin films of Barium Strontium Titanate (BST) material of  $\text{Ba}_{0.1}\text{Sr}_{0.9}\text{TiO}_3$  were fabricated using sol-gel method and annealed at temperature 600 °C, 650 °C and 700 °C in order to obtain its crystalline structure. The thin films of BST were characterized using FESEM, XRD and Impedance of Spectroscopy. The results of characterization use FESEM at temperature of 600 °C, 650 °C and 700 °C to obtain thickness such as 51,36nm; 53,59nm and 87,09nm. The results of characterization use XRD with the temperature annealing, its angle  $10,26^\circ$  at temperature 600 °C, 650 °C and 700 °C to obtain the intensity 244, 280 and 300. The characterization uses Spectroscopy Impedance to obtain the values complex capacitance and dielectric constant are inversely proportional to the frequency and while the loss of dielectric values are proportional to the frequency. At frequency 100Hz with of the temperature 600 °C, 650 °C and 700 °C obtaining the complex capacitance of values which are  $5.59481 \times 10^{-11}\text{F}$ ;  $7.73048 \times 10^{-11}\text{F}$  and  $9.38054 \times 10^{-11}\text{F}$ . The dielectric constant values are 6.3215; 8.7350 and 10.5994. The loss of dielectric values is 0.0234; 0.0069 and 0.0066. The increasing temperature annealing the thickness value, the complex capacitance, the constant of dielectrics and the losses of dielectrics are increasing

**Keywords:** Barium strontium titanite; Sol-gel method; XRD; FESEM; Impedance spectroscopy

**Citation:** Rahmi Dewi, TS Luqman Huasin, Krisman, Zuhdi, and Hamidi. 2019. Thin Film Production and Characterization  $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$  ( $x = 0.9$ ) for Capacitor Applications. *Research and Development in Material Science*, 9:1030-1035. Availabel at <https://crimsonpublishers.com/rdms/pdf/RDMS.000717.pdf>



## **Audit Quality And Earnings Management: Informative And Opportunist Perspective**

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*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** September 2019

**Abstract:** This study is aimed to examine the effect of audit quality on earnings management in informative and opportunist perspective. Samples are 615 firm-year of manufacture companies listed in Indonesian Stock Exchange 2013-2017. Audit quality is measured by big 4 affiliation. Earnings management is measured by discretionary accruals. Analysis method uses logistics regression. Result shows that high audit quality increases informative earnings management and reduces opportunist earnings management. This result consistent to auditor's role to mitigates asymmetric information between managers and shareholders.

**Keywords:** Audit Quality, Big 4 Auditor, Discretionary Accruals, Earnings Management, Indonesian Stock Exchange, Informative, Opportunist

**Citation:** Adhitya Agri Putra, Nanda Fito Mela. 2019. Audit Quality And Earnings Management: Informative And Opportunist Perspective. *International Journal of Scientific & Technology Research*, 8: 1918-1922. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-0919-22155>

## The Influence of Accounting Information Quality on Trade Credit with Inventory Liquidation Cost as Moderating Variable

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*Research Journal of Finance and Accounting*

**ISSN:** 2222-2847

**Publication Date:** 30 June 2019

**Abstract:** This research is aimed to examine (1) effect of accounting information quality on trade credit, (2) moderating role of inventory liquidation cost on the effect of accounting information quality on trade credit. Research sample are 122 manufacture companies listed in Indonesian Stock Exchange 2013-2016. Data analysis uses multiple regression test. Results show that accounting information quality has effect on trade credit usage. It indicates that suppliers advantages of free of information asymmetric, direct involvement to company's business activities, and higher recovery rate of payment failure makes suppliers are less likely to use accounting information to evaluate company's credit worthiness; further, it leads to high trade credit fund resource used by company with low accounting information quality. Inventory liquidation cost moderates the effect of accounting information quality on trade credit usage. It indicates that suppliers will give trade credit for company with low accounting information quality if inventory liquidation cost is low.

**Keywords:** Accounting Information Quality, Trade Credit, Inventory Liquidation Cost

**Citation:** Nanda Fito Mela and Adhitya Agri Putra. 2019. The Influence of Accounting Information Quality on Trade Credit with Inventory Liquidation Cost as Moderating Variable. *Research Journal of Finance and Accounting*, 19: 112-118. <https://doi.org/10.7176/RJFA/10-12-14>

## Audit Committee, Foreign Ownership and Sustainability Report

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*Research Journal of Finance and Accounting*

**ISSN:** 2222-2847

Publication Date: 30 June 2019

**Abstract:** The purpose of this study is to see whether the audit committee and foreign ownership influence the sustainability report with leverage, size and independent commissioners as control variables. The population of this study are mining companies listed on the Indonesia Stock Exchange and have complete data on audits, independent commissioners, foreign ownership, size and leverage for the period 2012 - 2015. Data analysis techniques in this study used multiple regression with the help of SPSS. The results of the study indicate that audit committee does not involve sustainability report, while foreign ownership is considered negative for sustainability report.

**Keywords:** audit committee, foreign ownership and sustainability report.

**Citation:** Makhdalena. 2019. Audit Committee, Foreign Ownership and Sustainability Report.

*Research Journal of Finance and Accounting*, 19: 112-118. <https://doi.org/10.7176/RJFA/10-4-03>



## **Analysis Of Customer Satisfaction Level On Service Quality Of Three-Star Hotel In Pekanbaru**

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*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** October 2019

**Abstract:** This study aims to examine the effect on the level of customer satisfaction on service quality consisting of Tangible, Empathy, Reliability, Responsiveness and Assurance at Pekanbaru Three Star Hotels. In this study the intended population is all service users at Furaya Hotel and Ibis Pekanbaru. The number of samples selected from the population studied was used using the Slovin method. The type of data used in this study are qualitative and quantitative data. In collecting data from respondents, the authors used questionnaire and interview methods. The results of the study show that in general the quality of services available at Furaya Hotel Pekanbaru and Ibis Hotel Pekanbaru have been good or satisfying for the hotel customers. Sequentially the best or most satisfying dimensions are Tangible, Responsiveness, Assurance, Empathy and Reliability. From the research that has been done shows that the results of this study are using a superior customer service strategy, where companies try to provide more or best service for customer satisfaction.

**Keywords:** Tangible, Responsiveness, Assurance, Empathy and Reliability

**Citation:** Deny Danar Rahayu. 2019. Analysis Of Customer Satisfaction Level On Service Quality Of Three-Star Hotel In Pekanbaru. *International Journal of Scientific & Technology Research*, 8: 592-598. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1019-23850>



## **Action Plan Of Micro Business Development In Siak Regency**

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*International Journal of Scientific & Technology Research*

**ISSN:** 2277-8616

**Publication Date:** October 2019

**Abstract:** Efforts believed to have powers to improve competitive capability are in the form of development which aims to elevates economical potential. The development of the economic potential of a society must be supported by the skills of the human resources, the maximum utilization of technology, and the improvement in the micro business networking. One of a regions prominent potentials is micro business which has a special and strategic position, role, and potential used to achieve economic growth, equality and peoples earnings, creation of jobs, and alleviation of poverty. To create business that is more organized and feasible, a scenario to avoid threats of micro business failure is required. This study applies FGD to analyze activities that become priorities in order to assist micro businesses in their efforts to develop themselves based on their business surroundings internally and externally.

**Keywords:** Micro business, action plan, Small Micro Medium enterprises (UMKM), micro enterprises

**Citation:** Sri Indarti, Rendra Wasnury. 2019. Action Plan Of Micro Business Development In Siak Regency. *International Journal of Scientific & Technology Research*, 8: 1413-1416. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1019-23081>



## **Ergonomic Analysis Of Calorie Physical Workload And Mental Workload Towards The Indonesian Paramedics Of Public And Private Hospital**

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*International Journal of Scientific & Technology Research*

ISSN: 2277-8616

**Publication Date:** September 2019

**Abstract:** The measurement of physical work load on the based of calorie and mental work load on the based of Subjective Workload Assessment Technique (SWAT) held in Pekanbaru, Riau province. It aim to know degree of physical and mental workload towards Indonesian paramedics work and comparation work load of the both public hospital and private hospital especially in the Emergency Installation Unit. Requiring data especially for physical workload was obtained by using interview toward paramedics for information of the work activities, weight percentage of each activity during work hours, body weight of paramedics to determining physical workload base on table of kcal/hours/body weight standardization. Then requiring data for mental workload was obtained by using questionnaires based on SWAT. The results showing degree of physical workload towards paramedics in middle range (200 – 350 kcal/hour) it means the paramedics work in ergonomic condition for both hospital and have no significant different in both of the hospital. Then, the result of mental workload analysis for both hospitals roughly the same in middle range of scale and have no significant different, it means the paramedics work in ergonomic condition. Hence, its implication lead to designing ergonomic work load on prevent work overstress and under stress in productive environment.

**Keywords:** Physical work load, Mental work load

**Citation:** Iwan Nauli Daulay, Henni Noviasari. 2019. Ergonomic Analysis Of Calorie Physical Workload And Mental Workload Towards The Indonesian Paramedics Of Public And Private Hospital. *International Journal of Scientific & Technology Research*, 8: 2117-2127. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-0919-22010>





## **The Effect of Internal Control System Implementation In Realizing Good Governance And Its Impact On Fraud Prevention**

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**Abstract:** his study aims to find empirical evidence on the effect of the internal control systems implementation in realizing good governance and its impact on fraud prevention in Bengkalis District. This research was conducted in 34 Regional Apparatus Organization (RAO), with a total of 93 respondents. Data analysis technique used Partial Least Square (PLS) method with warpPLS 3.0 software. The results of the study concluded that there was an effect of the internal control system implementation and good governance on fraud prevention with P-value of  $0.01 < 0.05$ ; The variable of good governance can mediate part of the relationship between the government's internal control system implementation and the fraud prevention with the results of the VAF calculation of 36%. This value ranges between 20% -36% -80%.

**Keywords:** Internal Control Systems Implementation, Good Governance, Fraud Prevention

**Citation:** Taufeni Taufik. 2019. The Effect of Internal Control System Implementation In Realizing Good Governance And Its Impact On Fraud Prevention. *International Journal of Scientific & Technology Research*, 8: 2158-2165. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-0919-22375>



## **Operational Strategy In Production Process Of Beef Cattle Manure Into Compost Fertilizer Products At Organic Fertilizer Farm In Subulussalam, Pekanbaru**

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*International Journal of Scientific & Technology Research*

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**Publication Date:** October 2019

**Abstract:** The purpose of this study was to find out internal and external factors that form of SWOT (strength, weakness, opportunity, threat) in Terra Compost Fertilizer Farm that located in Badak Ujung street, Tenayan Raya District, Pekanbaru. Quantitative descriptive method and SWOT analysis method are used. In SWOT analysis by Analyze internal and external factors, then SWOT matrix analysis and internal and external analysis (IE) are performed. In obtaining the data needed in this study using the method of observation, method documentation, interview method, questionnaire method. Based on the results of research on Terra Compost Fertilizer Farm in Pekanbaru, obtained from the IFAS matrix for strengths and weaknesses of 1.88 and 1.595, respectively. As for the EFAS matrix for opportunity and threats of 2,185 and 0.864, respectively. Terra Compost Farm is in Cell (Growth) through vertical integration. In the SWOT diagram is in quadrant 1 (0.285; 1.321) that is supporting Turn-aggressive strategy. Business owners must be more diligent in expanding their markets, often going to locations and applying Terra Compost, Quality of livestock must be increased by increasing the intake of nutrition, food, and health of cattle in producing Terra Compost.

**Keywords:** Farming, Farm Finance, cow's dung, SWOT Analysis, IFAS, EFAS

**Citation:** Rio Marpaung, Kennedy. 2019. Operational Strategy In Production Process Of Beef Cattle Manure Into Compost Fertilizer Products At Organic Fertilizer Farm In Subulussalam, Pekanbaru.

*International Journal of Scientific & Technology Research*, 8: 483-490. Available at

<http://www.ijstr.org/paper-references.php?ref=IJSTR-1019-24054>

## Hydrophilic Modification of Polymeric Membrane using Graft Polymerization Method: A Mini Review

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*IOP Conf. Series: Materials Science and Engineering 5*

**ISSN:** 1757-899X

**Publication Date:** 2019

**Abstract:** The separation performance of polymeric membrane is strongly influenced by its surface characteristics. In water treatment applications, it is generally accepted that a hydrophilic membrane surface is favorable to enhance water permeate flux and mitigate membrane fouling. Numerous methods, both chemical and physical modification, have been proposed to improve the hydrophilicity of polymeric membranes. Graft polymerization is one of the promising methods to modify polymer membranes by tethering hydrophilic polymer chains onto membrane surface. The existence of hydrophilic chains on the membrane surface facilitates the reduction of interfacial tension with water, thus higher water flux can be obtained. In addition, the increase of membrane hydrophilicity also improves the antifouling resistance. This review provides a concise summary and discussion of the modification of polymeric membranes using graft polymerization method. The effects of graft polymerization on the membrane hydrophilicity as well as the antifouling property are discussed.

**Keywords:** antifouling, graft polymerization, hydrophilic, polymeric membrane

**Citation:** J. A. Pinem *et al.* 2019. Hydrophilic Modification of Polymeric Membrane using Graft Polymerization Method: A Mini Review. *IOP Conf. Ser.: Mater. Sci. Eng.* **547** 012054. Available at <https://iopscience.iop.org/article/10.1088/1757-899X/547/1/012054/meta>

## Analysis of Single Axis Sun Tracker System to Increase Solar Photovoltaic Energy Production in the Tropics

**Authors:** Iswadi Hasyim Rosma, Ichsan Maulana Putra, Dian Yayan Sukma, Ery Safrianti, Azriyenni Azhari Zakri

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*IEEE Publisher*

**Electronic ISBN:** 978-1-5386-6000-3

**Publication Date:** 5 August 2019

**Abstract:** The utilization of Solar Photovoltaic (SPV) generation system is generally installed at some certain tilted angles, therefore it does not obtain the optimum solar radiation from the sun. In order to overcome this weakness, the SPV generation system that is equipped with a single axis sun tracker was designed and analyzed in this paper. The sun tracker system has two LDR sensors to estimate the position of the sun. Arduino Uno 3 was implemented as a controller system. The Arduino Uno 3 instructs a servo motor to drive SPV panel from the east to the west to track the movement of the sun in a similar direction. In order to understand the energy gain of single axis sun tracker, it has been compared with SPV generation system installed at the certain number of tilted angles. It can be noted from the results that the SPV generation system with single axis sun tracker has a significant increase in energy production than without tracker where its energy gain is up to 22%. Therefore, it can be concluded that there is a promising potential increase in energy when the SPV panel is equipped with the single axis sun tracker generally in tropical regions.

**Keywords:** Solar Photovoltaic, Sun Tracker, Data Logger Shield, LDR, Servo Motor

**Citation:** JI. H. Rosma, I. M. Putra, D. Y. Sukma, E. Safrianti, A. A. Zakri and A. Abdulkarim, "Analysis of Single Axis Sun Tracker System to Increase Solar Photovoltaic Energy Production in the Tropics," *2018 2nd International Conference on Electrical Engineering and Informatics (ICon EEI)*, 2018, pp. 183-186, <https://doi.org/10.1109/ICon-EEI.2018.8784311>

## The Implementation and Analysis of Dual Axis Sun Tracker System to Increase Energy Gain of Solar Photovoltaic

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*IEEE Publisher*

**Electronic ISBN:** 978-1-5386-6000-3

**Publication Date:** 5 August 2019

**Abstract:** Solar Photovoltaic (SPV) generation system is one of the renewable energy sources that is currently experiencing increased penetration on the grid. Generally, SPV panels are installed at a certain tilted angle. This type of installation has its own drawback such as when the sun's position is behind the SPV panel, the energy produced decreases. To overcome this condition, the SPV panel with the dual axis sun tracker system is designed and implemented. The designed dual axis sun tracker of this research has several main components, such as 4 LDR sensors for detecting the position of the sun and the Arduino microcontroller used to read the measurement from the LDR sensors, processing these measurement data and instructing the actuator to drive the SPV panels at a perpendicular incident angle. The actuator is made from 2 servo motors for each vertical and horizontal axis respectively. It can be seen from the results that the use of dual axis sun tracker is capable to increase the “energy gain” up to 60 %. It is also worth noting that the use of this dual axis sun tracker has a big potential to apply in the tropical region such as Pekanbaru City, Indonesia.

**Keywords:** Solar Photovoltaic, Dual Axis Sun Tracker, Solar Energy, Arduino, Servo Motor

**Citation:** I. H. Rosma, J. Asmawi, S. Darmawan, B. Anand, N. D. Ali and B. Anto, "The Implementation and Analysis of Dual Axis Sun Tracker System to Increase Energy Gain of Solar Photovoltaic," *2018 2nd International Conference on Electrical Engineering and Informatics (ICon EEI)*, 2018, pp. 187-190, <https://doi.org/10.1109/ICon-EEI.2018.8784321>

## Barrier Discharge In Magnetic Field: The Effect Of Magnet Position Induced Discharge In The Gap

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*IEEE Publisher*

**Electronic ISBN:** 978-1-5386-6000-3

**Publication Date:** 5 August 2019

**Abstract:** The study of the effect permanent magnet (PM) position induced discharge in the gap of Dielectric Barrier Discharge (DBD) was carried out. The PM position influenced the plasma discharge. It is shown that the plasma intensity in the model I was higher than other models. The currents discharge in the model III and IV were higher than model I and II. However, the discharge current in the model II was lower than the model I. The ozone gas was generated for all models. The concentration ozone in the model II and III are higher than model I and IV. It is shown that the plasma progressed in the gap of DBD was influenced by the PM position.

**Keywords:** Discharges (electric), Plasmas, Electrodes, Gases, Magnetic fields, Dielectrics, Electrical engineering

**Citation:** F. Murdiya, B. Anto, E. Hamdani, Suwitno, E. Evrianto and A. Amri, "Barrier Discharge In Magnetic Field: The Effect Of Magnet Position Induced Discharge In The Gap," *2018 2nd International Conference on Electrical Engineering and Informatics (ICon EEI)*, 2018, pp. 175-178, <https://doi.org/10.1109/ICon-EEI.2018.8784138>



## **The The Impact of Advertising Application in Social Media into Information Processing and Purchase Decision Cosmetic Products in Pekanbaru City**

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*International Journal of Scientific & Technology Research*

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**Abstract:** This research aimed to know the impact of advertising application on social media Facebook and Instagram into information processing and purchasing decisions of cosmetic products in the city of Pekanbaru. Three variables of this study were advertising (X1), information processing (Y1) and purchasing decisions (Y2). The population was the community ever making purchase cosmetic products on Facebook and Instagram, with a sample of as many as 100 respondents were selected using purposive sampling. The criteria of the respondents were Facebook user who lived in Pekanbaru and have ever transacted by using Facebook, those who aged 17 years old and above, those who have ever seen ads on Facebook. Collecting data in this study was conducted by distributing questionnaires to respondents. Then, 10 respondents were selected to be interviewed. In terms of data analysis, this study used Structural Equation Modeling (SEM). The obtained data in this study were analyzed quantitatively using (Partial Least Square) with the help of smartPLS version 3.0 program. The results of this research showed that: 1) advertising had a positive influence and significantly to information processing, 2) advertising did not have a positive influence and significantly to the purchasing decision, 3) information processing had a positive and significant influence towards purchasing decisions, and 4) advertising had positive and significant influence towards purchasing decisions through information processing. In this study, marketers who use social media Facebook to advertise its products are recommended to promote his ads as attractive as possible both in terms of pictures, words or cataloging cosmetic products to make it easier for consumers in search of his needs. Marketers are also required to expose the cosmetic products clearly with the words that are easily understood by the consumer. Furthermore, the future researcher should be able to expand the scope of research not only limited to cosmetic products and social media Facebook only.

**Keywords:** advertising, information processing, and purchasing decisions

**Citation:** Marhadi, Rika Promalessy, Anggia Paramitha. 2019. The The Impact of Advertising Application in Social Media into Information Processing and Purchase Decision Cosmetic Products in Pekanbaru City. *International Journal of Scientific & Technology Research*, 8: 3147-3152. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1019-23186>



## **Analysis Of Management Concepts Implementation On Culinary Business Entrepreneurs In Turap, The Culinary Tourism Area, Siak District**

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*International Journal of Scientific & Technology Research*

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**Publication Date:** October 2019

**Abstract:** This study aims at analyzing the implementation of management concepts on culinary business entrepreneurs in Turap, the culinary tourism area, Siak district. In this study, the population were all culinary entrepreneurs in Turap, the culinary tourism area, in Village of Kampung Rempak and Kampung Dalam of Siak Sub-District which is as many as 64 culinary entrepreneurs. In addition, all populations were used as sample. The analysis used is descriptive qualitative. Based on the results of the study on the implementation of management concepts, it was not yet carried out by the majority of culinary entrepreneurs (90 percent) in Turap, the culinary tourism area, Siak district. It can be seen from the culinary entrepreneurs of Turap in which they did not use planning as a guide to do the tasks to be performed; they did not divide the employees' tasks clearly; communication between superiors and subordinates had not been well established; there was no good coordination between employer and employees as well as among other fellow employees; and the control over the employee's performance was still weak.

**Keywords:** Planning, organizing, Directing, Controlling, Business Culinary

**Citation:** Jumiati Sasmita. 2019. Analysis Of Management Concepts Implementation On Culinary Business Entrepreneurs In Turap, The Culinary Tourism Area, Siak District. *International Journal of Scientific & Technology Research*, 8: 3220-3227. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1019-23056>





## **Research On The Development Of Alternative Livelihood For Palm Oil And Rubber Farmers Through Fish Farming In Bencah Village Tapung Sub-District Kampar Regency**

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*International Journal of Scientific & Technology Research*

ISSN: 2277-8616

**Publication Date:** October 2019

**Abstract:** The major problem that is faced by the palm oil and rubber farmers in bencah village kelubi sub-district kampar regency is that the instability of price fluctuation which causes those commodities to be adrift. This research aims to analyse the fish farming in the pond based on the potentials owned by bencah kelubi village kampar regency as the alternative job for the palm oil and rubber farmers since the tendency for both commodities' quantity and price to diminish can occur anytime. as a result, the palm oil and rubber farmers do not longer highly depend on the palm oil and rubber plantation to obtain income. The methods implemented to solve this problem were survey and experiment, and also technology transfer of fish farming. A program evaluation was done towards its process, outcome, and stakeholder. Several activities to be done include: (1) the improvement of self-potential and society potential in the area of bencah kelubi and pancuran gading vilage with the change of paradigm from passive human to active and creative human. (2) The enhancement of life skills to develop productive society who is able to manage the provided natural resources. (3) Intensive and integrated empowerment towards palm oil and rubber farmers and, (4) the escalation of food security. The expected major outcomes are skills and the technology transfer of fish farming in the pond for the palm oil and rubber farmers, post-harvest handling.

**Keywords:** Alternative Livelihood, Palm Oil And Rubber Farmers, Fish Farming

**Citation:** Marnis, Fitri, Syahrul, Rovanita Rama. 2019. Research On The Development Of Alternative Livelihood For Palm Oil And Rubber Farmers Through Fish Farming In Bencah Village Tapung Sub-District Kampar Regency. *International Journal of Scientific & Technology Research*, 8: 3161-3168. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1019-23176>



Propose a **Special Issue**

## Estimation of Parameters in the SIR Epidemic Model Using Particle Swarm Optimization

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*American Journal of Mathematical and Computer Modelling*

**ISSN:** 2578-8272

**Publication Date:** 30 October 2019

**Abstract:** Susceptible, Infected and Resistant (SIR) models are used to observe the spread of infection from infected populations into healthy populations. Stability analysis of the model is done using the Routh-Hurwitz criteria, basic reproduction number or the Lyapunov Stability. For stability analysis, parameters value are needed and these values are usually assumed. Given data cannot be used to determine the parameter values of SIR model because analytic solution of system of nonlinear differential equation cannot be determined. In this article, we determine the parameters of the exponential growth model, logistic model and SIR models using the Particle Swarm Optimization (PSO) algorithm. The SIR model is solved numerically using the Euler method based on the parameter values determined by PSO. The simulation results show that the PSO algorithm is good enough in determining the parameters of the three models compared to analytical methods and the Gauss-Newton's method. Based on the average hypothesis test the relative error obtained from the PSO algorithm to determine the parameters is less than 3% with a significance level of 1%.

**Keywords:** Growth Mathematical Model, SIR Model, Curve Fitting, PSO Algorithm, Estimation of Parameters

**Citation:** Supriadi Putra, Khozin Mu'tamar, Zulkarnain, Estimation of Parameters in the SIR Epidemic Model Using Particle Swarm Optimization, *American Journal of Mathematical and Computer Modelling*. Vol. 4, No. 4, 2019, pp. 83-93. <https://doi.org/10.11648/j.ajmcm.20190404.11>

## The Effect of Quality of Physical Environment, Food and Service on Customer Satisfaction and Behavioral Intentions in Pekanbaru

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*European Journal of Business and Management*

**ISSN:** 2222-2839

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**Abstract:** This study aimed to determine direct and indirect effect of the three elements of food service quality dimensions which consisted of quality of physical environment, food and service both on customer satisfaction and behavioral intentions based on the Kisang's Model (2012). The data obtained from the distribution of questionnaires to 300 respondents in Pekanbaru, Indonesia. The data were collected by purposive sampling technique. The data were analyzed by using inferential statistics using path analysis with PLS. The research result showed that directly, the quality of physical environment and food quality had a significant and positive effect on behavioral intentions. However, service quality did not have significant effect on behavioral intentions. Indirectly, customer satisfaction affected significantly and positively, which means that it mediated between quality of physical environment, food and service of behavioral intentions.

**Keywords:** Physical environment quality, food quality, service quality, customer satisfaction dan behavioral intentions.

**Citation:** Sri Restuti. 2019. The Effect of Quality of Physical Environment, Food and Service on Customer Satisfaction and Behavioral Intentions in Pekanbaru. *European Journal of Business and Management*. 11: 1-11. <https://doi.org/10.7176/EJBM/11-29-02>

## The Authority of the Local Government in Forest Management and its Implication toward Local Autonomy in Riau Province

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*Jambe Law Jurnal*

**ISSN:** 2598-7925

**Publication Date:** 12 July 2019

**Abstract:** The authority of local government in forest management in the Province of Riau has not been running as yet so far, because there is deviation in it, that caused by functionaries as well as individual community around of the forest area. Forest management by the regency government is still far from the principles of well government management, transparency, participation, accountability, and professional. The obstacles for local government to do forest management authority in the Province of Riau such as, firstly, law and regulations. Secondly, permit and supervision instruments. Thirdly, law enforcement officers. Fourthly, community. While the system of local government authority farther in forest management can be done through *first*, the system of forest management through Unity of Forest Management (KHP) concept. Second, the system of community participation by involving the local community more broadly in planning, maintenance, management, decision making, implementation, and supervision. In order to give comprehension for local community that importance of everlasting and sustainable forest management program for future generation by increasing counseling and socialization. The implication of forest management towards local autonomy shows a dynamic transformation, authority friction in forest management that was decentralization became centralization.

**Keywords:** Authority, Forest, Local Autonomy

**Citation:** HB, G. (2019). The Authority of the Local Government in Forest Management and its Implication toward Local Autonomy in Riau Province. *Jambe Law Journal*, 1(2), 251-267.

<https://doi.org/https://doi.org/10.22437/jlj.1.2.251-267>



## **Analysis On Factors Affecting Performance Of Village-Owned Enterprises (Bumdes) Administrator With Commitment As Moderator Variables In Kampar District**

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*International Journal of Scientific & Technology Research*

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**Publication Date:** November 2019

**Abstract:** Based on Kampar Regency Regulation Number 14 of 2007 concerning the establishment of Village Owned Enterprises (BUMDes) in Kampar Regency (Kampar Regency Regional Gazette of 2007 Number 14). This is a special concern for Kampar District Government. Through a substantial village fund released by the government, the Village Owned Enterprises (BUMDes), which is one of the engines of the economy, must be optimized. This certainly can increase development and economic growth quickly and evenly in the Kampar Regency. Private sector participation in development and enhancing economic growth through partnership patterns greatly assist government efforts in dealing with strategic problems faced by the government, 'BUMDes as a driver of the rural economy has an important and very large function for the people's economy. But in fact the Kampar Regency based on the index value of building villages is still very low when compared to other regions in Riau Province, this is certainly because the development of each village is certainly not the same. BUMDes operational activities often face obstacles, such as problems in terms of management systems that are not good and the quality of human resources is still low. The main problem that is often faced by BUMDes is that the quality of human resources is still low due to their very low competency. BUMDes manager performance will greatly affect the condition of BUMDes. One way to improve the performance of managers can be done through increased competence. The importance of competence in improving the performance of BUMDes managers because this can have a significant influence on the performance of managers of BUMDes, means that having good competencies that they have will provide an increase in the performance of BUMDes.

**Keywords:** Recruitment, Selection, Training, Competition, Performance

**Citation:** Susi Hendriani, Yulia Efni, Ezky Tiyasiningsih. 2019. Analysis On Factors Affecting Performance Of Village-Owned Enterprises (Bumdes) Administrator With Commitment As Moderator Variables In Kampar District. *International Journal of Scientific & Technology Research*, 8: 443-452. Available at <http://www.ijstr.org/paper-references.php?ref=IJSTR-1119-24711>

## The Mediating Role of Efficiency Factors in Determining Bank Financial Performance in Indonesia

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*International Journal of Innovative Science and Research Technology*

**ISSN:** 2456-2165

**Publication Date:** October 2019

**Abstract:** This research aims to analyze the mediating role of efficiency factors in determining bank financial performance in Indonesia. The samples are taken using purposive sampling method and data analysis of this research are quantitative using descriptive and statistical inference, and SPSS. The statistical inference used is the structural equation model using the Warp PLS version 06 software. The findings of this research are: 1) the efficiency factors mediate the correlation between adversely classified assets and financial performance, 2) the efficiency factors mediate the correlation between net interest margin and financial performance, and 3) the efficiency factors mediate the correlation between non-performing loans and financial performance.

**Keywords:** Adversely classified assets, Net Interest Margin, Non-Performing Loans, Efficiency Factors, Financial Performance, Warp PLS.

**Citation:** Nur Azlina, Barjoyai Bardai. 2019. The Mediating Role of Efficiency Factors in Determining Bank Financial Performance in Indonesia. *International Journal of Innovative Science and Research Technology*, 4: 521-526. Available at <https://www.ijisrt.com/the-mediating-role-of-efficiency-factors-in-determining-bank-financial-performance-in-indonesia>

## The Use Of Online Media And Topography Map In The Topic Of Landslide Natural Disaster, Advanced Earth Physics Course

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*International Journal of Educational Best Practices*

**ISSN:** 2581-0847

**Publication Date:** October 2019

**Abstract:** Advanced Earth Physics course is one of the courses discusses all aspects of physics that exist in natural processes occurring on the earth. One of the topics discussed was Landslide Natural Disaster. The purpose of this study is to discuss the use of online media and topography map in Advance earth physics classes to analyse the location of possible landslides. This research was conducted on students who are taking advanced earth physics courses for the even semester in the University of Riau, Physics Education Study Program, and 20182019 academic year. Students were given the concept of a landslide and guidelines for using Google Earth and on how to produce the topography map. Then students were required to do a mini project in terms of using Google Earth and Topography Map and to analyse the possibility of a landslide zone. Subsequently, students were given a questionnaire about understanding the material of the Avalanche that was studied with the help of Google Earth and topography map. The results show that almost all students fully understand and like what they are doing, as evidenced by an average score of 3.78 (scale 4) in terms of Google Earth's utility in studying landslide zones. Thus it can be concluded that the Google Earth media is very well-liked and can provide a deeper understanding to students in learning the concept of Landslide Natural Disasters in Advanced Earth Physics courses.

**Keywords:** Google Earth, Landslide, Advanced Earth Physics

**Citation:** Nur Islami. 2019. The Use Of Online Media And Topography Map In The Topic Of Landslide Natural Disaster, Advanced Earth Physics Course. *International Journal of Educational Best Practices*, 3: 1-9. <https://doi.org/10.31258/ijebp.v3n2.p1-9>



## Pilot Project Development of Oil Palm Trunk Wood Industry

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*International Journal of Innovative Science and Research Technology*

**ISSN:** 2456-2165

**Publication Date:** October 2019

**Abstract:** Wood is a material composed mostly of cellulose (40-50%), hemicellulose (20-30%), lignin (20- 30%) and a small amount of inorganic and extractive material (Dumanauw, 1990). Accordingly, wood has hydrophilic, hard, and biodegradable. Until now, there is no utilization of oil palm waste in a significant amount since it is tender and has high-water content. Generally, oil palm trunks are left to rot in the open field. The objective assessment of pilot project processing oil palm into wood/ composite particleboard is to present how the technology of oil palm trunk waste is processed as raw material (input) into the composite pane board (output) which can create economic value. Definition experiment with sample treatment in BPPT Serpong Jakarta generated the results seen from the density particleboard with the reference of SNI - 03-2105-2006 is between 0.4 up to 0.9 g/ cm<sup>3</sup>. The measurement results of all samples in the laboratory in this activity stated that Phenol Formaldehyde adhesive type reached the density of 0.702 g/ cm<sup>3</sup>; with Acrylic 0.72 g/cm<sup>3</sup> and the use of unsaturated polyester type obtained the density of 0.892/cm<sup>3</sup>. The third test sample showed endurance in the base situation because there is no change in the form of delamination, blistering, rupture, and softening. These figures show that the use of the three types of adhesive density particleboard produced is SNI qualified. The next three test samples showed endurance in the base situation because there is no change in the form of delamination, blistering, rupture, and softening.

**Keywords:** A Palm Trunk Processing Technology Into Particleboard.

**Citation:** Marzolina, Arwinence Pramadewi, Samsir, Aida Nursanti. 2019. Pilot Project Development of Oil Palm Trunk Wood Industry. *International Journal of Innovative Science and Research Technology*, 4: 288-300. Available at <https://www.ijisrt.com/pilot-project-development-of-oil-palm-trunk-wood-industry>



## The Influence Mechanism of Corporate Governance on Performance of the Company

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*Research Journal of Finance and Accounting*

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**Publication Date:** 31 October 2019

**Abstract:** This study aims to examine the influence of corporate governance mechanisms on Performance Of The Company. Corporate governance mechanisms which examined in this study include the board of commissioners and managerial ownership, foreign ownership, debt financing, audit quality. The population in this study used manufacturing companyies listed in Indonesia Stock Exchange for the period 2015 to 2018. The sample in this research determined by purposive sampling method with total sample of 103 annual reports. Result statistical tests showed that the board of commissioners has no effect on the performance of the company with sign. value of  $0.312 > 0.05$ , managerial ownership has no effect on the performance of the company with sign. value of  $0.191 < 0.05$ , foreign ownership has no effect on the performance of the company with sign. value of  $0.495 > 0.05$ , debt financing has no effect on the performance of the company with sign. value of  $0.408 > 0.05$ , while the audit quality have effect on the performance of the company with sign. value of  $0.844 > 0.05$ .

**Keywords:** Board of Commissioners, Managerial Ownership, Foreign Ownership, Debt Financing, Audit Quality, Performance of Company

**Citation:** Raja Adri Satriawan Surya, Arumega Zarefar, Vera Oktari. 2019. The Influence Mechanism of Corporate Governance on Performance of the Company. *Research Journal of Finance and Accounting*. 10: 81-90. <https://doi.org/10.7176/RJFA/10-20-08>



## Development of Constructivism-Base Student Work Sheets of Aldehydes and Ketone Materials for Organic Chemistry II Students

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**Abstract:** Teaching materials that were applied previously in the form of MFIs are not yet constructivism-based. During the time, the applied student worksheet (LKM) is monotonic so that students are less motivated in the learning process, as the solution, a constructivism-based LKM need to be developed. The research aims to develop constructivism-based Student Worksheets on aldehyde and ketone material. This type of research was Research and Development with a 4-D development model which includes Definition, Design, Development, and Disseminate. This research was only carried out until the development stage and was followed by limited trials. The research was conducted at the FKIP University of Riau. The object of the research was constructivism-based LKM. The data analysis technique used in the study was descriptive statistical analysis, which was calculating the percentage of validation values. The average score of the assessment of the five aspects of the LKM feasibility by the validator team, which was didactic, constructs of feasibility of presentation, construct of linguistic, technical feasibility, characteristics of constructivism successively have a score of 98%, 100%, 99%, 100% and 100%, respectively. The average score of overall validation of constructivism-based Aldehyde and Ketone LKM is 99.39% with a valid feasibility category, meaning that the developed LKM are feasible to use in the real teaching.

**Keywords:** Aldehydes and Ketones, Constructivism, Development, Student Worksheets

**Citation:** Hasnah, Susilawati Susilawati, Maria Erna, Rini. 2019. Development of Constructivism Base Student Work Sheets of Aldehydes and Ketone Materials for Organic Chemistry II Students. *Journal of Educational Sciences*, 3, 63-71. <https://doi.org/10.31258/jes.3.1.p.63-71>



## Application of Moving Class Learning Models and Teacher Pedagogical Competence on Learning Motivation and Student Learning Discipline

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*Journal of Educational Sciences*

**ISSN:** 2581-2203

**Publication Date:** 24 January 2019

**Abstract:** This study aims to analyze the effect of the application of moving class learning models and pedagogical competencies of teachers on learning motivation and its impact on student learning discipline in SMP Negeri 2 Bandar Seikijang. The population of this research were 151 students of class VIII and IX. Sampling method used proportional random sampling using the Slovin formula, so as to obtain 110 students. Data collection used a questionnaire with a Likert scale. The data analysis technique used a path analysis. The results of the analysis show that the application of the moving class learning model and the pedagogical competition of the teacher have a positive and direct and indirect effect on student learning discipline through intervening variables (learning motivation). In accordance with the results of the observation, the dominant contribution to the increase in motivation and discipline of students to learn is the presence of pedagogical competence of the teacher while the application of the moving class learning model only makes a smaller contribution. This shows that the good or bad quality of the teacher's pedagogical competencies and the moving class learning model will also reduce or increase student learning motivation which has an impact on student learning discipline.

**Keywords:** Learning motivation, Learning discipline, Moving class learning model, Teacher Pedagogical Competence

**Citation:** Marina, Henny Indrawati, Suarman. 2019. Application of Moving Class Learning Models and Teacher Pedagogical Competence on Learning Motivation and Student Learning Discipline. *Journal of Educational Sciences*, 3: 72-83. <https://doi.org/10.31258/jes.3.1.p.72-83>



## Teachers' Strategies to Design Media to Implement Communicative Learning in Public Schools

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*Journal of Educational Sciences*

**ISSN:** 2581-2203

**Publication Date:** 24 January 2019

**Abstract:** In order to implement communicative learning activities, a teacher must be able to design various means or media so that learning process keeps running well. A teacher is expected not to stutter in designing media for various learning needs. The main purpose of this study is to examine the strategies done by teachers in designing media to implement communicative learning. This research is a descriptive research in which the data were collected from teachers of Madrasah Aliyah Negeri (public Islamic senior high schools) in Pekanbaru city. The research sample was 36 teachers. The instrument used to collect the data was a scale questionnaire. The data were descriptively analyzed. Each item of the questionnaire becomes the basis and the principal of the research analysis. The research findings reveal that to implement communicative learning, the teachers designed learning media. The strategies they used are making use of e-learning and making use of various teaching and learning facilities, creating student worksheets and compiling teaching materials, and presenting slides or other media in accordance with the teaching materials. Each of the strategy is set at a very high standard. The teachers' strategy to design media at the public schools runs well. It can be seen from the average of the strategy that is 4.48 and the average belongs to very high category. The data also clearly reveal that the teachers are creative and innovative in designing media to implement communicative learning.

**Keywords:** Communicative learning, Media design, Public school, Teacher.

**Citation:** M. Nur Mustafa, Hermandra, Zulhafizh. 2019. Teachers' Strategies to Design Media to Implement Communicative Learning in Public Schools. *Journal of Educational Sciences*, 3: 13-24. <https://doi.org/10.31258/jes.3.1.p.13-24>



## Characteristics of probiotic tapai made by the addition of *Lactobacillus plantarum* 1

**Authors:** Yusmarini, Johan, V. S., Fitriani, S., Rahmayuni, Artanti, V. F. and Pato, U

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*International Journal of Agricultural Technology*

ISSN: 2630-0192

**Publication Date:** January 2019

**Abstract:** Tapai is one of the fermented products made from starch sources such as glutinous rice and cassava. The indigenous amylolytic lactic acid bacteria in the production of tapai was utilized and found the chemical, microbiological and sensory characteristics of the probiotic tapai. Tapai by the addition of various strains of *Lactobacillus plantarum* 1 as starter. The results showed that tapai added by various strains of *L. plantarum* 1 had slightly different characteristics with tapai made with the addition of yeast only as starter. Tapai supplemented by *L. plantarum* 1 strains had a lower pH value and alcohol content than tapai added with yeast only. The number of lactic acid bacteria ranged from 108 to 109 CFU/ml. Overall assay showed that tapai supplemented by *L. plantarum* 1 strains was preferably liked by panelists. Especially tapai supplemented by *L. plantarum* 1 RN2-53 was more preferred by panelists than tapai supplemented by *L. plantarum* 1 RN2-12112 and *L. plantarum* 1 RN1-23121 in term of colour, aroma, taste, and texture.

**Keywords:** *Lactobacillus plantarum* 1, glutinous rice, cassava, tapai

**Citation:** Yusmarini, Johan, V. S., Fitriani, S., Rahmayuni, Artanti, V. F. and Pato, U. (2019). Characteristics of probiotic Tapai made by the addition of *Lactobacillus plantarum* 1. *International Journal of Agricultural Technology* 15(1): 195-206. Available at [http://www.ijat-aatsea.com/pdf/v15\\_n1\\_2019\\_January/15\\_IJAT\\_15\(1\)\\_2019\\_Yusmarini.pdf](http://www.ijat-aatsea.com/pdf/v15_n1_2019_January/15_IJAT_15(1)_2019_Yusmarini.pdf)

## Alternative Fuzzy Algebra to Solve Dual Fully Fuzzy Linear System using ST Decomposition Method

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*IOSR Journal of Mathematics*

**ISSN:** 2278-5728

**Publication Date:** April 2019

**Abstract:** In this paper, we will discuss alternative fuzzy algebra to solve dual fully fuzzy linear system (DFFLS) of the form  $A \otimes x \oplus c = B \otimes x \oplus d$  where coefficient matrix  $A$  and  $B$  are  $n \times n$  fuzzy matrix,  $c$  and  $d$  fuzzy vector, and  $x$  is unknown fuzzy vector, using ST Decomposition method. Finally, numerical example are given to illustrate our method.

**Keywords:** Dual fully fuzzy linear system, fully fuzzy linear system, fuzzy number, ST decomposition method Trapezoidal fuzzy number

**Citation:** Yuliana Safitri, Mashadi. 2019. Alternative Fuzzy Algebra to Solve Dual Fully Fuzzy Linear System using ST Decomposition Method. *IOSR Journal of Mathematics* 15: 32-38.

<https://doi.org/10.9790/5728-1502023238>





## Developing Multimedia Supported Critical Thinking Test On Heat Transfer Concept

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*Science Education and Application Journal*

ISSN: 2656-8365

**Publication Date:** March 2019

**Abstract:** Critical thinking skill is one of the skills that should be possessed by the students to compete in the global area. There are many ways to practice and increase critical thinking skills of the students by using model and media learning. In order to measure critical thinking skills of the students appropriately, we need the precise test instrument. The purposes of this research are to develop and validate of Multimedia Supported Critical Thinking Test (MSCiT Test) instrument in heat transfer learning material for senior high school students. MSCiT Test is a test instrument that optimizes the function of computer by presenting media, simulation, video, and picture which describe the test that will be done by the students in an interactive dynamic content, a content that enables the students to feel as if they face the real phenomena in the test. MSCiT Test is adapted Halpern's critical thinking framework which was developed by Tiruneh, involving four different categories, reasoning, hypothesis testing, argument analysis and problem solving and decision making. The research method employed in this research was the research and developmental 4-D model method adapted from Thiagarajan, involving four main steps, define, design and develop. MSCiT Test has been tested in terms of its validity. The validity test consists of construct, the analysis of construct validity was conducted by using Content Validity Ratio (CVR). And the result of value of CVR all of item in instrument are valid with value of CVR 0.722.

**Keywords:** MSCiT Test, critical thinking, heat transfer concept

**Citation:** Mahbubah, Khoiro. Neni Hermita. (2019). Developing Multimedia Supported Critical Thinking Test On Heat Transfer Concept. *Science Education and Application Journal (SEAJ)*. Vol. 1 No. 1: 34 – 38, <https://doi.org/10.30736/seaj.v1i1.95>

## An Optimal Three-Step Iterative Method Free From Derivative for Solving Nonlinear Equations

**Authors:** Nurul Khoiromi, M. Imran, Syamsudhuha

**Corresponding Author:** Nurul Khoiromi, Universitas Riau, Pekanbaru, Indonesia

*Global Journal of Pure and Applied Mathematics*

**ISSN:** 0973-1768

**Publication Date:** 2019

**Abstract:** This article discusses a three-step iterative method in which no derivative is required for solving nonlinear equations. The method analytically shows that it has order eight and requires four evaluation functions for each iteration. The proposed method is optimal in the sense of Kung and Traub's conjecture and has the efficiency index 1.682. Numerical experiments show that the new method is comparable with other discussed methods.

**Keywords:** Iterative method, derivative-free method, nonlinear equation, efficiency index, order of convergence

**Citation:** Nurul Khoiromi, M. Imran, Syamsudhuha. 2019. An Optimal Three-Step Iterative Method Free From Derivative for Solving Nonlinear Equations. *Global Journal of Pure and Applied Mathematics*. 1: 34–38, Available at [https://www.ripublication.com/gjpam19/gjpamv15n4\\_12.pdf](https://www.ripublication.com/gjpam19/gjpamv15n4_12.pdf)



## Derivative Free Three-Step Iterative Method with Divided Difference Estimates to Solve Nonlinear Equations

**Authors:** Vera Alvionita Harahap, M. Imran, Syamsudhuha

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*Global Journal of Pure and Applied Mathematics*

**ISSN:** 0973-1768

**Publication Date:** 2019

**Abstract:** This article discusses an iterative method to solve a nonlinear equation, which is free from derivatives, obtained by approximating a derivative in the method proposed by Rhee et al. [Int. J. Comput. Math., 95 (2018), 2174-2211] by the method of divided difference. We show analytically that the method is of order eighth and for each iteration it requires four evaluation functions. Numerical experiments show that the new method is comparable with other discussed methods.

**Keywords:** Efficiency index, derivative-free method, divided difference, order of convergence

**Citation:** Vera Alvionita Harahap, M. Imran, Syamsudhuha. 2019. Derivative Free Three-Step Iterative Method with Divided Difference Estimates to Solve Nonlinear Equations. *Global Journal of Pure and Applied Mathematics*. 4: 517–526, Available at [https://www.ripublication.com/gjpam19/gjpamv15n4\\_15.pdf](https://www.ripublication.com/gjpam19/gjpamv15n4_15.pdf)

## Analyzing Communication Between Government And Community In The Flow Of Cross-Border Goods In The Regency Of Meranti Island

**Authors:** Belli Nasution, Anuar Rasyid

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*International Journal of Research in Social Sciences*

**ISSN:** 2307-227X

**Publication Date:** June 2019

**Abstract:** The aim of the research is to analyze the conflict communication between the Government and the community in the journey of cross-country goods in Meranti Archipelago district. The writer used descriptive qualitative method as the design of this research. This research will be implemented in the community and government in the Meranti Archipelago district. and the subjects of this research are government and the community, and the international flow of goods is the object in the research. This research involved three people from the government and two people from the community. Primary data is a data obtained directly by looking at the situation and based on monitoring of the current state of international goods, interviews directly with the community and the Government and field observations with the parties. The research used Huberman and Miles model to analyze the data. The results showed the communicator in the case of the current item consists of three government agencies, customs, navy, and navy military police. Regulations are the government-run messages as communicators. The channels of face to face that they use caused direct effect on the community. Conflict with the type of force conflict is that the government forces its citizens to obey the law in hopes of the realization of a flow of goods from overseas.

**Keywords:** Conflict Communication, Travel Flows Across Countries Goods, Government, Society

**Citation:** Belli Nasution, Anuar Rasyid. 2019. Analyzing Communication Between Government And Community In The Flow Of Cross-Border Goods In The Regency Of Meranti Island. *International Journal of Research In Social Sciences*. 1: 17–22. Available at [http://www.ijsk.org/wp-content/uploads/2019/07/IJRSS\\_Vol31\\_P3\\_July19\\_Belli\\_Nasution.pdf](http://www.ijsk.org/wp-content/uploads/2019/07/IJRSS_Vol31_P3_July19_Belli_Nasution.pdf)



## Development of Constructivism-Based Student Worksheets on Free Radical Reaction Material

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*Journal of Educational Sciences*

**ISSN:** 2581-2203

**Publication Date:** 24 May 2019

**Abstract:** Organic Chemistry is one of the difficult subjects, especially in reaction and stereochemical mechanisms. One effort to reduce it is to utilize teaching materials. This study aims to develop organic chemistry teaching materials on free radical reaction material in the form of constructivism-based student worksheets (LKM). The research method used research and development research design with a 4D development model which consists of the stages of define, design, development, and disseminate. Development of LKM was assessed based on validity criteria and limited trials. The validity of LKM was achieved and assessed by three validators. Limited trials were conducted for the 6th semester students of the chemical education study program totaling 15 people and also three organic chemistry lecturers to see the appropriateness of developed LKM from the lecturers' perspective. The overall LKM results of its validity showed that the LKM has 95.05% valid. The results of limited trials based on the responses of students and lecturers each obtained a percentage of 84.02% and 87.22%, respectively. Based on the results of validation and limited testing of constructivism-based LKM on the material of free radical reaction developed it is included in the category of valid and can be used in the learning process.

**Keywords:** Constructivism Free Radicals Organic Chemistry

**Citation:** Okma Rahmatya, Susilawati, Maria Erna. 2019. Development of Constructivism-Based Student Worksheets on Free Radical Reaction Material. *Journal of Educational Sciences*, 3: 162-173. <https://doi.org/10.31258/jes.3.2.p.162-173>



Propose a **Special Issue**

## **An Application of Goal Programming: The Best Route to Discover a Wonderful West Sumatera**

**Authors:** Adhe Afriani, Habibis Saleh, and Moh Danil Hendry Gamal

**Corresponding Author:** Adhe Afriani, Universitas Riau, Pekanbaru, Indonesia

*International Journal of Management and Fuzzy Systems*

**ISSN:** 2575-4947

**Publication Date:** 22 February 2019

**Abstract:** This study presents an application of nonpreemptive goal programming to find the best route to visit tourist sites in West Sumatera. The goal programming model is constructed based on traveling salesman problem. This study involves seven cities which can be connected by road network in West Sumatera. In this study, two cases are considered with the assumption that the tourists start to self-drive from different city. The results show that the goal programming based on traveling salesman problem model gives a route with minimum distance, time, and traveling cost compared to the traditional route.

**Keywords:** Nonpreemptive Goal Programming, Minimum Distance, Self-Drive, Traveling Salesman Problem, West Sumatera

**Citation:** Adhe Afriani, Habibis Saleh, Moh Danil Hendry Gamal. An Application of Goal Programming: The Best Route to Discover a Wonderful West Sumatera. *International Journal of Management and Fuzzy Systems*. Vol. 5, No. 1, 2019, pp. 9-13.

<https://doi.org/10.11648/j.ijmfs.20190501.12>

## Depot Location Problems By Considering Its Distribution Problems

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*Journal of Research in Mathematics Trends and Technology*

**ISSN:** 2656-1514

**Publication Date:** 7 March 2019

**Abstract:** In this paper we study the problem of locating  $m$  depots to serve  $n$  customers in order to minimize the total transportation cost. The way the depots serve the customers is considered as a traveling salesperson problem. We combine the location and the traveling salesperson problem methods to find the near-optimal or the best depot locations. An illustrative example is presented to implement the proposed method.

**Keywords:** Heuristic method, location problem, traveling salesperson problem

**Citation:** H. Sartika and M. D. H. Gamal, "Depot Location Problems By Considering Its Distribution Problems", *J. of Research in Math. Trends and Tech.*, vol. 1, no. 1, pp. 16-23, Mar. 2019.

<https://doi.org/10.32734/jormtt.v1i1.753>

## Some Identities of Fibonacci-Like Based on Lucas Numbers

**Authors:** Ulfa Hasanah, Sri Gemawati, Syamsudhuha

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*International Journal of Mathematics Trends and Technology*

**ISSN:** 2231-5373

**Publication Date:** February 2019

**Abstract:** In this paper, we determine some identities of Fibonacci-Like number based on Lucas number then Fibonacci-Like is just defined by Lucas number. The new identities of Fibonacci-Like can be proved by Binet's formula.

**Keywords:** Fibonacci, Fibonacci-Like, Lucas, Binet's formula

**Citation:** Ulfa Hasanah, Sri Gemawati, Syamsudhuha (2019). Some Identities of Fibonacci-Like Based on Lucas Numbers. *International Journal of Mathematics Trends and Technology*, 65(2), 37-40. <https://doi.org/10.14445/22315373/IJMTT-V65I2P508>

## Can effective tax rates mediate the effect of profitability and debts on income smoothing?

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*Problems and Perspectives in Management*

**ISSN:** 1810-5467

**Publication Date:** Monday, 29 July 2019

**Abstract:** The management of the company must be capable of providing better financial information for the users of the financial report. The users of the financial report notice the performance of the management from the financial report. The financial report provides information related to financial positions, performance, as well as the changes in financial positions that are beneficial for decision-making. Income smoothing is generally conducted by the company to see the company's capability and show the investors or investor candidates that the company is in stable condition in generating profits for the increase of share value and giving dividends, so that the investors are attracted to invest in that company. Income smoothing has been a debatable topic, especially among practitioners and academicians. This study analyzes both the direct and indirect effects of profitability and corporate debt on income smoothing. It also examines whether tax rates mediate the effects of profitability and debt on income smoothing. The sample consists of 12 property and real estate companies on the Indonesia Stock Exchange in 2013–2017. The sample was selected using purposive sampling technique. Data were analyzed using Partial Least Squares (PLS) analysis tool with the WarpPLs application. The results show that profitability and debt, as well as effective tax rates, affect income smoothing. The effective tax rates can mediate the relationship between profitability and debt and income smoothing.

**Keywords:** profitability, debt, income smoothing, effective tax rates and financial report

**Citation:** Enni Savitri, 2019. Can effective tax rates mediate the effect of profitability and debts on income smoothing?. *Problems and Perspectives in Management*, 17 (3): 89-100.

[http://dx.doi.org/10.21511/ppm.17\(3\).2019.07](http://dx.doi.org/10.21511/ppm.17(3).2019.07)

## IOP Conference Series: Materials Science and Engineering

**Characterization of Ba<sub>0.35</sub>Sr<sub>0.65</sub>TiO<sub>3</sub> Made by Sol-Gel Method with X-Ray Powder Diffraction, Field Emission Scanning Electron Microscopy and Impedance Spectroscopy in Capacitor Application**

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*IOP Conference Series: Materials Science and Engineering*

**ISSN:** 1757-899X

**Publication Date:** 2019

**Abstract:** A thin film of Barium Strontium Titanate (BST) of ferroelectric material of Ba<sub>0.35</sub>Sr<sub>0.65</sub>TiO<sub>3</sub> has been made using sol-gel method and annealed at 600, 650, and 700°C in order to obtain its crystalline structure. This thin film was characterized using X-Ray Diffraction (XRD), Field Emission Scanning Electron Microscopy (FESEM) and Impedance Spectroscopy. The results of XRD characterization show a graph of intensity against angle  $2\theta$ . The XRD patterns of Ba<sub>0.35</sub>Sr<sub>0.65</sub>TiO<sub>3</sub> have many peaks and confirmed that the material of Ba<sub>0.35</sub>Sr<sub>0.65</sub>TiO<sub>3</sub> has cubic crystalline structure and their lattice parameter is in average of 2.399 Å. The results of FESEM characterization show that the thickness of thin films of Ba<sub>0.35</sub>Sr<sub>0.65</sub>TiO<sub>3</sub> at 600, 650, and 700°C were 21.21 nm, 34.61 nm and 39.08 nm, respectively. The values of capacitance at the frequency of 100 Hz with temperature of 600, 650, and 700°C are  $4.84 \times 10^{-11}$  F,  $5.24 \times 10^{-11}$  F and  $5.61 \times 10^{-11}$  F, respectively. The dielectric constant of the thin films of BST at the frequency of 100 Hz with temperature of 600, 650, and 700°C are 5.47, 5.90 and 6.28, respectively. While the loss of dielectric values of the thin films of BST at 100 Hz with temperature of 600, 650, and 700°C are 0.03, 0.08 and 0.12, respectively. The result of characterization by Impedance Spectroscopy shows that the higher the frequency, the smaller complex capacitance, dielectric constant and dielectric loss. Generally, the higher annealed temperature, the higher complex capacitance and dielectric constant.

**Keywords:** Sol-Gel Method with X-Ray Powder Diffraction, Field Emission Scanning Electron Microscopy and Impedance Spectroscopy in Capacitor Application

**Citation:** Rahmi Dewi, 2019. Characterization of Ba<sub>0.35</sub>Sr<sub>0.65</sub>TiO<sub>3</sub> Made by Sol-Gel Method with X-Ray Powder Diffraction, Field Emission Scanning Electron Microscopy and Impedance Spectroscopy in Capacitor Application. *IOP Conference Series: Materials Science and Engineering*, 546 (4): 1-5. <http://dx.doi.org/10.1088/1757-899X/546/4/042006>



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## How to maintain sustainability of micro and small enterprises of crispy oil palm mushroom: A case study in Riau Province

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*Journal of Science and Technology Policy*

ISSN: 2053-4620

**Publication Date:** 11 Desember 2018

**Abstract:** Purpose: This paper aims to analyze sustainability level of crispy palm tankos mushroom business; institutions involved in the development of crispy palm tankos mushroom business in Riau Region; nutritional composition, sensory assessment both descriptively and hedonically, and also designing the suitable and hygienic packaging for crispy palm tankos mushroom in Riau; institutional structuring model involved in the development of crispy palm tankos mushroom business in Riau; and strategies to improve the quality of crispy palm tankos mushroom in Riau. Design/methodology/approach: This study is quantitative research conducted by survey. The research was conducted in Indragiri Hulu, Pelalawan, Kampar and Siak, Riau Province, Indonesia from April to August 2017. The study population is all producers producing crispy oil palm mushroom in the research area. The sample was determined purposively with the criterion of the producers who have been running their business for at least 5 years. Based on the criterion, there were 225 producers included as the sample. Originality/value: Originality of this study aims to provide strategic formulation to use local resources and improve the economic actors of the home industry of crispy palm tankos mushroom processing in Riau. This research is conducting a structure to the institutions involved in the development of crispy palm tankos mushroom and improving the product quality. This research contributes to the development of science, especially economic development, particularly the development of small industries.

**Keywords:** Accelerate economic improvement, Home industry, Mushroom cultivation

**Citation:** Caska. and Indrawati, H. (2019), "How to maintain sustainability of micro and small enterprises of crispy oil palm mushroom: A case study in Riau Province", *Journal of Science and Technology Policy Management*, Vol. 10 No. 2, pp. 431-456. <https://doi.org/10.1108/JSTPM-01-2018-0005>

# HYDROLOGICAL CHARACTERISTICS ANALYSIS DUE TO CHANGES IN LAND USE WITH THE SWAT MODEL IN THE KOTO PANJANG HYDROPOWER CATCHMENT AREA

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*International Journal of Civil Engineering and Technology (IJCET)*

**ISSN:** 0976-6316

**Publication Date:** February 2019

**Abstract:** This study aims to analyze the hydrological characteristics as a result of changes in land use with the help of the SWAT hydrological model and can provide recommendations on the best land use in the Koto Panjang Electric Power catchment area. Based on the results of the analysis using the SWAT hydrological model, it was seen that there were effects of land use changes in 2011 and 2014 on hydrological characteristics; yield of water (WATER YLD) of 2,413.38 mm, and 1,008, 65 mm, runoff coefficient (C) of 0.19 and 0.063 respectively, and river regime coefficient (KRS) of 11.449 and 12.212, respectively. The best land use to be developed in agricultural cultivation areas as a recommendation to maintain water stability in the Koto Panjang hydropower catchment area is a simple and complex agroforestry pattern in scenario III, which is run together with hydrological characteristics in the form; water yield (WATER YLD) of 1,038, 41, surface runoff coefficient (C) of 0.023, and river regime coefficient (KRS) of 11.13. The hydrological characteristics in scenario III are far better than 2014 land use characteristics (existing).

**Keywords:** Land Use, SWAT Model, Hydrological Characteristics, The Catchment Area Koto Panjang Hydroelectric Power

**Citation:** Nurdin, Syaiful Bahri, Zulkarnain, Sukendi, Hydrological Characteristics Analysis Due to Changes in Land Use with the Swat Model in the Koto Panjang Hydropower Catchment Area, *International Journal of Civil Engineering and Technology (IJCET)* 10(2), 2019, pp. 330–340. Available at [https://iaeme.com/Home/article\\_id/IJCET\\_10\\_02\\_036](https://iaeme.com/Home/article_id/IJCET_10_02_036)

## In silico predictive for modification of chalcone with pyrazole derivatives as a novel therapeutic compound for targeted breast cancer treatment

**Authors:** Riska Prasetiawati, Adel Zamri, Melisa Intan Barliana, Muchtaridi

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*Journal of Applied Pharmaceutical Science*

**ISSN:** 2231-3354

**Publication Date:** February 2019

**Abstract:** One of the most common triggers of breast cancer is over-expression of estrogen receptor alpha (ER $\alpha$ ). Long-term therapy of tamoxifen, an ER $\alpha$  antagonist, can reduce patient's quality of life because of its side effects. In the previous study, 2',4'-dihydroxy-6-methoxy-3,5-dimethylchalcone (ChalcEA) was isolated as an active compound from the *Eugenia aquea* leaves that is responsible for breast cancer treatment with positive ER $\alpha$ , however, the potency is lower than tamoxifen. The aim of this study is to find the best-modified chalcone that binds well with the ER $\alpha$ . Drug design approaches used in this study were Structure-Based (Autodock 4.1) and Ligand-Based (LiganScout 4.1). Prediction of absorption, distribution, and toxicity parameters was employed using preADMET and Toxtree. Interactions between tamoxifen and ER $\alpha$  were determined and the differences in the binding modes between tamoxifen and chalcones were observed. Modifina3 had pharmacophore fit score value of 76.42% and the molecular docking studies showed the lowest free energy binding ( $\Delta G$ ) of -11.07 kcal/mol while tamoxifen of -10.15 kcal/mol. Modifina3 had absorption and distribution properties with the percentage human intestinal absorption of 95.90%, CaCO<sub>2</sub> of 46.95%, and protein plasma binding of 93.55%. Toxicity prediction of Modifina3 was categorized in class III and risk assessment requires compound specific toxicity data. These results suggest that Modifina3 has the potency to be a novel therapeutic compound for potent ER $\alpha$  inhibitor targeted breast cancer.

**Keywords:** Chalcone, Modifina3, breast cancer, pharmacophore modeling, molecular docking.

**Citation:** Prasetiawati R, Zamri A, Barliana MI, Muchtaridi M. In silico predictive for modification of chalcone with pyrazole derivatives as a novel therapeutic compound for targeted breast cancer treatment. *J Appl Pharm Sci*, 2019; 9(02):020–028. <http://dx.doi.org/10.7324/JAPS.2019.90203>

## CYTOTOXIC LACTONE-TYPE DITERPENOIDS AND TRITERPENOID FROM *Vitex pubescens* Vahl

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*Rasayan Journal Chemistry*

**ISSN:** 0976-0083

**Publication Date:** July - September 2019

**Abstract:** The stem bark of *V. pubescens* Vahl has been used as a traditional medicine in Indonesia. Isolation of the stem bark of *V. pubescens* Vahl with some column chromatography techniques led to obtaining the lactone diterpenoids, neoandrographolide (1), andrographolide (2), 14-deoxyandrographolide (3), and a pentacyclic triterpenoid compound, betulinic acid (4). Neoandrographolide (1) was reported in this plant for the first time. Cytotoxic activity of compounds 1-4 showed inactivity against HeLa (MTT assay). **Keywords:** Cytotoxic, *V. pubescens* Vahl, 14-Deoxyandrographolide, Andrographolide, Neoandrographolide, Betulinic Acid..

**Keywords:** Cytotoxic, *V. pubescens* Vahl, 14-Deoxyandrographolide, Andrographolide, Neoandrographolide, Betulinic Acid.

**Citation:** L.Anwar, A. Santoni, D.P.Putra and M. Efdi, 2019. CYTOTOXIC LACTONE-TYPE DITERPENOIDS AND TRITERPENOID FROM *Vitex pubescens* Vahl. *Rasayan Journal Chemistry*, 12 (3): 1641-1645. <http://dx.doi.org/10.31788/RJC.2019.1235025>

# DAMAGE LEVEL PREDICTION OF MULTI-STORY STEEL STRUCTURE IN SUMATRA USING BACKPROPAGATION NEURAL NETWORK

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*International Journal of GEOMATE*

**ISSN:** 2186-2990

**Publication Date:** Aug 2019

**Abstract:** Sumatra is one of the Indonesia islands that is prone to earthquakes both tectonic and volcanic. The research aims to predict the damage level of a multi-story steel structure due to the earthquake in Sumatra Island using the Backpropagation Neural Network (BPNN). The study used the steel structure building that received earthquake loads from ten capital cities of the province on Sumatra Island. The structure analysis used the finite element software while the BPNN method used the MATLAB Programming. The input data were the responses of the structure such as displacement, velocity, and acceleration while the output was damage level of the steel structure model. The model of BPNN has the potential accuracy to predict the damage level of steel structural more than 95%. According to the simulation result, 98,5% data could be predicted correctly by the BPNN method, and the best Mean Squared Error (MSE) is 0.028. These results have shown that BPNN can predict the damage level of multi-story steel structure in all the capital cities of the province on Sumatra Island.

**Keywords:** Backpropagation Neural Networks, Damage Level, Earthquake Load, Mean Squared Error, Response of Structure

**Citation:** Reni Suryanita, Harnedi Maizir, Ismeddiyanto, Vindi Trisatria and Raihan Arditama, 2019. Damage Level Prediction of Multi-Story Steel Structure In Sumatra Using Backpropagation Neural Network. *International Journal of GEOMATE*, 17 (60): 37-42. Available at <https://www.geomatejournal.com/sites/default/files/articles/43-48-4687-Tran-Aug-2019-60g.pdf>

# Length-Weight Relationships and Condition Factors of the Naleh Fish, *Barbonymus gonionotus* (Pisces, Cyprinidae) Harvested from Nagan Raya Waters, Indonesia

**Authors:** A. S. Batubara, Z. A. Muchlisin, D. Efizon, R. Elvyra, M. Irham

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*Vestnik Zoologii*

**ISSN:** 2073-2333

**Publication Date:** 16 Maret 2019

**Abstract:** The objective of the present study was to examine the growth pattern and condition factors of the naleh fish, *Barbonymus gonionotus* Bleeker, 1849 in Nagan River, Nagan Raya District, Aceh Province, Indonesia. The sampling was conducted for 12 months from January 2016 to December 2016 using the explorative survey method. The sampling locations were determined based on the information given by local fishermen. A total of 761 fish samples were collected during the study. The Linear Allometric Model (LAM), Fulton's and Relative Weight conditions factors were utilized to analyze the length-weight relationship and condition factor of the fish using growth parameters. The results showed that the highest coefficient of  $b$  was recorded in December, where the  $b$  value of males were 3.82 and 4.23 for the females with the average  $b$  value of males and females were 2.92 indicating an isometric growth pattern. The average Fulton's condition factor ( $K$ ) was 2.28 and the average Relative weight ( $W_r$ ) condition factor was 100.59. It is concluded that fish had the isometric growth pattern and based on  $K$  and  $W_r$  value, the result implies that the waters are still in a good condition. Furthermore, the availability of food sources, low competitors, and low predators indicate that the aquatic environment is in a stable condition.

**Keywords:** condition, growth, environment

**Citation:** Batubara, A. S., Muchlisin, Z. A., Efizon, D., Elvyra, R. and Irham, M.. "Length-Weight Relationships and Condition Factors of the Naleh Fish, (Pisces, Cyprinidae) Harvested from Nagan Raya Waters, Indonesia" *Vestnik Zoologii*, vol.53, no.1, 2019, pp.75-82. <https://doi.org/10.2478/vzoo-2019-0008>

## Model of Motor Vehicle Gas Distribution Based on Ecology-Health, Economic, Social-Cultural and Law Factors in the City of Pekanbaru

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*Journal of Environmental Management and Tourism*

ISSN: 2068-7729

**Publication Date:** 4 Maret 2019

**Abstract:** Air pollution will make the city environment unhealthy and can interfere with human health, therefore one must strive to not increase air pollution. One way to reduce air pollution in cities is to reduce carbon emissions and build Green Open Spaces (GOS). Therefore, the purpose of this study is to create a model for distribution of motor vehicle exhaust emissions in the city of Pekanbaru. Air pollution at a certain level can be a combination of one or more pollutants, either in the form of solids, liquids or incoming gases dispersed into the air and then spread to the surrounding environment. Further analysis of environmental factors in the form of socio-cultural, economic and ecological factors are explored in this study. Other important environmental parameters in pollutant studies are ecological factors as well. While the economic factors in question is the willingness to pay, it shows the minimum cost needed to anticipate the amount of exhaust emissions caused by motorized vehicles and calculate the economic value associated with public health. The emission of gas produced by each vehicle is below the predetermined standard quality threshold, namely LH Regulation No. 12 of 2010. Although the measurement results in Table 1 do not exceed ambient air quality standards, but the increase in a trend that can cause air quality deterioration was detected. The components in these two strategies need to get more emphasis and attention so that the existence of charcoal trading business can be sustainable. The results obtained from this study are a model of exhaust gas distribution in the form of gas emission distribution contours supported by ecological data (E), economics (E) and socio-cultural (S), especially in creating recommendation models in policy making both in the form of laws, government regulations or regional regulations, which is the simplest prerequisite for motor vehicle owners when the vehicle registration is extended. This model is better known as the E2S + H model.

**Keywords:** Motor Vehicle Gas Distribution Based on Ecology- Health, Economic, Social-Cultural and Law Factors

**Citation:** DARIMI, DARIMI et al. Model of Motor Vehicle Gas Distribution Based on Ecology-Health, Economic, Social-Cultural and Law Factors in the City of Pekanbaru. *Journal of Environmental Management and Tourism*, [S.l.], v. 9, n. 7, p. 1479-1488, mar. 2019.  
[https://doi.org/10.14505/jemt.v9.7\(31\).12](https://doi.org/10.14505/jemt.v9.7(31).12)



## Perceptions of students, lecturers and staffs on establishing a smoke-free campus

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*Enfermería Clínica*

**ISSN:** 1130-8621

**Publication Date:** 5 February 2019

**Abstract:** Objective: The aim of this study was to identify the perception of students, lecturers and staffs on smoke-free campus policy. Method: Samples, including 880 students, 102 lecturers and 209 staff, were taken from all faculties in Universitas Riau using convenience sampling technique. A survey was conducted for these respondents through the distribution of questionnaires. Information pertaining to demographics, smoking and non-smoking behaviors and experiences, and perceptions regarding smoke-free campus policy was obtained. Results: It was discovered that 58% of survey groups and respondents were females, 84.3% were non-smokers, and 66.1% reported exposure to cigarette smoke in university campus every day or several days in a week. All groups reported that they were affected by cigarette smoking with no significant difference in the proportion ( $p = .540$ ). The rate of students and lecturers were similar in terms of their agreements on smoking prohibition in campus environment (81.7% and 84.3% respectively), while it was different with staff ( $p = .004$ ). Further ANOVA analysis revealed that there was a significant difference between groups regarding agreements on smoking prohibition ( $p = .007$ ) such that staff differed from lecturers and students ( $p = .014$  and  $p = .028$ ), while lecturers and students showed no significant difference ( $p = .502$ ). All groups strongly agreed on establishing a smoke-free campus (81.9% of students, 85.3% of lecturers, 77.7% of staffs) with no significant difference in their proportion ( $p = .079$ ). Conclusions: Interventions can be introduced to enhance support gotten from the staff group, however, majority of the students, lecturers and staffs were very supportive of creating a smoke-free campus. Therefore, there is a call to action for university leaders and decision makers to implement the policy.

**Keywords:** PerceptionPolicySmoke-free campus

**Citation:** Febriana Sabrian, Wasisto Utomo, 2019. Perceptions of students, lecturers and staffs on establishing a smoke-free campus. *Enfermería Clínica*, 29 (S1): 42-45.

<https://doi.org/10.1016/j.enfcli.2018.11.016>



## Population Dynamics of the Naleh Fish *Barbonymus* sp. (Pisces: Cyprinidae) in Nagan River Waters, Aceh Province, Indonesia

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*Jordan Journal of Biological Sciences*

ISSN: 1995-6673

**Publication Date:** August 2019

**Abstract:** The Naleh fish *Barbonymus* sp. is among the popular commercial fresh water fishes found in Indonesia; however, the population has drastically declined over the past decade. Necessarily, a conservation program needs to be established to gather information on the population dynamics to overcome this problem. The objective of this study is to analyze the population dynamics of the Naleh fish in Nagan River. The survey was conducted from January to December, 2016. In totality, three sampling locations were selected based on information from local fishermen. The Naleh fish was sampled using gillnets (mesh size 0.5 and 1.0 inches) and casting nets (mesh size 1.5 and 2.0 inches). A total of 761 fish samples were collected for the study. The von Bertalanffy (von Bertalanffy growth function) growth parameters were utilized to analyse the population dynamics of *Barbonymus* sp., using FISAT II (FAO-ICLARM Stock Assessment Tools-II). The results show the following population dynamics: Asymptotic length ( $L_{\infty}$ ) was 160.07mm, coefficient of growth ( $K$ ) = 0.73 year<sup>-1</sup>, growth performance index ( $\phi$ ) = 4.27 year<sup>-1</sup>, time at which length equals zero ( $t_0$ ) = -0.022 year<sup>-1</sup>, growth and age ( $L_t$ ) = 2.55 year<sup>-1</sup>, and optimum length of catch ( $L_{opt}$ ) = 89.9mm. In addition, the total mortality rate ( $Z$ ) was 2.802 year<sup>-1</sup> with a natural mortality rate ( $M$ ) = 0.921 year<sup>-1</sup>, fishing mortality rate ( $F$ ) = 1.88 year<sup>-1</sup>, and exploitation rate ( $E$ ) = 0.67 year<sup>-1</sup>. The conclusion has been drawn based on the E value analysis which displays that the exploitation rate of the Naleh fish has surpassed the sustainable limit based on the value of  $L_{\infty}$ ,  $K$ ,  $t_0$ ,  $L_t$ ,  $L_{opt}$  of the dominant one-year-old fishes caught..

**Keywords:** von Bertalanffy, Growth, Dynamics, *Barbonymus*, Nagan Raya waters

**Citation:** Agung S. Batubara, Deni Efizon, Roza Elvyra, Syamsul Rizal and Zainal A. Muchlisin, 2019. Population Dynamics of the Naleh Fish *Barbonymus* sp. (Pisces: Cyprinidae) in Nagan River Waters, Aceh Province, Indonesia. *Jordan Journal of Biological Sciences*, 12 (3): 361-366. Available at <http://jjbs.hu.edu.jo/files/vol12/n3/Binder12n3.pdf>

## Does exclusive breastfeeding correlate with infant's early language milestone?

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*Enfermería Clínica*

**ISSN:** 1130-8621

**Publication Date:** 20 February 2019

**Abstract:** Objective: This study aims to assess the correlation between the exclusive breastfeeding status with infant's early language milestone. Method: The design of this study is the correlational study with cross sectional method. This study examined 57 infants who lived around Harapan Raya Community Health Center Pekanbaru. The age of the infants was 6 months old during the data collection. The breastfeeding status was examined by using the questionnaire. The infants early language development was assessed by using the questionnaire which was modified from ELM Scale 2 (Early Language Milestone Scale 2). The data was analyzed by using the chi square or Fisher exact test to assess the correlation of exclusive breastfeeding status with each milestone on the 6 months infants language development. Results: The study found that exclusive breastfeeding status has correlated significantly with two language milestones which are Auditory Expressive 6 (AE 6) the infant ability to produce mono babbling (0.044) and Auditory Receptive 6 (AR 6) the infant inhibit to 'no' (0.011). Conclusions: This study found that exclusive breastfeeding has a correlation in infant language milestone. However due to small sampling size, further study needed to be done to assess the effect of breastfeeding for infants with the bigger scale of population.

**Keywords:** BreastfeedingEarly language developmentELM Scale 2Infant

**Citation:** Riri Novayelinda, Nafia Rahmadhani, OswatiHasanah, 2019. Does exclusive breastfeeding correlate with infant's early language milestone? *Enfermería Clínica*, 29 (S1): 49-51.

<https://doi.org/10.1016/j.enfcli.2019.01.002>



## Educational Institution Performance Measurement based on Miles and Huberman Models using Balanced Scorecard Approach

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*Journal of Management Systems*

**ISSN:** 1582-2559

**Publication Date:** June 2020

**Abstract:** The purpose of this study is to design a model performance appraisal for educational institutions by using Balanced Scorecard approach. This study uses qualitative research with case study approach. Qualitative research is research that aims to understand the phenomenon of the object of study by the words thoroughly and descriptive. The method used in this research is a case study in which researchers are trying to design a performance appraisal in Labor SMK Pekanbaru, Riau Province, Indonesia using a balanced scorecard approach. After obtaining sufficient data, they were differentiated to primary data and secondary data sources. This study uses primary data source. Primary data is data collected by researchers directly from the data source at the sites. Primary data collection techniques may include observation, interviews, questionnaires, or documentation. This study uses two data collection techniques; semistructured interviews and use of documents. Data analysis was carried out during the research process, i.e. before the analysis of field data collection, the analysis prior to the collection of field data on previous research or secondary data that will be used to determine the focus of research and analysis while on location research models Miles and Huberman. Based on the results of research and discussion concluded that: The measurement of school performance from the customer perspective by creating learner satisfaction as the main customer of the school, so that students can increase intelligence. Indicators for this measure is a national exam passing rate above 80%, and non-academic achievement, and the number of graduates who go to college. The performance measurement of the goal business process perspective is the fulfillment of curriculum standards increased learning effectiveness indicator is the fulfillment of the composition of local content and national cargo. The performance measurement of learning and growth perspective the goal is increasing the quality of teachers, availability of access to information, the establishment of professional educational institutions. Indicators for measuring this performance is meeting the needs of human resources, training of human resources, as well as satisfaction and alignment of human resources. The performance measurement of the financial perspective is to fulfill the financing needs. It can be seen from the utilization of the budget efficiently and effectively, raising adequate funds.

**Keywords:** measuring performance; educational institutions; balance scorecard.

**Citation:** Gusnardi, Iskandar Muda, 2019. Educational Institution Performance Measurement based on Miles and Huberman Models using Balanced Scorecard Approach. *Journal of Management Systems*, 20 (170): 32-41. Available at [https://www.calitatea.ro/en/arhiva/2019/QAS\\_Vol.20\\_No.170\\_June.2019.pdf](https://www.calitatea.ro/en/arhiva/2019/QAS_Vol.20_No.170_June.2019.pdf)

## Effect of *Lactobacillus casei* subsp. *casei* R-68 Isolated from Dadih on the Procarcinogenic Enzyme Activity and Fecal Microflora Count of Rats Challenged with Pathogenic Bacteria

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*International Journal on Advanced Science, Engineering and Information Technology*

**ISSN:** 2088-5334

**Publication Date:** 2019

**Abstract:** The human digestive tract is a complex ecosystem that may contain bacteria, yeast, and other microflora, which have harmful and beneficial effects on the host. Species of *Lactobacillus* and *Bifidobacterium* are most commonly used as probiotics. *Lactobacillus casei* subsp. *casei* R-68 (LCR-68) isolated from dadih, traditional fermented buffalo milk from West Sumatera has the potential to be used as probiotic. The purposes of the present study were to evaluate the ability of strain LCR68 to inhibit the growth of the pathogenic bacteria *Listeria monocytogenes* FNCC-0156 and *Escherichia coli* FNCC-19 and reduce the activity of fecal mutagen enzymes in Wistar rats. The in vivo test used 25 male Wistar rats with an average weight of 174 - 176 g. This study consisted of five groups of treatment with five rats of each group. The results show a significant increase in the growth in all groups, although a significantly lower weight gain was observed in rats challenged with *Listeria monocytogenes* and fed fermented milk LCR-68. The counts of aerobic and anaerobic microbes were the same in all groups. Significantly higher counts of lactic acid bacteria were determined after the application of fermented milk LCR68. Significantly lower counts of *Escherichia coli* were also observed after the application of fermented milk LCR68. The presence of LCR-68 in fermented milk reduced the activity of  $\beta$ -glucuronidase and  $\beta$ -glucosidase significantly in the feces of Wistar rats. Therefore, the strain R-68 as a probiotic is expected to be able to prevent the formation of procarcinogenic compounds into carcinogens that cause cancer in the digestive tract.

**Keywords:** dadih; *Lactobacillus casei*; pathogenic bacteria; in vivo test; wistar rats.

**Citation:** Usman Pato, Yusmarini Yusuf and Yudi Prasetya Nainggolan, "Effect of *Lactobacillus casei* subsp. *casei* R-68 Isolated from Dadih on the Procarcinogenic Enzyme Activity and Fecal Microflora Count of Rats Challenged with Pathogenic Bacteria," *International Journal on Advanced Science, Engineering and Information Technology*, vol. 9, no. 5, pp. 1656-1662, 2019. [Online]. Available: <http://dx.doi.org/10.18517/ijaseit.9.5.8812>



## Self-caring in Islamic culture of Muslim persons with ESRD and hemodialysis: An ethnographic study

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*Enfermería Clínica*

ISSN: 1130-8621

**Publication Date:** 4 February 2019

**Abstract:** Objective: Culture and religion may influence self-caring of persons with End Stage Renal Disease on hemodialysis therefore the study aimed to explore self-caring in an Islamic culture of Muslim persons living with End Stage Renal Disease undergoing hemodialysis. Method: This study is a qualitative ethnographic study. Purposive sample of 4 females and 8 males of Muslims on hemodialysis aged between 31 and 62 years old and length of undergoing hemodialysis between 11 months and 9 years 3 months were recruited by using several inclusion criteria. The inclusion criteria were being diagnosed End Stage Renal Disease and having known the diagnosis, having been undergoing hemodialysis at least 6 months, and never change treatment to peritoneal analysis or renal transplantation. Exclusion criteria applied in this study were hemodialysis persons with severe hyperventilation and edema, and loss of consciousness. Data were collected by using in-depth interviews, participant observation, and field note takings. Data analysis used the ethnographic data analysis method. Results: Findings of the study revealed four categories that reflect meanings of and how informants care for themselves and how Islamic teachings and cultural values influences them. The categories emerged from the study are meaning of self-caring, actions in self-caring, Islamic influences to self-caring living and cultural influences to self-caring living. Conclusions: Muslims on hemodialysis performed any activities or actions that reflected their efforts to perform their self-caring in order to survive or be healthy based on their own perspective. Islamic teachings were used as guidance in selecting treatments and performing their self-caring. Family members, nurses and other healthcare professionals should consider Islamic teachings in assisting and delivering care for Muslims on hemodialysis.

**Keywords:** Ethnography, Muslims, Hemodialysis, Qualitative, Self-caring

**Citation:** Bayhakki, Urai Hatthakit, Pleonpit Thaniwatthananon, 2019. Self-caring in Islamic culture of Muslim persons with ESRD and hemodialysis: An ethnographic study. *Enfermería Clínica*, 29 (1): 38-41. <https://doi.org/10.1016/j.enfcli.2018.11.015>

## Some Identities of Fibonacci-Like Based on Lucas Numbers

**Authors:** Ulfa Hasanah, Sri Gemawati, Syamsudhuha

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*International Journal of Mathematics Trends and Technology*

**ISSN:** 2231 - 5373

Publication Date: February 2019

**Abstract:** Fibonacci sequence is defined by  $F_n = F_{n-1} + F_{n-2}$  for  $n \geq 2$  with  $F_0 = 0$  and  $F_1 = 1$ . Lucas sequence is defined by  $L_n = L_{n-1} + L_{n-2}$  for  $n \geq 2$  with  $L_0 = 2$  and  $L_1 = 1$ . While Fibonacci-Like sequence is a generalized of Fibonacci and Lucas Number that defined by  $S_n = S_{n-1} + S_{n-2}$  for  $n \geq 2$  with  $S_0 = 2$  and  $S_1 = 1$ . In this paper, we determine some identities of Fibonacci-Like number based on Lucas number then Fibonacci-Like is just defined by Lucas number. The new identities of Fibonacci-Like can be proved by Binet's formula.

**Keywords:** Fibonacci, Fibonacci-Like, Lucas, Binet's formula

**Citation:** Ulfa Hasanah, Sri Gemawati, Syamsudhuha, 2019. Some Identities of Fibonacci-Like Based on Lucas Numbers. *International Journal of Mathematics Trends and Technology*, 65 (2): 37-40. <https://www.ijmttjournal.org/Volume-65/Issue-2/IJMTT-V65I2P508.pdf>

## Extract Fault Signal via DWT and Penetration of SVM for Fault Classification at Power System Transmission

**Authors:** Azriyenni Azhari Zakri, Syukri Darmawan, Jafaru Usman, Iswadi Hasyim Rosma, Boy Ihsan

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*IEEE Xplore Digital Library*

**ISSN:** 1812-5662

**Publication Date:** August 2019

**Abstract:** Power transmission lines are extremely important for the power system to deliver energy of electricity from the plant to the load. The short circuit of fault often occurs in the transmission line and may lead to disconnecting the power supply to the load. This study implements a hybrid technique that is Discrete Wavelet Transformation (DWT) and Support Vector Machine (SVM) for classification of fault in the transmission line. The DWT was created to extract the detailed signal of transient D8 and D9 (order of 4) at 50 kHz for sampling frequency. The value of Root Mean Square (RMS) will be determined by the coefficients D8 and D9 for training and test data using SVM technique. Furthermore, SVM is utilized to detect the fault for each phase and the ground is discovered in the type of fault. The SVM technique has been run using parameter C and kernel scale to achieve the great results of classification of the fault. Type of simulating fault has a variation of location of the fault, fault of resistance and initial angle. The training and test data run for the Test System of Riau, Indonesia. The test result for the classification of fault reaches the highest accuracy of 100%.

**Keywords:** DWT, fault, SVM, detection, classification

**Citation:** Azriyenni Azhari Zakri, Syukri Darmawan, Jafaru Usman, Iswadi Hasyim Rosma, Boy Ihsan, 2019. Extract Fault Signal via DWT and Penetration of SVM for Fault Classification at Power System Transmission. *IEEE Xplore Digital Library*, 2 (2): 191-196. <https://doi.org/10.1109/ICon-EEI.2018.8784320>



## **Healthy Environmental Management Strategy in the Industrial Processing of Patin Fish**

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*International Journal of Oceans and Oceanography*

**ISSN:** 0973-2667

**Publication Date:** 2019

**Abstract:** In Kampar District there are numerous catfish processing industries which produce salt, and fillet fish as derivative products. The processing activities can be ascertained to produce large solid waste ranging from 20% to 67% in the form of meat, bone, fat, and viscera. Fish processing industry owners need to understand that the waste of these animals can have a negative impact on the environment if not properly managed. Similarly, it can be of great benefit to the economy if correctly processed. This study aims to obtain a healthy environmental management strategy through the application of clean production methods in handling solid waste produced by the catfish processing industry. The research method used is the survey and experiment approach. It is observed that the existing conditions used in handling the solid waste is concentrated on internal and external factors which influences the preparation of healthy environmental management strategies. An experiment is carried out to determine the economic values of the solid waste through the application of clean manufacturing techniques. The results show that the products manufactured from the solid waste are surimi, fish oil, bone meal and innards have quality that meets SNI standards. Furthermore, the results of the SWOT analyses recommend a strategy based on the SWOT matrix with a 3.3 score. This technique utilizes clean production methods to produce economic value products.

**Keywords:** Healthy environmental management, processing strategies solid waste, and clean production,

**Citation:** Syahrul, Dewita, B Isyandi dan Suwondo, 2019. Healthy Environmental Management Strategy in the Industrial Processing of Patin Fish. *International Journal of Oceans and Oceanography*, 13 (1): 73-80. Available at [http://www.ripublication.com/ijoo19/ijoo13n1\\_06.pdf](http://www.ripublication.com/ijoo19/ijoo13n1_06.pdf)



## The Development of Nostalgia Tourism in Yogyakarta, Indonesia

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*International Journal of Engineering & Technology*

**ISSN:** 2227-524X

Publication Date: 2019

**Abstract:** Nostalgia is influential for the tourism industry as it revives the memories of the past. The hamlet of a very well-known gatekeeper of Merapi Volcano, Mbah Maridjan, was frequently visited by visitors as soon as the volcano eruption claimed his life. However, the instant tourist object needs an established formula to make it sustainable. Therefore, this study explored the tourism potential in the tourist object to formulate a development planning based on the concept of nostalgia tourism. The data, collected through interviews, field observation, and document review, were analyzed inductively. The analysis results suggest that the memorial site deserves to be the main attraction, which may be developed through a proposed framework (i.e., determination of the key attraction, identification of the tourism potential, and tourism development planning). This study contributes to the recent limited literature on the nostalgia tourism and to the concept's application to a tourism development, especially, in Indonesia.

**Keywords:** Tourism development, nostalgia tourism, local participation, Indonesia

**Citation:** Nurlena, Musadad, 2019. The Development of Nostalgia Tourism in Yogyakarta, Indonesia. *International Journal of Engineering & Technology*, 8 (1): 430-433.  
<http://doi.org/10.14419/ijet.v8i1.9.26702>

## HIV/AIDS health education toward enhancing knowledge and HIV prevention efforts in household wife

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*Enfermería Clínica*

**ISSN:** 1130-8621

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**Abstract:** Objectives: this study aimed to identify the influence of health education about HIV/AIDS towards enhancing knowledge and HIV prevention efforts in household wives. Method: A quasy experimental design with pretest and posttest nonequivalent control group study was conducted among housewives in Rumbai Pekanbaru, Riau Province from March to August 2018. A systematic random sampling technique was used to select 144 housewives. A total of 72 intervention groups and 72 control groups. The intervention group was given health education with videos and leaflets. A questionnaire that it tested for validity and reliability has been applied. The Paired-Samples T-Test and Independent Samples T-Test were applied to analyze data. Results: There were differences in pretest and posttest preventive knowledge and prevention behavior scores on HIV in the intervention group (p-value = 0.000). However, there was no significant difference in prevention behavior in the control group (p-value = 0.0120). Based on this results, it can be concluded that health education can increase the knowledge and behavior of prevention of HIV/AIDS in household wives (p-value = 0.000). Recommendation: The health education on HIV/AIDS counseling and testing are key interventions for reducing number of HIV/AIDS cases. It is recommended that housewives to conduct HIV status on health services, and for HIV program holders are expected to increase the frequency of health education by using attractive media and VCT mobile services in order to reach more housewives.

**Keywords:** AIDS, Education, HIV, Knowledge, Leaflets, Prevention, Videos, Women

**Citation:** Yulia Irvani Dewi, Yufitriana Amir, Fathra Annis Nauli, 2019. HIV/AIDS health education toward enhancing knowledge and HIV prevention efforts in household wife. *Enfermería Clínica*, 29 (S1): 1-4. <https://doi.org/10.1016/j.enfcli.2018.11.005>



## The effectiveness of simulation health education to mother breastfeeding skill between two groups in rural area of Riau, Indonesia

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*Enfermería Clínica*

**ISSN:** 1130-8621

**Publication Date:** 31 January 2019

**Abstract:** Objective: To evaluate the effect of health education by simulation for improving breastfeeding mother's skill in rural area in Riau. Methods: This study was quasi experimental posttest-only control design. Purposive sampling was used to recruit 26 mothers who have breastfeeding experience in Posyandu (child and mothers health post) in Perambahan village as rural area in Riau, Indonesia. Thirteen respondents as intervention group and 13 respondents as control group in this study. Two weeks after implementing the breastfeeding educational through simulation technique in the intervention group, observed checklist to assess mother skill was completed by researcher. Results: Fifty-three point eight percent of respondents were 20–35 years old, 80.8% mothers education level were low education in junior and senior high school level and 96.2% of them did not have any formal job outside at the home. There was a significant of mean difference in the breastfeeding mother's skill between intervention and control groups, 7.0 and 4.5 respectively ( $p < 0.01$ ). Conclusions: Health education technique was important thing to increase the breastfeeding mother's skill. The simulation is appropriate as one of the methods in health education for mothers.

**Keywords:** Simulation health education Breastfeeding skill Rural mothers

**Citation:** Agrina, Febriana Sabrian, Reni Zulfitri, Arneliwati, Herlina, Ari Pristiana Dewi, 2019. The effectiveness of simulation health education to mother breastfeeding skill between two groups in rural area of Riau, Indonesia. *Enfermería Clínica*, 29 (1): 9-12. <https://doi.org/10.1016/j.enfcli.2018.11.006>

## Hydrological Characteristics Analysis Due To Changes In Land Use With The Swat Model In The Koto Panjang Hydropower Catchment Area

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*International Journal of Civil Engineering and Technology (IJCET)*

**ISSN:** 0976-6316

**Publication Date:** February 2019

**Abstract:** This study aims to analyze the hydrological characteristics as a result of changes in land use with the help of the SWAT hydrological model and can provide recommendations on the best land use in the Koto Panjang Electric Power catchment area. Based on the results of the analysis using the SWAT hydrological model, it was seen that there were effects of land use changes in 2011 and 2014 on hydrological characteristics; yield of water (WATER YLD) of 2,413.38 mm, and 1.008, 65 mm, runoff coefficient (C) of 0.19 and 0.063 respectively, and river regime coefficient (KRS) of 11.449 and 12.212, respectively. The best land use to be developed in agricultural cultivation areas as a recommendation to maintain water stability in the Koto Panjang hydropower catchment area is a simple and complex agroforestry pattern in scenario III, which is run together with hydrological characteristics in the form; water yield (WATER YLD) of 1.038, 41, surface runoff coefficient (C) of 0.023, and river regime coefficient (KRS) of 11.13. The hydrological characteristics in scenario III are far better than 2014 land use characteristics (existing).

**Keywords:** Land use, SWAT model, Hydrological characteristics, the catchment area Koto Panjang Hydroelectric Power.

**Citation:** Nurdin, Syaiful Bahri, Zulkarnain, Sukendi, Hydrological Characteristics Analysis Due to Changes in Land Use with the Swat Model in the Koto Panjang Hydropower Catchment Area, *International Journal of Civil Engineering and Technology (IJCET)* 10(2), 2019, pp. 330–340. Available at <http://www.iaeme.com/IJCET/issues.asp?JType=IJCET&VType=10&IType=2>

# The Factors of Affect Indoor Air Quality Inpatient at Private Hospital, Pekanbaru, Indonesia

**Authors:** Endang Purnawati Rahayu, Zulfan Saam, Sukendi Sukendi, Dedi Afandi

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*Open Access Maced J Med Sci*

**ISSN:** 1857-9655

**Publication Date:** 6 Agustus 2019

## Abstract:

**BACKGROUND:** Air quality in inpatient rooms influenced by several factors. Room not qualified health can cause disease and can spread through equipment, the material used, food and drink, health workers, patients and visitors. AIM: The purpose of this study is to know the factors that affect air quality in the inpatient room at a private hospital, Pekanbaru.

**METHODS:** The research is quantitative analytic by design cut latitude study. Samples from 120 nurses were selected overall sampling. The data do with the measurement directly, interviews and observation using a questionnaire. Data analysed by using the chi-square with significance p-value less than 0.05.

**RESULTS:** The quality of the air in inpatient rooms has met the standard. Variables are affecting air quality in inpatient rooms in the hospital significantly with p-value more than 0.05 is temperature, dust, the germ, density occupancy, sanitation room. While the moisture, standard operating procedures and behaviour is not significant.

**CONCLUSION:** The factors that significantly affect indoor air quality inpatient hospitalisation are temperature, dust, germ numbers, occupancy density, room sanitation.

**Keywords:** The quality of air in the room, Hospital, Temperature, Dust

**Citation:** Endang Purnawati Rahayu, Zulfan Saam, Sukendi Sukendi, Dedi Afandi, 2019. The Factors of Affect Indoor Air Quality Inpatient at Private Hospital, Pekanbaru, Indonesia. *Open Access Maced J Med Sci*, 7 (13): 2208-2212. <https://doi.org/10.3889/oamjms.2019.605>

## Identification and analysis of foot sensitivity and blood glucose levels post Apiyu massage

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*Enfermería Clínica*

**ISSN:** 1130-8621

**Publication Date:** March 2019

**Abstract:** Objective: To measure foot sensitivity and blood glucose levels among diabetic patients as measures of improvement pre and post Apiyu massage. Method: Quasi experimental research was employed to measure foot sensitivity and blood glucose levels before and after APIYU massage for fifty-five (55) purposive sampled consented adult patients with diabetes from Rejosari and Langsat Health Centers in Pekanbaru Riau, Indonesia. The intervention was given about three times in a week for thirty (30) minutes. Result: Revealed that there were significant differences between measures before and after massage using the Apiyu tool on: (a) mean sensitivity levels for pre-tests and post-tests on the right foot (pre-test 9.49, post-test 9.64; p-value = 0.011) and the left foot (pre-test 9.55, post-test 9.80; p-value = 0.004), and (b) blood glucose levels (pre-test 271.6, post-test 220.7; p-value = 0.001). Conclusion: The APIYU massage was proven effective for improving foot sensitivity and reducing blood glucose among diabetic patients.

**Keywords:** Alat Pijat Kayu (APIYU) Blood glucose Foot sensitivity Diabetes mellitus (DM)

**Citation:** Yesi Hasneli, Yufitriana Amir, 2019. Identification and analysis of foot sensitivity and blood glucose levels post Apiyu massage. *Enfermería Clínica*, 29 (1): 19-22.

<https://doi.org/10.1016/j.enfcli.2018.11.009>

## The first record of grass-like fern, *Schizaea dichotoma* (L.) J. Sm. (Schizaeaceae) from Lingga Island, Indonesia: Its morphological, anatomical and palynological study

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**Corresponding Author:** Nery Sofiyanti, Universitas Riau, Pekanbaru, Indonesia

*Biodiversitas*

ISSN: 2085-4722

**Publication Date:** 2019

**Abstract:** Sofiyanti N, Iriani D, Fitmawati. 2019. The first record of grass-like fern, *Schizaea dichotoma*(L.) J. Sm.(Schizaeaceae) from Lingga Island, Indonesia: Its morphological, anatomical and palynological study. *Biodiversitas* 20: 2651-2660. *Schizaea dichotoma*(L.) J.Sm. is one of fern species from Family Schizaeaceae. This species is grass-like, dimorphic with fan-shaped fronds, and well-known with local name Rumput Merak. The first record of this species is reported from Lingga Island, Riau Islands Province, Indonesia. The aim of this study was to examine the morphology, anatomy and spore characteristics of this fern. This study had been carried from June to December 2017. Samples were collected using exploration method, documented, and prepared for herbarium specimen. In this study, we examined the morphological characters, anatomical characters of rhizome, stipes, and pinnae of both fertile and sterile fronds, as well as spore feature. The anatomical preparations were carried out using paraffin method, while spore specimens using acetolysis method. The anatomy of rhizome, stipes, and pinnae, as well as spore characters, were then observed and documented using digital microscope Celeron. *S. dichotoma* is dimorphic fern with grass-like habit, fan-shaped laminae that repeatedly forked end in sorospore in fertile frond. The rhizome has vascular bundle surrounded by star-shaped sclerenchymatous layer. The cross-section of stipes of both fertile and sterile fronds are "M" shaped with a vascular bundle located in the dorsal side, while the leaves have a vascular bundle in the middle of midrib. The type of vascular bundles and stele of those organs are similar, i.e. collateral closed and protostele. We observed the Casparian strip in the endodermis layer of rhizome, stipes, and leaves, as well as at cortex and among the xylem. The spore of *S. dichotoma* is monolete and large spore class (ca.  $59.5 \pm 2.4 \times 35.86 \pm 2.01 \mu\text{m}$ ).

**Keywords:** Fern taxonomy, Riau Islands, rumput merak, spore

**Citation:** Nery Sofiyanti, Dyah Iriani, Fitmawati, 2019. The first record of grass-like fern, *Schizaea dichotoma* (L.) J. Sm. (Schizaeaceae) from Lingga Island, Indonesia: Its morphological, anatomical and palynological study. *Biodiversitas*, 20 (9): 2651-2660. <https://doi.org/10.13057/biodiv/d200930>



## Influence Of Skim Milk And Sucrose On The Viability Of Lactic Acid Bacteria And Quality Of Probiotic Cocoghurt Produced Using Starters

**Authors:** Usman Pato, Yusmarini Yusuf, Ivan Pratama Panggabean, Nurul Putri Handayani, Nadia Adawiyah and Arif Nanda Kusuma

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*Pakistan Journal of Biotechnology*

ISSN: 2312-7791

**Publication Date:** 25 Maret 2019

**Abstract:** Cocoghurt is made from the main raw material of coconut milk. In this study, the effect of skim milk and sucrose on the viability of lactic acid bacteria (LAB) was examined together with the impact on the quality of cocoghurt produced. *Lactobacillus casei* subsp. *casei* R-68 and *Streptococcus thermophilus* were used as starter cultures. The study was carried out experimentally using a Completely Randomized Design with the variations of both skim milk and sucrose concentrations. The data found were statistically analyzed using ANOVA and then continued with DNMRT at 5% level. Parameters observed were total LAB, pH, total lactic acid, total solid, protein, moisture and ash contents as well as total fat and fatty acid profile. The results showed that the addition of skim milk (2.5%) and sucrose (5.0%) produced cocoghurt which met the quality standard. Cocoghurt produced using skim milk 5.0% and sucrose 7.5% had the characteristic of being slightly white, tasting sour and sweet, with an aroma of coconut milk; the texture was rather thick and preferred by the panelists. Probiotic cocoghurt showed that fatty acid profiles were dominated by medium-chain saturated fatty acid 72.90% followed by long-chain saturated fatty acid 13.11% and unsaturated fatty acid 7.28%.

**Keywords:** Cocoghurt, skim milk, *Lactobacillus casei*, coconut milk, viability

**Citation:** Pato, U., Yusuf, Y., Panggabean, I. P., Handayani, N. P., Adawiyah, N., & Kusuma, A. N. (2019). Influence Of Skim Milk And Sucrose On The Viability Of Lactic Acid Bacteria And Quality Of Probiotic Cocoghurt Produced Using Starters. *Pakistan Journal of Biotechnology*, 16(1), 13–20. <https://doi.org/10.34016/pjbt.2019.16.1.3>





## The Government Readiness For E-Planning Implementation To Development Planning In Indonesia With Budget Availability As Intervening Variable

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*International Journal of Scientific & Technology Research*

ISSN: 2277-8616

**Publication Date:** April 2019

**Abstract:** This research aims to determine the supporting factors of the government readiness for e-planning implementation to the district/city development planning in Indonesia. The variables used in this research were central government support, the head of the region support, and legislative support as independent variables (X), effectiveness of e-planning implementation as dependent variable (Y), and budget availability as intervening variable. The data of this research were obtained using questionnaires. The questionnaires that could be further processed were as much as 182 questionnaires. The hypothesis was analyzed using Structural Equation Model (SEM) with the help of SmartPLS software3.0. The results of this research are the central government support has positive effect on the budget availability. The head of the region support has no effect on budget availability. Legislative support positively affect the budget availability. Budget availability has positive effect on the effectiveness of e-planning implementation.

**Keywords:** Central Government Support, the Head of The Region Support, Legislative Support, Budget Availability and Effectiveness of E-Planning Implementation.

**Citation:** Mudrika Alamsyah Hasan, Amir Hasan, Gusnardi, Iskandar Muda, 2019. The Government Readiness For E-Planning Implementation To Development Planning In Indonesia With Budget Availability As Intervening Variable. *International Journal of Scientific & Technology Research*, 8 (4): 174-179. Available at <https://www.ijstr.org/paper-references.php?ref=IJSTR-0419-20093>

## Microwave Assisted Synthesis and Evaluation of Toxicity and Antioxidant Activity of Pyrazoline Derivatives

**Authors:** Jasril, Hilwan Yuda Teruna, Aisyah, Nurlaili, and Rudi Hendra

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*Indonesian Journal of Chemistry*

**ISSN:** 1411-9420

**Publication Date:** 2019

**Abstract:** Four pyrazoline analogues, 3-(4-methoxyphenyl)-5-naphthalene-1-yl-1-phenyl-4,5-dihydro-pyrazole (3), 3-(4-methoxyphenyl)-5-naphthalene-1-yl-4,5-dihydro-1H-pyrazole (4), 3-(2-methoxyphenyl)-5-naphthalene-1-yl-1-phenyl-4,5-dihydro-pyrazole (5) and 3-(2-methoxyphenyl)-5-naphthalene-1-yl-4,5-dihydro-1H-pyrazole (6) were synthesized via intermolecular cyclization between substituted chalcones and hydrazine derivatives. The compounds were synthesized in two steps. In the first step, the chalcones were synthesized by Claisen-Schmidt reaction. In the second step, they were cyclized with some hydrazine derivatives to form pyrazolines by using glacial acetic acid as a catalyst and assisted by microwave irradiation. The toxicity analysis showed that compound 1 and 2 were toxic with LC<sub>50</sub> values of 11.47 and 0.97 µg/mL, respectively. Furthermore, only compound 6 showed high antioxidant activity by using DPPH with an IC<sub>50</sub> value of 4.47 µg/mL.

**Keywords:** microwave-assisted synthesis; chalcone; pyrazoline, toxicity; antioxidant activity

**Citation:** Jasril, Hilwan Yuda Teruna, Aisyah, Nurlaili, and Rudi Hendra, 2019. Microwave Assisted Synthesis and Evaluation of Toxicity and Antioxidant Activity of Pyrazoline Derivatives. *Indonesian Journal of Chemistry*, 20: 173-181. <https://dx.doi.org/10.3923/jas.2020.173.181>

## Microwave-Assisted Synthesis, In Silico Studies And In Vivo Evaluation For Antidiabetic Activity Of New Brominated Pyrazoline Analogues

**Authors:** Neni Frimayanti, Jasril Jasril, Ihsan Ikhtiarudin, Syilfia Hasti, Anisa Indah Reza

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*Thai Journal of Pharmaceutical Sciences*

ISSN: 1905-4637

**Publication Date:** 2019

**Abstract:** Introduction: Pyrazolines have played crucial role in the drug discovery researches and have been used widely as an important pharmacophores or intermediates for synthesis of bioactive compounds. Objective: The aim of this work is to explore the potential of new brominated pyrazoline analogues as antidiabetic. Methods: Synthesis of brominated pyrazoline analogues have been conducted under microwave irradiation, in silico studies was performed using AutoDock 1.5.4 software packages and Nano scale MD Program 2.9, and the animal used in the in vivo evaluation is male albino mice (*Mus musculus* L.). Result: The in silico studies for antidiabetic activity showed that compound 3a is the most active compound and furthermore it can be developed as new active agents for antidiabetic. The in vivo evaluation showed that compound 3a have a good ability to increase the percentage of change in blood glucose level and weight loss prevention, decreasing of the drinking water and also decreasing of the urine volume, significantly ( $p < 0.05$ ) compared than negative control with dosage of 25, 50 and 100 mg/Kg of the body weight. Then, the oral administrations of compound 3a had no effect on damage that interfered the functional process of heart, liver and kidney of treated diabetic mice in the given dosages. Conclusion: This strategy reflects a logical progression for early stage drug discovery that can be used to successfully identify drug candidates for antidiabetic agents.

**Keywords:** Antidiabetic activity, brominated pyrazolines, in vivo evaluation, microwave-assisted synthesis, molecular docking studies, molecular dynamic simulation

**Citation:** Neni Frimayanti, Jasril Jasril, Ihsan Ikhtiarudin, Syilfia Hasti, Anisa Indah Reza, 2019. Microwave-assisted synthesis, in silico studies and in vivo evaluation for antidiabetic activity of new brominated pyrazoline analogues. *Thai Journal of Pharmaceutical Sciences*, 43 (2): 83-89. Available at <http://www.tjps.pharm.chula.ac.th/ojs/index.php/tjps/article/view/849>

## Morphology, palynology, and stipe anatomy of four common ferns from Pekanbaru, Riau Province, Indonesia

**Authors:** Nery Sofiyanti, Dyah Iriani, Fitmawati, Afni Atika Marpaung

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*Biodiversitas*

**ISSN:** 2085-4722

**Publication Date:** January 2019

**Abstract:** SofiyantiN, Iriani D, Fitmawati, Marpaung AA.2019. Morphology, palynology, and stipe anatomy of four common ferns from Pekanbaru, Riau Province, Indonesia. *Biodiversitas* 20:327-336. The fern explorations had been conducted in Pekanbaru, Riau Province from 2013 to 2017. The objectives of this study were to characterize the morphological characters, to examine the spore features and stipe anatomy characters of four common ferns from Pekanbaru. The specimens were collected from the fields using the exploration method from 21 study sites from 10 sub-districts. The spores were then observed using a digital microscope. A total of four fern species were known as the most common fern species in this region, i.e., *Dicranopteris linearis*, *Stenochlaena palustris*, *Nephrolepis biserrata*, and *Davallia denticulata*. This study examined the morphology, palynology and stipe anatomy of these four common ferns from Pekanbaru, Riau. The anatomical preparation was conducted using paraffin method while spore preparation using acetolysis method. We found dimorphic ferns (*Stenochlaena palustris* and *Davallia denticulata*) and monomorphic ferns (*Dicranopteris linearis* and *Nephrolepis biserrata*). The vascular bundle of stipes of four species examined is similar, i.e., amphi-cribral concentric, however, the vascular bundles within the species varies in size. We also observed similar type of stele, atactostele, among the species. The spore features found in this study were monolete and trilete with prolate and subprolate shape. The result of this study supports the anatomical data of the examined species.

**Keywords:** Dimorphic, monolete, monomorphic, trilete

**Citation:** Nery Sofiyanti, Dyah Iriani, Fitmawati, Afni Atika Marpaung, 2019. Morphology, palynology, and stipe anatomy of four common ferns from Pekanbaru, Riau Province, Indonesia. *Biodiversitas*, 20 (1): 327-336. <https://doi.org/10.13057/biodiv/d200138>



## The Prospect Of Accounting Standard Implementation: Micro, Small And Medium Entities Based On Quality Of Effective Applicable Financial Statements On January 01, 2018 (Study On Small Medium Enterprises In Rokan Hulu District)

**Authors:** Amir Hasan, Gusnardi, Iskandar Muda

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*International Journal of Scientific & Technology Research*

ISSN: 2277-8616

**Publication Date:** September 2019

**Abstract:** The purpose of this study was to obtain an overview of the analysis of the effect of education level, educational background, business size, length of business on the quality of SMEs financial reports and the prospect of implementing SMEs IFRSs in Rokan Hulu Regency, Indonesia. The population in this study were SMEs registered in Rohul in accordance with the data of Depkop Rohul in 2016 amounting to 815 SMEs consisting of 5 (five) business classifications. The taking technique uses purposive sampling, a technique that aims to capture as much information as possible from various sources. The data of this study were analyzed using multiple regression analysis methods with hypothesis testing and descriptive analysis. Based on the research that has been done, it can be taken some conclusions regarding the condition of SMEs, in Rokan Hulu Regency; 1) The owner's education level does not affect the quality of financial statements in SMEs in Rokan Hulu Regency, 2) The owner's educational background does not affect the quality of financial statements in SMEs in Rokan Hulu Regency, 3) Business measures affect the quality of financial statements on SMEs in Rokan Hulu Regency. The results of this study provide empirical evidence that larger size SMEs institution tend to record financial statements, 4) Duration of business influences the quality of financial statements in SMEs in Rokan Hulu Regency. The results of this study provide empirical evidence that SMEs institution that have been established for a long time tend to record financial statements, and 5) The prospect of implementing SMEs IFRS is still low, meaning that to implement financial reporting standards for SMEs players there are many obstacles, especially for micro SMEs and small, for them financial statements are not very important, the need for new financial statements is felt if they are going to apply for a loan, and even then they can ask for assistance from the lender to make the report as requested by the lender. The results of the research on the prospects and readiness of SMEs in adopting and implementing Financial Accounting Standards on Entity Without Public Accountability (SAK ETAP), are still very lacking, most SMEs do not yet know and have never prepared financial reports, especially in accordance with previously established standards, namely SAK ETAP, as well as new standards that will be implemented starting in January 2018,

**Keywords:** Implementation prospects, financial report quality, Small Medium Enterprises (SMEs)

**Citation** Amir Hasan, Gusnardi, Iskandar Muda, 2019. The Prospect Of Accounting Standard Implementation: Micro, Small And Medium Entities Based On Quality Of Effective Applicable Financial Statements On January 01, 2018 (Study On Small Medium Enterprises In Rokan Hulu District). *International Journal of Scientific & Technology Research*, 8 (9): 2108 -2112. Available at <https://www.ijstr.org/paper-references.php?ref=IJSTR-0719-20622>

# Object-Based Simulators for Large Scale Distributed Virtual Environment

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*Lecture Notes in Electrical Engineering*

**ISSN:** 1876-1100

**Publication Date:** 10 August 2019

**Abstract:** Distributed Virtual Environment (DVE) is a shared application consisting many objects, which can be accessed by many users. There have been many methods used to scale the DVE such as dividing simulation workload, dynamic load balancing among servers, and creating alternative architectures. However, they suffer to accommodate many objects and users. In this paper, we propose a novel architecture, called object-based simulators architecture. It comprises three components, i.e. object simulators, universe, and Content Delivery Network (CDN). The experiment results show that our proposed architecture can provide a DVE that is more scalable than the previous architectures..

**Keywords:** Distributed virtual environment DVE scalability Object-based simulators

**Citation:** Elfizar, Baba M.S., Herawan T. (2019) Object-Based Simulators for Large Scale Distributed Virtual Environment. In: Abawajy J., Othman M., Ghazali R., Deris M., Mahdin H., Herawan T. (eds) Proceedings of the International Conference on Data Engineering 2015 (DaEng-2015). *Lecture Notes in Electrical Engineering*, vol 520. Springer, Singapore.  
[https://doi.org/10.1007/978-981-13-1799-6\\_2](https://doi.org/10.1007/978-981-13-1799-6_2)



## Organ failure of patients using ventilator based on the sequence organ failure assessment score (SOFA) admitted in Intensive Care Unit

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*Enfermería Clínica*

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**Abstract:** Objective: This study aimed to describe the relationship between the score of sequence organ failure assessment (SOFA) and the length of time of ventilator use by patients hospitalized in Intensive Care Unit. Method: This research is analytic observational with a cross-sectional design. Data collected include age, sex, diagnosis medic, length of stay in ICU, length of ventilator use and SOFA score. The SOFA components include respiratory, platelet, liver, neurology, cardiovascular, renal and urine output in 24 h. The data platelet and liver were collected based on the new data. The respiratory data used  $FiO_2/SaO_2$ ; Neurological data used Glasgow Coma Scale value; and cardiovascular data used mean atrial pressure value (MAP). Each organ system is assigned a point from 0 to 4. The SOFA scores range from 0 to 24. The highest score is defined as the worst condition. This instrument was created by the European Society of Intensive Care Medicine. The number of samples was 40 patients who admitted in ICU for two days minimum. The data were collected in two months by a team. Data collected were analyzed by percentage, mean, and Fisher exact to see the relationship of SOFA score and duration to use the ventilator. The data were analyzed by Fisher exact statistic because there are three cells have expected account less than 5. Results: Majority of the respondents admitted in the ICU caused of neurological function with mean of SOFA score of 7.78 (score minimum is 4 and score maximum 12). The duration used ventilator majority less than 3 days (55%). The result shows that there was the relationship between the score of SOFA with duration to use ventilator ( $p$  value  $<0.01$ ). The highest score of SOFA is indicating more severity of the function of organ respiratory. Conclusions: SOFA score is one instrument for evaluating the severity and prognosis of the patients.

**Keywords:** ICU, Organ failure, SOFA, Ventilator

**Citation:** H.D. Siti Rahmalia Hairani Damanik, Gamy Tri Utami, Sofiana Nurcahyati, Safri, 2019. Organ failure of patients using ventilator based on the sequence organ failure assessment score (SOFA) admitted in Intensive Care Unit. *Enfermería Clínica*, 29 (1): 5-8  
<https://doi.org/10.1016/j.enfcli.2019.01.001>



## Perceptions of students, lecturers and staffs on establishing a smoke-free campus

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**Abstract:** Objective: The aim of this study was to identify the perception of students, lecturers and staffs on smoke-free campus policy. Method: Samples, including 880 students, 102 lecturers and 209 staff, were taken from all faculties in Universitas Riau using convenience sampling technique. A survey was conducted for these respondents through the distribution of questionnaires. Information pertaining to demographics, smoking and non-smoking behaviors and experiences, and perceptions regarding smoke-free campus policy was obtained. Results: It was discovered that 58% of survey groups and respondents were females, 84.3% were non-smokers, and 66.1% reported exposure to cigarette smoke in university campus every day or several days in a week. All groups reported that they were affected by cigarette smoking with no significant difference in the proportion ( $p = .540$ ). The rate of students and lecturers were similar in terms of their agreements on smoking prohibition in campus environment (81.7% and 84.3% respectively), while it was different with staff ( $p = .004$ ). Further ANOVA analysis revealed that there was a significant difference between groups regarding agreements on smoking prohibition ( $p = .007$ ) such that staff differed from lecturers and students ( $p = .014$  and  $p = .028$ ), while lecturers and students showed no significant difference ( $p = .502$ ). All groups strongly agreed on establishing a smoke-free campus (81.9% of students, 85.3% of lecturers, 77.7% of staffs) with no significant difference in their proportion ( $p = .079$ ). Conclusions: Interventions can be introduced to enhance support gotten from the staff group, however, majority of the students, lecturers and staffs were very supportive of creating a smoke-free campus. Therefore, there is a call to action for university leaders and decision makers to implement the policy.

**Keywords:** PerceptionPolicySmoke-free campus

**Citation:** Febriana Sabrian, Wasisto Utomo, 2019. Perceptions of students, lecturers and staffs on establishing a smoke-free campus. *Enfermería Clínica*, 29 (S1): 42-45.

<https://doi.org/10.1016/j.enfcli.2018.11.016>



## Preparation of Mission Grass Flower-Based Activated Carbon Monolith Electrode for Supercapacitor Application

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*International Journal of Electrochemical Science*

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**Publication Date:** 2019

**Abstract:** The preparation and characterization of an activated carbon monolith for supercapacitor application created from mission grass flowers was performed. The benefits of carbon electrode monolith production from mission grass flowers include the low cost of the raw material and smooth structures that can bind without the use of an adhesive. Carbon electrode preparations were evaluated with respect to several aspects: chemical activating agent, carbonization temperature, and physical activation temperature and particle size. These aspects represent several main aspects in the production of carbon electrodes. The primary characterization required to determine carbon electrode properties is based on the specific surface area and capacitance. Our characterization found that a carbon electrode monolith manufactured from mission grass flowers had a maximum surface area of 950 m<sup>2</sup> g<sup>-1</sup> and a maximum specific capacitance of 120 F g<sup>-1</sup>. In addition, the crystallinity and morphology of the monolith's surface properties were tested and analysed..

**Keywords:** Mission grass; carbon electrode; specific capacitance; supercapacitor

**Citation:** E. Taer, R. Handayani, Apriwandi, R.Taslim, Awitdrus, A. Amri, Agustino and Iwantono, 2019. Preparation of Mission Grass Flower-Based Activated Carbon Monolith Electrode for Supercapacitor Application. *International Journal of Electrochemical Science*, 14 (2019): 7317 – 7331. <http://doi.org/10.20964/2019.08.82>

# Pyrolysis of Pine Merkusii wood bark wastes to produce crude bio-oil using chrome-clay, cr/ clay catalyst as an alternative energy

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*MATEC Web of Conferences*

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**Abstract:** In this research, bio-oil is produced from pine wood bark waste biomass through pyrolysis using Cr/ clay catalyst. This research aims to produce bio-oil from bark of pine with Cr/ clay catalyst as an alternative fuel. The effect of the ratio of catalyst Cr/ clay weight to biomass and influence of Chromium (Cr) impregnation on clay as catalyst were investigated. Then, the characterisation of physical and chemical characteristics of crude bio-oil produced were measured. For each of the pyrolysis runs, 50 g of pine bark having -100+200 mesh, the Cr/ clay catalysts having weight variations to biomass of 3%, 5%, and 7%, respectively, and then variation of Chromium (Cr) impregnation on clay of 0%, 1%, 2%, and 3%, respectively, were used. For any experimental run, 500 ml of silinap was added to the pyrolysis reactor as thermal homogenized aid. Pyrolysis process was carried out for 120 minutes at 320oC and having stirring speed 300 rpm. As a result, the greatest percentage of bio-oil yield of 65.77% was given of the run having Cr/ clay catalysts 7% and 3% of impregnated Chrome content. Characterisation measurement of bio-oil of physical properties was obtained as follows: density 0.812 g/ml, viscosity 0.902 cSt, acidity 7.626 mg.NaOH/gram, and flash point 31oC, respectively. In addition, the chemical characteristics of the bio-oil were obtained using Gas Chromatography-Mass Spectroscopy (GCMS): analysis found several chemical components as follows, such 9,12-Octadecadienoyl chloride, Cyclohexane, 1-methyl-2-pentyl, Octadecanoic acid, 2-Pentene, 24.4-trimethyl, and Cyclohexane, 3- (3,3-dimethylbutyl).

**Keywords:** Pyrolysis, clay catalyst, alternative energy

**Citation:** Pyrolysis of Pine Merkusii wood bark wastes to produce crude bio-oil using chrome-clay, cr/ clay catalyst as an alternative energy, Syaiful Bahri, Ramadhoni Febrian, Khairat Khairat and Muhdarina Muhdarina. *MATEC Web Conf.*, 276 (2019) 06018 DOI:

<https://doi.org/10.1051/mateconf/201927606018>

## Regional economic empowerment through oil palm economic institutional development

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*Management of Environmental Quality*

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**Abstract:** Purpose: The purpose of this paper is sixfold: first, to know the ability of area carrying capacity to the development of downstream oil palm industry; second, to know the potential for the development of downstream oil palm industry in efforts to improve the community through employment and business opportunities in the regions; third, to find eco-friendly institutional arrangement strategies of oil palm farming in order to spur economic growth and development; fourth, to formulate strategies for potential environmental impact as a result of institutional arrangement and development of downstream oil palm industry, both in regional and national scope; fifth, to predict the economic multiplier effect as impact of institutional arrangement and development of oil-palm-based downstream industry; and sixth, to include production centers and development areas of oil-palm-based downstream industry in potential areas..

**Keywords:** Keywords Institutional development, Palm oil economics, Regional economic empowerment Paper type Research paper

**Citation:** Syahza, A. and Asmit, B. (2019), "Regional economic empowerment through oil palm economic institutional development", *Management of Environmental Quality*, Vol. 30 No. 6, pp. 1256-1278. <https://doi.org/10.1108/MEQ-02-2018-0036>

## Separation of Inorganic Anions and Phenolic Compounds Using Tetraethylene Oxide-Bonded Stationary Phases in Capillary Liquid Chromatography

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*Indonesian Journal of Chemistry*

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**Abstract:** Tetraethylene glycol monomethyl ether (TEGMM) and tetraethylene glycol (TEG) modified silica were synthesized and used in capillary liquid chromatography as stationary phases. The stationary phases were prepared by chemically bonding TEGMM or TEG on silica via reaction with 3-glycidyloxypropyltrimethoxysilane. The present stationary phases were successfully used for the separation of several inorganic anions and phenolic compounds. The TEG-modified silica stationary phase had a better selectivity and higher retention for five anions compared to TEGMM-modified silica stationary phase. The repeatability of retention time for the five anions was satisfactory on both stationary phases. By using 2 mM sodium chloride as eluent, the relative standard deviation values were in ranging from 0.68–3.21 and 2.00–2.16% for analytes in the TEG- and TEGMM-bonded stationary phase, respectively. It was found that the TEG-bonded stationary phase had hydrophilic properties due to the presence of the hydroxyl group at the end of the TEG chains.

**Keywords:** capillary liquid chromatography; tetraethylene glycol monomethyl ether; tetraethylene glycol; inorganic anions; phenol compounds

**Citation:** Roza Linda, Mohamad Rafi, Lee Wah Lim, Toyohide Takeuchi, 2019. Separation of Inorganic Anions and Phenolic Compounds Using Tetraethylene Oxide-Bonded Stationary Phases in Capillary Liquid Chromatography. *Indonesian Journal of Chemistry*, 19 (1): 191-197.

<https://doi.org/10.22146/ijc.32237>

## Single Step Carbonization-Activation of Durian Shells for Producing Activated Carbon Monolith Electrodes

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*International Journal of Electrochemical Science*

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**Abstract:** Four types of monolithic carbon electrodes were prepared from durian shell waste by a one-step carbonization-activation process. The activation process was performed physically at a temperature of 900 °C for 1 hour. The carbon electrodes were produced with various amounts of (i) CO<sub>2</sub> gas and (ii) steam activating agent. For both types of activation processes, the samples also varied according to their electrode particle size, i.e., (a) particles smaller than 38 microns and from to (b) 39 - 52 microns. After varying these four factors, we produced a monolithic carbon electrode with a highest specific capacitance of 130.35 F g<sup>-1</sup> with the steam activating agent and a particle size of 39-52 microns. The optimized electrochemical properties were evidenced by the physical characteristics, such as the density, specific surface area and surface morphology. The results of this study present a relatively simple process for producing supercapacitor electrodes made from durian shell waste.

**Keywords:** Durian shells, carbon electrode, specific capacitance, supercapacitor

**Citation:** E. Taer, A. Apriwandi, R. Taslim, U. Malik, Z. Usman, 2019. Single Step Carbonization-Activation of Durian Shells for Producing Activated Carbon Monolith Electrodes. *Journal of Applied Sciences*, 14 (2019): 1318-1230. <https://dx.doi.org/10.20964/2019.02.67>

## Sociodemographic characteristics and psychosocial wellbeing of elderly with chronic illnesses who live with family at home

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*Enfermeria Clinica*

**ISSN:** 1130-8621

**Publication Date:** March 2019

**Abstract:** Objective: This study aimed to explore sociodemographic characteristics and psychosocial wellbeing of elderly with chronic illnesses who live with family at home. Methods: This is a descriptive correlational study that was conducted in Pekanbaru. This study involved 85 elders that were recruited using purposive sampling technique. Data were obtained by using questionnaires. Results: Descriptive analysis using a computer software showed that 96.5% of elderly were Muslim, 48.2% were from Minang tribe, 55.3% were female, 56.5% were married, 78.8% were low-educated, 83.5% were unemployed, and 84.7% had experience of losing a spouse, and showed that 56.5% of elderly have high psychosocial wellbeing state, which reflected psychological health and the ability to interact socially. Of all sociodemographic characteristics of the elders, all indicated higher psychosocial wellbeing state except for single elders or don't have a life partner and unemployed elders. Chi-square test showed no significant relationship between educational level, marital status, employment status, and bereavement experience with psychosocial wellbeing of the elders ( $p > 0.05$ ). Conclusions: The majority of the elderly with chronic illnesses who live with family at home were at good psychosocial wellbeing. Measures are needed to improve psychosocial wellbeing of single elders or don't have a life partner and unemployed elders.

**Keywords:** Chronic illness Elderly Psychosocial wellbeing Sociodemographic characteristics

**Citation:** Reni Zulfitri, Febriana Sabrian, Herlina, 2019. Sociodemographic characteristics and psychosocial wellbeing of elderly with chronic illnesses who live with family at home. *Enfermeria Clinica*, 29 (1): 34-37. <https://doi.org/10.1016/j.enfcli.2018.11.014>

## ‘Sort of’ in Indonesian television discourse

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*Journal of Asian Pacific Communication*

**ISSN:** 1569-9838

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**Abstract:** Expressing vagueness is a common phenomenon especially in spoken discourse. The present paper examines vague language ‘sort of’ (e.g., kayak gitu) realised in spoken discourse in Indonesian. It accounts for the pragmatic functions of ‘sort of’ examined in their discourse context. The data under investigation include a 24-hour corpus of a television talk-show discussing various social issues. A pragmatic qualitative data analysis is predominantly employed directed towards a functional analysis of the use of ‘sort of’. Descriptive statistics accompany the qualitative analysis to reinforce the investigation. The quantitative analysis shows that ‘sort of’ was infrequently used in the context of Indonesian television discourse. The corpus displays various forms of lexical devices for ‘sort of’ in Indonesian. The pragmatic analysis shows that ‘sort of’ was employed as a politeness strategy to tone down strong linguistic expressions and to save the speaker’s positive face. The infrequent use of ‘sort of’ in the discourse type under investigation in this study reinforces the notion that ‘sort of’ is a feature of informal interaction.

**Keywords:** discourse; hedges; Indonesian; politeness; vagueness

**Citation:** Indah Tri Purwanti, 2019. ‘Sort of’ in Indonesian television discourse. *Journal of Asian Pacific Communication*, 29 (1): 111-132. <https://doi.org/10.1075/japc.00023.pur>



## Spirituality and health status among elderly people in nursing home in Riau, Indonesia

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*Enfermería Clínica*

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**Publication Date:** Marc 2019

**Abstract:** Objective: The purpose of this study was to examine the relationship between spirituality and health status outcome in nursing home (PSTW Khusnul Khotimah) in Pekanbaru, Riau-Indonesia. Method: This study methods was a cross-sectional study with 36 elderly people as samples and it was taken by total sampling technique. JAREL Spiritual Well-Being Scale was used to assess elderly people spirituality level. Univariate and bivariate use non-parametric analysis were performed to determine the relationship between elderly people spirituality and self-reported health status. Results: Majority marital status of respondent (85.8%) were divorce with their couple. Seventy two point two percent elderly health status was not good and 52.8% (the results spiritual statement of indicates: When I was sick, I reduced spiritual welfare 33.3%, I cannot accept changes in my life 27.8%) of them have less spirituality. This study also found that the elderly people who has low spirituality level more likely have health problems. There was significant correlation between spirituality and elderly health status in nursing home ( $p = 0.035$ ). Conclusion: It was important to increase the elderly people spirituality to prevent health status degradation in elderly people in nursing home.

**Keywords:** Spirituality, Health status. Elderly in nursing home

**Citation:** Herlina, Agrina, 2019. Spirituality and health status among elderly people in nursing home in Riau, Indonesia. *Enfermería Clínica*, 29 (S1): 13-15. <https://doi.org/10.1016/j.enfcli.2018.11.007>



## The effect of oromuscular stimulation on neonate latch score

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*Enfermería Clínica*

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**Abstract:** Objective: The aim of this study was to determine the effect of oral stimulation on breastfeeding on infants. Method: This study uses the design of one group pre-test–post-test. The population was mature neonates aged < 14 days who were born without complications at a midwife clinic in Pekanbaru city. The sample consisted of 16 respondents. The sampling technique in this study was purposive sampling with criteria, mothers did not have breast problems and were willing to become respondents. The implementation of intervention was carried out by pre-test, 5 min oromuscular stimulation, then a 5-minute pause, then waiting for the next breastfeeding time and post-test. Breastfeeding ability is assessed with Latch score. Results: The results of the univariate analysis showed that the majority of respondents aged 25–35 years (56.3%), the majority were housewife (87.5%), more than half were multiparous (62.5%) and most of the neonates were male (68.8%). The mean of Latch score before the intervention was 7.3 points and after intervention was 9.3 points. The results with the Wilcoxon test showed an increase in the ability of breastfeeding after an intervention of 2 point ( $p$ -value = 0.001). Conclusion: Oromuscular stimulation can be suggested as an alternative therapy to improve breastfeeding ability in neonates.

**Keywords:** Nurse, Oromuscular therapy, Neonate

**Citation:** Oswati Hasanah, Riri Novayelinda, Hellena, Deli, 2019. The effect of oromuscular stimulation on neonate latch score. *Enfermería Clínica*, 29 (S1): 46-48.

<https://doi.org/10.1016/j.enfcli.2018.11.017>

## The effectiveness of health education using audiovisual media on increasing family behavior in preventing dengue hemorrhagic fever (DHF)

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*Enfermería Clínica*

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**Abstract:** Objective: This study aims to determine the effectiveness of health education through audiovisual media on improving family knowledge in the prevention of dengue fever (DHF). Method: This study used a Quasi Experiment research design with a research design of Non-Equivalent Control Group. The study was conducted in the community with a sample of 40 people, consisting of 20 for experimental group and 20 for control group. The samples were selected using purposive sample collection method. The measuring instrument used is a questionnaire that has been tested for validity and reliability. The analysis was done through univariate analysis and bivariate analysis using t-independent test. Result: This study found that the showed a significant increase in changes in the level of attitudes and actions of families in the prevention of dengue fever by using audiovisual media, ( $p = 0.000$ ), ( $p = 0.000$ ). Conclusion: It is recommended that the health workers should provide health education by using audiovisual media in the prevention of dengue fever.

**Keywords:** Dengue Haemorrhagic Faver (DHF)AttitudeActions

**Citation:** Arneliwati, Agrina, Ari Pristiana, Dewi, 2019. The effectiveness of health education using audiovisual media on increasing family behavior in preventing dengue hemorrhagic fever (DHF). *Enfermería Clínica*, 29 (S1): 30-33. <https://doi.org/10.1016/j.enfcli.2018.11.013>

## The inventory and spore morphology of ferns from Bengkalis Island, Riau Province, Indonesia

**Authors:** Nery Sofiyanti, Mayta Novaliza Isda, Erwina Juliantari, Rissan Suriatno, Syafronipranata

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*Biodiversitas*

**ISSN:** 2085-4722

**Publication Date:** November 2019

**Abstract:** Sofiyanti N, Isda MN, Juliantari E, Pranata S, Suriatno R. 2019. The inventory and spore morphology of ferns from Bengkalis Island, Riau Province, Indonesia. *Biodiversitas* 20:3223-3236. Bengkalis Island is one of main islands at coastal region of Riau Province, Indonesia. The first fern inventory had been conducted on this island, to identify the fern checklist as well as examined the morphology of their spores. Samples were collected from 2 subdistricts and 12 study sites, using exploration method. The spore specimens were coated using AU, before observation using Scanning Electron Microscopy (SEM). A total of 22 fern species are recorded from Bengkalis Islands. These species belong to 3 orders, i.e. Gleicheniales (1 species), Polypodiales (20 species) and Schizaeales (1 species). The spore characteristic indicated similar unity of spore, i.e. monad spore, with triangular, subtriangular, tetrahedral and reniform shape. Three basic types of spore have been observed, i.e. monolete, dilete, and trilete. The spore class observed in this study are small ( $22 \pm 0.88 \mu\text{m}$ ), medium ( $27.35 \pm 1.45$  to  $47.85 \pm 0.88 \mu\text{m}$ ) and large ( $51.34 \pm 1.83$  to  $53.8 \pm 1.81 \mu\text{m}$ ). The ornamentation of perispore is the main character to distinguish species within one genus.

**Keywords:** Bengkalis, fern, spore

**Citation:** Nery Sofiyanti, Mayta Novaliza Isda, Erwina Juliantari, Rissan Suriatno, Syafronipranata, 2019. The inventory and spore morphology of ferns from Bengkalis Island, Riau Province, Indonesia. *Biodiversitas*, 20 (11): 3223-3236. <https://dx.doi.org/10.13057/biodiv/d201115>



