I-CReST 2020

International Conference on Research and Practices in Science, Technology and Social Sciences

ABSTRACT BOOK

4 JULY 2020

UNIVERSITI TEKNOLOGI MARA
CAWANGAN SELANGOR, KAMPUS DENGKIL
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I-CReST 2020

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I-CReST 2020 International Conference on Research and Practices in Science, Technology and Social Sciences: ABSTRACT BOOK/
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Preface

University Technology MARA (UiTM) being a premier university of academic excellence has always thrived to be excellent as a management centre for world-class research, development, and consultancy and research publication. Thus, it has encouraged its academicians to be self-motivated and acclimatise to numerous deviations. Henceforth this virtual International Conference on Research and Practices in Science, Technology and Social Sciences 2020 (I-CReST 2020) provides a common avenue for connecting researchers and scholars across the world who look forward to presenting their research works and findings with shared enthusiasts and as an online event it will offer an impactful academic sharing and networking opportunities.

I-CReST 2020 managed to attract an overall total of 107 numbers of abstracts submitted. A total of 81 abstracts were approved for oral presentation; a yield of 76%. The abstracts were grouped under 4 tracks: - Physical Sciences (15 presenters or 19%), PS; Biological Sciences, BS (10 presenters or 12%); Information Technology, Engineering & Mathematics, IEM (10 presenters or 12%); and Social Sciences & Humanities, SSH (46 presenters or 57%). Participants are mainly from University Technology MARA (57 presenters or 70%) and the rest are from other universities/ institutions (24 presenters or 30%).

The main organiser, Centre of Foundation Studies, Universiti Teknologi MARA Cawangan Selangor, Kampus Dengkil, would like to congratulate all contributors in making the conference a tremendous success! Hopefully this conference will inspire and encourage more researchers to participate in our forthcoming serial conferences.

Thanks again for your continuous support as always, and hope for a fruitful conference!

Dr. Salizatul Ilyana Ibrahim
Chairperson
I-CReST 2020
saliza2910@uitm.edu.my
4 July 2020

Foreword

Assalamualaikum w.b.t.

Dear Authors, esteemed Readers,

I take pride in welcoming all the attendees to our very first Virtual International Conference I-CReST 2020 hosted by Centre of Foundation Studies UiTM, Dengkil and it is the first of its kind, and I am honoured be part of it. The conference themed Harnessing Potential and Leading Transformational Change Research is a proof of the Centre's commitment to strive for academic dynamism and to deliver a platform for academicians and professionals to share their research findings and achievements to sanction for ideas to be explored and experience as well as expertise to be commissioned into. This is in line with UiTM's mission to place the university on the global map.

This conference shares an insight into the recent research and cutting edge technologies, which gains immense interest with the colossal and exuberant presence of adepts, young and brilliant researchers, and talented student communities presenting their research works and findings with common enthusiasts. This online event will offer the same impactful academic sharing and networking opportunities although it is done online.

I am particularly happy to be present in this unique event today and to exchange views and share experiences with other high-level professors, colleagues and friends, representing many well-known Universities and Research Institutes together with members of relevant international organizations.

I congratulate you for your commitment and active participation and wish you all the success and also would like to take this opportunity to congratulate the organising committee of the Center of Foundation Dengkil Campus whose commitment and tireless efforts have made I-CREST 2020 happen.

I sincerely hope that this conference will discuss all the different facets of this exciting topic and come up with recommendations that will lead to a better, healthier, merrier world. I wish the conference great success.

Thank you.

Professor Dr. Saifollah Abdullah
Director
Centre of Foundation Studies
University Teknologi MARA (UiTM)
Cawangan Selangor, Kampus Dengkil

About the Conference

Centre of Foundation Studies is pleased to announce its International Conference (I-CReST 2020) that will be held on 4th July 2020. With the theme, "Harnessing Potential and Leading Transformational Change", the conference will provide a platform for undergraduates and postgraduate students, academics, researchers, professionals and industrial practitioners from various backgrounds to share ideas and research findings in their respective fields.

In the past, a few colloquiums series and national level conference; ASiD Conference (ASiDCON2018) have been conducted since the Centre of Foundation Studies started to operate at Dengkil Campus in 2016. This year, we are transforming the event to an international conference with an aspiration to provide a common avenue for connecting researchers and scholars across the globe.

Due to the recent development relating to Covid 19 and in compliance with the country's regulation on no mass gathering and implementation of movement control order (MCO), I-CReST 2020 is now made available to you online. This online event will offer you the same impactful academic sharing and networking opportunities.

The conference provides opportunities for publication in proceedings with e-ISBN. Selected papers, after a peer-reviewed process will be considered for publication in WOS/Scopus/MyCite indexed journals.

Theme Synopsis

I-CReST 2020's main theme addresses four tracks to encourage scientific writing/ publication across multidisciplinary research in the broad fields of:-

Physical Sciences:

Medical Physics; Nuclear Physics; Photonics; Optics; Spectroscopy; Device Physics; Material Science; Polymers; Nanotechnology; Solid State Ionics; Inorganic and Organic Chemistry; Natural Products Chemistry; Catalysis; Renewable and Sustainable Energy

Biological Sciences:

Forestry; Ecology; Entomology; Microbiology; Biotechnology; Genetics; Bioinformatics; Botany; Nutraceutical; Cosmeceutical; Pharmaceutical; Zoology; Pharmacology

Information Technology, Engineering and Mathematics:

Captology; Information Virtualization; Modelling and Simulation; Computer Security; Mobile Communication; Software Engineering; Internet of Things; Cloud Computing; Data Analytics; Image Processing; Pure and Applied Mathematics; Mathematics Education; Mathematical Modelling; Mathematical Statistics; Fuzzy Mathematics and Applications; Operations Research

Social Sciences & Humanities:

Education/Pedagogy; Communication Arts; Information Communication; Literature and Poetry; Civil Law; Economics and Financial Law; Human Right Law; Public Law; Islamic Law; Comparative Law; Constitutional Law; Medical Law; Public Law; Private Law; Social Policy and Social Legislation; Criminology; Linguistics/Neurolinguistics/ Sociolinguistics; Al-Quran and Hadith; Aqidah and Islamic Thoughts; Muamalat; Halal Management; Education and Shariah; Astrofiqh and Cosmofiqh

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Invited Speech

SSH

Factors Affecting Prospective Franchisees in Malaysia

Zahariah Mohd Zain [1,*], Marziah Mokhtar [1,2], Azmi Mat [1], Nurul Shuhada Shuhaimi [1]

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ABSTRACT

Franchising as a business model has made significant inroads in small to medium size business development in Malaysia. Therefore, it is crucial to explore the factors that influence entrepreneurs' intention to purchase a franchise as a business model. The independent variables of interest in this research are brand name, independence, risk and provision of training and support. The study was quantitative in nature and utilised the survey approach in data collection. The primary data with a five-point Likert scale was used in the questionnaire to measure the perspectives of Bumiputra entrepreneurs' intention in acquiring a franchise in Malaysia. Regression analysis was undertaken to test the proposed hypothesis empirically using Statistical Package for Statistical Science (SPSS). The findings indicated that three out of four independent variables namely franchisors' brand name, independence and provision of training and support were significant to entrepreneurs' intention whereas, risk was found to be insignificant to the dependent variable. Therefore, the study indirectly addresses a gap in research concerning the effects of these factors on the growth of the franchise industry in Malaysia.

Keywords: Franchise; brand name; independence; risk; training and support

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I-CReST 2020: 017-008

SSH

Consumer Contracts: Revisiting the Malaysian Legislative Control and Judicial Intervention of Exclusion Clause

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ABSTRACT

The idea of contractual freedom seems to be irrelevant in consumer law protection. Hence, interventions from both legislative and judicial are meant to address issues related to consumerism. With Malaysia practicing common law, there have been attempts to amend the manipulating exclusion clause found in consumer contracts from the aspects of legislative and judicial control. When the legislative conduct was still not implemented before 2010, the exclusion clauses stipulated in consumer contracts have caused many cases of consumer abuse. The judicial inconsistency noted in the battle against oppression and widespread unethical behaviour among traders, as found in case-laws before the year 2010, seem to be causes for concern. Nonetheless, such unfair treatment due to consumer contracts has led to the spark of an amendment, particularly in Malaysia after the year 2010. The situation on the ground, however, requires more effort. The Consumer Protection Act (CPA) 1999 is still peppered with numerous ambiguities. As such, this paper looked into legislative control and judicial intervention related to the exclusion clause found in consumer contracts via content analysis as the methodology. At the need of the analysis, some suggestions are made to help solve the identified drawbacks of the status and propose a legislative solution to this problem in Malaysia in achieving a fair balance between the rights of consumers and corporate bodies in this area of the private law.

Keywords: Exclusion clause; consumer contracts; judicial intervention; legislative control; Part IIIA CPA 1999; Malaysia

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I-CReST 2020: 062-052

SSH

Internet Pornography Usage among Malaysian University Students:Is it a Problem?

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ABSTRACT

Introduction: The use of Internet pornography has become prevalent in recent years, particularly for the younger generation. However, the task of assessing this usage has been difficult, particularly among religious populations. As Malaysians are considered religious following most people's belongingness to some religious faiths, this study therefore uses an inventory specifically developed to analyze feelings of guilt and distress among religious populations following their Internet pornography usage. Materials and Methods: In this study, the Cyber-Pornography Use Inventory along with socio-demographic data questionnaire were distributed to 216 university students who were studying in a public university and a pre-university centre in an awareness talk organized by the university regarding Sexual and Reproduction Health. Informed consent was obtained and information sheets were distributed prior to the survey. Results: Among the respondents, 90.7% were males. They consist of Muslims (50.2%), Buddhists (33.3%), Hindus (10.8%) and Christians (5.6%). Their age range are between 18-28 years old. Prevalence of pornography use in the past six months is 48.6% (N=105) while prevalence of perceived addiction to Internet pornography is 13.4% (N=29). Male students engaged in online pornography more than female students. Pearson correlation indicated that guilt associated with pornography viewing were also positively associated with isolation and efforts to keep the pornography activities a secret, and involvement in compulsivity and social sexual-related activities online. Conclusion: Results yields characteristics of university students in Malaysia who experience guilt nevertheless still engage in compulsive pornography use. It gives light as to possible psychosocial intervention that can be carried with this student population. Limitations include inability to generalize findings due to cross-sectional study design and limited number of respondents.

Keywords: Internet pornography; pornography addiction; masturbation; university students

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I-CReST 2020: 102-102

BS

Effects of Variations in Hormonal Treatments Upon in vitro Regeneration Potential in Embryo Explant of *Arenga pinnata*

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ABSTRACT

In decades, Malaysia has been processing *Arenga pinnata* for the production of traditional sugar blocks known as “gula kabung”. Over time, the transfer of information and the production of a commodity based on sugar palm trees has increased demand. One of the problems related to propagation of *Arenga pinnata* is its long dormancy period. In this study, in vitro regeneration was carried out to determine the effect of different concentration and combinations of hormones on in vitro regeneration of *Arenga pinnata*. This study was designed in Complete Randomize Design (CRD) consisted of 10 treatments and 5 replications for each treatment. Each treatment contained different concentrations of Kinetin (KN) hormone (1.0, 2.0, and 3.0 mg/l) and in combination with 0.1, 0.2, 0.3 mg/l indole-3-acetic acid (IAA). Embryos of Arenga fruits were used as an explant and were sterilized and cultured into different Murashige and Skoog (MS) media supplemented with different hormones concentrations and combinations. At the end of the study, all explants showed various response towards the treatments. The height of plumule and length of radical was observed and recorded. Treatment 8 (3 mg/ml KN + 0.1 mg/ml IAA) showed 59.09% in plumule height increment while treatment 4 (1 mg/ml KN + 0.3 mg/ml IAA) showed the highest radical increments with 93.62%. The knowledge gained in this study consequently helps us to better understand the role of KN and IAA in the in vitro regeneration protocol. Since in vitro method able to produce higher number of in vitro seedlings at one time, it is important to establish the in vitro regeneration protocol for this plant. The initial cost of in vitro regeneration of *Arenga pinnata* is usually higher compare to conventional seedling method, however the cost will gradually decrease, once the optimize media is established

Keywords: *Arenga pinnata*; sugar palm; *in vitro*; plant growth regulators

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I-CReST 2020: 082-077

BS

Recent Studies on *Pandanus* Plants

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ABSTRACT

The *Pandanus* leaf is recognised with its uses in flavouring, fragrance and herbal medicine. In this study, the electronic quest on *Pandanus* was conducted. References on the phytochemicals, were reviewed, following the redrawing of the alkaloidic chemical structures and the suggested nomenclature of these pandan alkaloids. It was found that the 2-acetylpyrroline (2-AP) is the most potent flavour compounds in *Pandanus* leaves. Pandan wangi or *P. amaryllifolius*, is a natural product, containing high levels of 2-AP. In addition, the aroma of kewda oil can be obtained from *Pandanus* plant, due to 2-phenylethyl methyl ether as the major chemical component. From the review, the red fruit (*P. conoideus*) is used as a traditional medicine in Papua and as an agent against malignant diseases. The extract could be a promising candidate against cervical cancer cells. These recent studies would provide knowledge on the current build-up database of *Pandanus* constituents, which highlight on the pandan alkaloids.

Keywords: Alkaloid; compounds; *Pandanus*; research

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I-CReST 2020: 007-035

BS

Ultrasonic-aided Optimization and Isolation of Phytochemicals from Anannas comosus Peels

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ABSTRACT

The accumulation of waste is one of the ramifications in the advancement of a civilization, as for nowadays it poses a serious problem to the environment. The pineapple (*Ananas comosus*) peels are one among them and it contains various phytochemicals such as antioxidants and polyphenols. In this study, ultrasound-assisted extraction (UAE) has been applied for the optimization of extraction condition of *A. comosus* peels using Response Surface Methodology (RSM). The central composite design (CCD) of a three-factor-three level (extraction time, X_1 (min), solvent-to-sample ratio, X_2 (v/w) (mL/g) and methanol-to-water ratio, X_3 (v/v)) was used to study the effect of interaction between factors towards investigated responses; percentage yield (PY), total phenolic content (TPC), total flavonoid content (TFC) and DPPH radicals scavenging activity. The optimized conditions for each responses were obtained. For high percentage yield (32.06%), the optimum condition is 20 minutes extraction time, 40:1 (v/w) (mL/g) solvent-to-sample ratio and 40:60 (v/v) methanol-to-water ratio. High content of TPC (38.61 mg GAE/g) and TFC (35.29 mg QCE/g) were obtained from the same optimum condition; 20 minutes extraction time, 40:1 (v/w) (mL/g) solvent-to-sample ratio and 80:20 (v/v) methanol-to-water ratio. As for high radicals scavenging activity of DPPH (71.42%) was obtained from optimum condition of 10 minutes extraction time, 40:1 (v/w) (mL/g) solvent-to-sample ratio and 40:60 (v/v) methanol-to-water ratio. The SC_{50} values showed that two of the UAE extracts able to scavenge 50% of the radicals, extract E18 and E20 with value of 549.535±17.277 µg/mL and 669.744±0.955 µg/mL, respectively. For Soxhlet extracts, only chloroform extract presented SC_{50} value of 631.238±3.126 µg/mL. The antibacterial activity presented that the UAE extracts are weakly active against Gram-positive bacteria and Soxhlet extracts are weakly active towards Gram-negative bacteria. The optimized extract with high TPC and TFC was fractionated and purified using several chromatographic techniques to obtain 5-Acetyl-benzofuran-3-carboxylic acid.

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I-CReST 2020: 073-062

PS

A Review on Potential Impact of Nanotechnology against COVID-19

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ABSTRACT

The idea and concept of nanotechnology were introduced by Rechard Feyman in 1959. The concept is about application of extremely small things on a scale of 1 to 100 nanometres. According to researchers, nanotechnology has potential to create new materials and devices with a wide range of applications, such as in the area of nanomedicine, nanoelectronics, energy, high sensitivity sensors and consumer products. At present, *the world is facing* outbreaks pandemic of deadly illnesses called Coronavirus Disease 2019 (COVID-19) and there are no specific vaccines or treatments for COVID-19 yet. COVID-19, first began to appear as a pattern in China, where the virus emerged at the end of last year and then, this newly discovered coronavirus, currently begin to spread widely. According to the World Health Organization (WHO), COVID-19 is more transmissible than previous pandemic, namely the Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) and the Middle East respiratory syndrome coronavirus (MERS-CoV). Statistic from a Chinese website that provides real-time information on outbreaks of epidemic diseases (https://ncov.dxy.cn/ncovh5/view/pneumonia) shows that as April 30, 2020, there were approximately 227,196 deaths global cases because of COVID-19. Hence, the researchers believed that nanotechnology is one of the game-changers that offering innovative solutions in a wide range of problems particular to prevention, diagnosis, and treatment of COVID-19. Many researchers believed nanotechnology has high potential to accelerate changes in the development of Frontline products and tools such as nanofiber-based facial respirators, nanodrug and rapid diagnostic sensor. Nanotechnologies have an important role towards social responsibility in managing this pandemic. In the fight against COVID-19, several groups of researchers have intensively carried out the research related to potential nanotechnology-based product and tool. Currently, several companies are producing and successfully commercialize product-based nanotechnology pertaining to COVID-19. This paper, review and summarizes *the potential* of nanotechnology contribution and its significant role to fight COVID-19. Ultimately, the review is expected to stimulate and provide information to the researchers in the directions of nanotechnology in this era.

Keywords: Nanotechnology; COVID-19; prevention; diagnosis

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PS

Properties of Pineapple Leaf Fibers (PALF)/ Polyethylene Terephthalate (PET) Nanofiber Mats Produced Via Electrospinning Method

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ABSTRACT

Nanofibers capabilities in produced small materials up to nanoscale dimension, making them the perfect fundamental materials that can help improving effectiveness of many applications. In this study, the properties of PALF/PET electrospun mats were studied. Different ratio of PALF/PET were electrospin to determine the optimum parameters for fabricating electrospun PALF/PET with minimum defect. The sample obtained were then characterized for its wetting and morphology properties. Wetting properties of this sample were studied and discussed thoroughly using Contact Angle (CA). From the CA result, hydrophilic electrospun mats were successfully produced with the incorporation and increasing ratio of PALF. Increasing PALF ratio produce materials that can sustain high amount of water. The obtaining electrospun mats were observed under FESEM to characterize their morphological properties. Increasing in PALF ratio attributes to the decreasing of size diameter and distribution of nanofibers.

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PS

Phosphorescent Vapochromic Responses of Copper(I) Complex Bearing Pyrazole Ligands for Detection of Alcohol Derivatives

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ABSTRACT

Phosphorescent vapochromic chemosensor of trinuclear copper(I) metal complexes via metal-metal interactions have received great interest as chemical sensor for sensing different kinds of volatile organic compounds (VOCs). Herein, we highlighted on molecular design of trinuclear copper(I) pyrazolate (**Pz**) complexes (**2Pz$_1$-2Pz$_5$**) bearing with different short alkyl side-chains from respective pyrazole ligands (**1Pz$_1$-1Pz$_5$**). The synthesized trinuclear copper(I) complexes had demonstrated high phosphorescent sensing capability of different alcohol derivatives. In particular, the complexes give emission bands centered at around 553-644 nm upon an excitation at 280 nm from a weak metal-metal interaction. We found that the chemosensors of **2Pz$_1$-Pz$_4$** showed quenching phenomena where only chemosensor **2Pz$_3$** displayed significantly decline of its emission intensity 100% for exposure in 5 mins with irreversibility performance. Interestingly, we also found that the shifting of emission center due to the interruption of metal-metal interaction performed by chemosensor **2Pz$_5$** by resulting the best detection capability of methanol and ethanol ($\Delta\lambda$= 60 nm) as well as propanol ($\Delta\lambda$ = 22 nm) showing autonomous recovery in 15 mins. Based on the findings, we suggested that the specific balance such as rigidity and amphiphilicity in the molecular design of the chemosensors is important to detect vapors via supramolecular interactions.

Keywords: Phosphorescent; pyrazole ligands; metal-metal interactions; vapochromic

chemosensor

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PS

Special Characteristics of Leucas Zeylanica Extract as Local Remedies Against Gastrointestinal Pathogens

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ABSTRACT

Leucas zeylanica is a wild plant that grows in various habitats and widely distributed throughout many countries including Malaysia, with a common name of Ketumbit. This herb is widely used in traditional medical treatment for various diseases including as as a external medication for worm infection. Several extractions methods were employed to select the highest yield of total phenolic content (TPC) and total flavonoids content (TFC). The special characteristics of *L. zeylanica* extracts was investigate by characterizations using FTIR-ATR, HPLC, GCMS, and LC-MS-MS. Several compounds were identified as possible active molecules against the gastrointestinal pathogens with high content of phenolic compounds including quercetin and gallic acid.

Keywords: *Leucas zeylanica*; gastrointestinal pathogens; quercetin; gallic acid

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PS

Temperature-Dependent X-Ray Studies of Discotic Hexagonal Columnar Mesophases in Trinuclear Gold(I) Pyrazolate Complex

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ABSTRACT

Gold(I) pyrazolate complex ($[Au_3Pz_3]C_{10}$TEG) has been widely studied due to its interesting liquid crystalline properties by exhibiting the discotic hexagonal columnar arrangement system. Generally, the liquid crystalline properties of the gold complex were confirmed based on their differential scanning calorimetry thermogram and polarized optical microscopy (POM) images. However, there is still no in-depth study on the phase trantion in liquid crystals of $[Au_3Pz_3]C_{10}$TEG especially on its structural change at variable temperature. In this study, the resulting liquid crystalline properties of $[Au_3Pz_3]C_{10}$TEG upon being heated and cooled was extensively demonstrated via variable-temperature POM (VT-POM) and small angle X-ray scattering (VT-SAXS). Based on the VT-POM images, it was indicated that $[Au_3Pz_3]C_{10}$TEG displayed a fan-shaped texture for typical arrangements of discotic hexagonal columnar of liquid crystals. Moreover, VT-SAXS results was in good agreement with the VT-POM images as it showed that $[Au_3Pz_3]C_{10}$TEG might consist of two types of stacking system, which are ordered or disordered hexagonal discotic arrangements. Likewise, VT-SAXS analysis also demonstrated that hexagonal columnar mesophase of $[Au_3Pz_3]C_{10}$TEG could be recovered even after the heating and cooling for two cycles.

Keywords: Gold(I) pyrazolate complex; discotic; hexagonal; temperature-dependent

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PS

Supramolecular Self-Assembled Organogels for Paper-based Chemosensor of Cyanide

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ABSTRACT

The acute toxicity of cyanide (CN^-) used in industries and as a weapon of terrorism consistently generate interest in the development of their simple and sensitive detection methods. Herein, we prepare a paper-based chemosensor of CN^- from donor-acceptor interactions of co-assembled organogels. To develop the donor-acceptor system, the paper strip was coated with co-assembled organogels of triphenylene (TP) and chloranil (CA) in 0.25 wt. % of benzene. Under the UV-lamp, the coated paper emitted a blue emission due to their original emission of λ = 471 nm from the corresponding excitation of λ = 299 nm. The TP: CA crystal structures are of monoclinic having an average crystallite size of 72.52 nm. We observe the paper-coated organogels has a particular quenching mechanism resulting in a loss of approximately 90% of its original intensity at 0.1 mol L^{-1} on CN^- exposure. The blue emission gradually decreased into the dark on the subsequent introduction of CN^- which was not observed for other anions such as Cl^-, Br^-, I^-, SO_4^{2-}, and NO_3^-, indicating highly selective detection methods. Based on the findings, the newly developed paper-coated TP:CA is a promising optical chemosensor for selective and sensitive detection of CN^-.

Keywords: Cyanide detection; supramolecular organogels, donor acceptor; paper-based chemosensors

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PS

Biopolymer Electrolyte Impregnated with [Emim]Br Ionic Liquid for EDLC Application

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ABSTRACT

Solid polymer electrolytes (SPEs) have a wide application and high potential to be used in energy storage devices such as electrochemical double layer capacitor (EDLC) and proton batteries. It is also able to reduce the environmental problems and equipment damages which caused by leakage in conventional batteries. A promising solid polymer electrolyte based on MX-MC-NH_4Br has been successfully prepared via solution casting method with different amount of [Emim]Br. The interaction between components in the electrolyte is proven by Fourier transmission infrared (FTIR) and X-ray diffraction (XRD) analyses. The room temperature conductivity of the electrolytes has been enhanced to ~3.0×10^{-4} S cm^{-1} with 30 wt.% [Emim]Br. The highest conducting electrolyte possesses the lowest E_a value of 0.15 eV. The temperature dependence of conductivity follows the Arrhenius theory. The ionic conductivity is found to influence the ionic mobility (μ), number density (n) and diffusion coefficient (D) that been investigated using EIS and FTIR methods. Dielectric analysis result has further verified the conductivity trend and the non-Debye behavior is confirmed for the plasticized system. The conduction mechanism of the electrolyte with 30 wt.% [Emim]Br is best presented by CBH model. TGA results indicate that the electrolytes are thermally stable until ~ 200 °C. The ions are the main charge carriers based on TNM result. LSV measurement reveals that L30 electrolyte decomposed at ~1.50 V indicating the suitability of the electrolyte for application in EDLC. Based on the specific capacitance of EDLC which is identified using CV plot and charge-discharge analysis, it is found that this electrolyte is competent to be fabricated in energy devices.

Keywords: Solid polymer electrolyte; maltodextrin-methylcellulose blend; transport parameters; EDLC fabrication; cyclic voltammetry

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IEM

Synthesis, Structural, Electrical, and Optical Characteristics of Al-doped NiO Nanosheet Films for Humidity Sensing Applications

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ABSTRACT

The aluminium (Al)-doped nickel oxide (NiO) nanosheet films were grown on the glass substrate via solution immersion method using nickel nitrate hexahydrate and aluminium nitrate nonahydrate as starting and dopant materials, respectively. The Al doping concentration were varied from 0 to 2 at.%. The Al-doped NiO nanosheet array films were uniformly deposited on the substrate. It was observed that at higher Al concentration the denser and smaller size of the NiO nanosheets were grown on the substrate. Al-doped NiO nanosheet also exhibit deteriorated crystallinity characteristics at higher doping concentration. In addition, the lattice parameter, crystallite size, and interplanar spacing were reduced with the Al doping. It can be observed that the tensile stress, compressive strain, dislocation density, and band gap of the samples increased at higher concentration of Al doping. Meanwhile, the resistivity of Al-doped NiO increased at higher doping concentration. The Al-doped NiO nanosheet films also show promising results for humidity sensing.

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SSH
Social Sciences & Humanities

An Insight into Online Shopping Behaviour among University Students in Malaysia

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ABSTRACT

In the twenty-first century, online shopping becomes increasingly popular as more people started to shop online using their smartphones and other mobile devices. Online shopping is a process of buying and selling products and services through e-commerce. The purpose of this paper is to examine online shopping behaviour among university students in Malaysia. This paper investigates four variables that influence university students online shopping behaviour namely consumer satisfaction, convenience, perceived risk, and price level. A survey has been conducted by distributing google form questionnaires through WhatsApp applications. Data was analysed using Descriptive Statistics and Multiple Regression Analysis. The empirical findings of this study showed that convenience, consumer satisfaction and price level positively influence while perceived risk has a negative effect on online shopping behaviour among university students. It was found that the significant variables are convenience, perceived risk and price level.

Keywords: Online shopping; convenience; perceived risk; consumer satisfaction; price level

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A Study on Lecturers' Self-Efficacy in Using Technology in the Centre of Foundation Studies

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ABSTRACT

It is undebatable that technology adds advantages in teaching and learning and there is a need to prepare the younger generation and encourage them for changing work, social and cultural environments. This study investigates the level of self-efficacy in technology use among the lecturers at the Centre of Foundation Studies and the relationship between self-efficacy in technology use and the use of technology in classroom. The study also seeks explanation for the reasons to the use of technology in classroom among the lecturers. It applies both qualitative and quantitative approach to observe lecturers' self- efficacy in using technology in teaching. Six-Point Likert-scale questions developed from Technology Proficiency Self-Assessment Scale (TPSA) were administered amongst 51 lecturers. Collected data from the survey was then prepared for the statistical procedures using Statistical Package of Social Science (SPSS) Version 2.0. It is found that there are significant correlations between lecturers' self-efficacy in technology use and the application of technology in the classroom (r=0.413). The finding obtained from this study concludes that increases in self-efficacy are correlated with the use of technology in classroom. This study finally concludes that there is a need for lecturers to equip themselves with the current technology advancement and to apply it in the process of teaching and learning to create a more meaningful learning environment.

Keywords: Lecturer's self-efficacy; technology proficiency; technology in education

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Non-Specialist English Teachers' Pedagogical Content Knowledge in Teaching English at Tahfiz Schools

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ABSTRACT

Tahfiz schools are gaining popularity over time. This is strengthened with the proposed establishment of the National Tahfiz Council (Majlis Tahfiz Negara) by 2020 (Nurul Huda Husain, 2019). Through that establishment, serious attention will be given to the overall systems in Tahfiz schools, especially the academic subjects and matters related to it. This is the focus of this study; the English teachers at Tahfiz schools who are normally non-specialist English teachers (NSETs), or teachers with no formal qualification to teach. Thus, this research aims to investigate the levels of the NSETs' Pedagogical Content Knowledge (PCK). In determining the level of the NSETs' PCK, both theories of constructivist and Bandura are taken into consideration. This means, if the NSETs have a strong self-efficacy, which may arise from their experience, the unawareness of the NSETs might drive them to see PCK as unchallenging. An explanatory mixed-method was utilized with 34 NSETs obtained through snowball sampling. The findings revealed the NSETs have an intermediate level of PCK. It is important for the NSETs to have a series of pedagogical courses, that will broaden their knowledge in teaching English subject. Besides, a mentoring program with specialist English teachers from neighbouring government schools seems beneficial to ensure that the NSETs will be at par in terms of knowledge and experience to the current education system.

Keywords: Non-specialist English teachers; pedagogical content knowledge; tahfiz schools; National Tahfiz Council; education

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Hisbah Institution and Its Role in Environmental Conservation: Reviewed From Islamic Civilization Perspective

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ABSTRACT

Islamic civilization has achieved glorious times through its achievements that have covered many areas of human need. Hisbah institutions have been established to ensure that all activities of human life are constantly monitored and refined to meet the requirements of Islamic teachings. This paper will explain the concept and the roles of Islamic institutions in Islamic civilization, especially in matters that related to the environmental preservation and conservation. The existence of this particular institution has made a huge impact in ensuring that the environment is clean and suitable for living. The principles of amar ma'ruf (command the good) and nahi munkar (forbid the evil) have been successfully implemented through the roles played by this institution.

Keywords: Hisbah institution; amar ma'ruf (command the good); nahi munkar (forbid the evil); environment

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What's Up with Online and Distance Learning (ODL)?

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ABSTRACT

In times of crisis and the global spread of Covid-19 pandemic, the world has observed an exponential growth of online education as educators and students are required to stay at home and resume with online learning entirely. Teaching and learning continue on online platforms to ensure that the students are not left behind in their education. With the new norms in education, come new experiences and challenges. The demands in online learning have pushed both students and educators to maximise their ICT skills and some to be unwillingly ready for the new normal. Students have no choice but to keep up with the requirements and challenges of Online and Distance Learning (ODL). Thus, the purpose of this study is to describe the ODL experiences of tertiary students particularly their preferences, their views of the instructional technology as well as the issues that arise in the integration of their courses in the new online class structure. This study used a mixed method approach whereby questionnaires were distributed to and collected from 68 respondents and further open-ended questions were asked to gather insights regarding their overall views of ODL. The quantitative data were statistically analysed and the qualitative data were thematically analysed. The findings showed that despite having only minor connection problems in online class participation, most students found that online learning was difficult for them due to the fact that they had a lot of distractions at home which affected their focus and understanding of the online lessons. Some of them even felt unmotivated because of the lack of face-to-face interactions. Thus, it can be concluded that most of the students perceived that Malaysian institutions and students are partially ready for ODL and more time is needed to adapt to the new changes which require empathy, creativity and a great deal of effort.

Keywords: Online and distance learning; Covid-19; online learning; ICT skills; new normal

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A Study on the Effectiveness of Malaysian Legal Framework on Sexual Offences against Children to Curb the Paedophilia Activities in Malaysia

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ABSTRACT

Paedophilia generally refers to a psychiatric disorder in which an adult being sexually interested in children. In recent years, society has become more aware of paedophilia cases especially after the conviction of Richard Huckle, a British man found guilty in possession of more than 20 000 images of child sexual exploitation. Another shocking case, the society were overwhelmed with the news of Nur Fitri Nordin, a Malaysian citizen who served five years imprisonment in the United Kingdom for possessing 601 photos and videos of children sexual abuse. In response to the alarming issues of paedophilia, the Sexual Offences against Children Act 2017 (SOAC 2017) was passed by Malaysia Parliament which covers wider aspects of child sexual abuse including child grooming, child pornography, and erotic physical acts to the children. The Act aims to protect children from sexual abuse by horrible adult predators. This is a major step to combat both online and offline sexual abuse against children. Paedophilia is part of sexual offenses against children, however, the specific term paedophilia does not appear in the current law. The objective of this paper is twofold. First is to explore about the paedophilia by discussing the definition of paedophilia from various disciplines. The second objective is to examine the Malaysian legal framework in tackling paedophilia issues in Malaysia. In doing so, the research explores 3 legislations that covers sexual offences against children which are Penal Code, Child Act 2001 and Sexual Offences against Children Act 2017.

Keywords: paedophilia; Malaysia; Penal Code; Child Act 2002; Sexual Offences against Children Act 2017; child molester; sex offenders

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Students' Learning Experiences on Online Distance Learning (ODL) Platform

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ABSTRACT

The advancements in online technologies have facilitated both distance and campus-based learning. These offer new opportunities and greater flexibility for students to learn, especially in time of crisis, whereby learning needs to move from predominately on-campus delivery to online mode. This study presents an analysis of the changed environment for students from the undergraduate long-distance learning programme level of a public institution. The study is based on constructivist principles to examine the perspectives of students' learning experiences on the use of Google Meet as a tool for Online Distance Learning (ODL) setting. Google Meet is a video conferencing app suitable for a large number of users to engage in high definition video meeting. The study also focuses on classroom engagement when using Google Meet as a platform for online learning. For the purpose of the study, a qualitative method was used with semi structured in-depth interview to collect qualitative data. It was conducted on purposive samples. Results indicate that student experiences were consistent with the constructivist theory. The results also show that students at both levels have positive learning experiences. The strengths and weaknesses of Google Meet as a learning tool are also highlighted. Based on the study, it is recommended that instructors need to design courses that can promote students' self-regulated learning behaviours in ODL settings These findings have implications on pedagogical as well as strategic planning of the institution. This will be the new normal and practice for students' learning mode at any level and time in the future.

Keywords: Online Distance Learning (ODL); learning experience; learning engagement; classroom engagement

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The General Performance of Children with Autism Spectrum Disorder while Working with Horses in Unmounted Activities

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ABSTRACT

Individuals with Autism Spectrum Disorder (ASD) have difficulties in making routine decision, behavioural and emotional regulation. Equine-assisted interventions are belief to give positive effects in individuals with ASD. However, previous study has revealed that parents view the activity as just a fun leisure activity and the effect is still in the early stages of development. The general performance of children with ASD are measure through observation score using scale of 1 to 5; from far below standards to far above standards. All subjects undergo a duration of two months intervention and commit twice a week session. The unmounted activities with horses include grooming, leading, hose down, tacking up, plaiting and hose down. There are 10 subjects are involved in this study whom diagnosed with ASD. The age ranges from 5 to 9 years old. As a result, the general performance scores of the participants (n=10) during part 2; Learning stage (M=24.6, SD=6.3) is higher than part 1; Introductory stage (M=20.4, SD=7.2). For Introductory stage, 3 participants score below standard which total scores range from 21% to 40%. Another 5 participants meet the standards which total scores range from 41% to 60%. For Learning stage, only 1 participant is below the standard. While 8 participants meet the standards and above. However, the scores for most participants in each session are vary and inconsistent. They are performing well in certain session, but they score differ in another session. The general performance score of the participants are likely to be influence by some factors. Their mood, daily routine and companion would be the aspects that influence the subjects to give high commitment to the session or vice versa.

Keywords: Autism spectrum disorder; equine-assisted intervention; unmounted activities; general performance

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Child Marriage According to Legal Perspective in Malaysia

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ABSTRACT

The issue of child marriage or underage marriage is not a new concern. It has cropped up over the years and has now become a trend and common in Malaysia. Child marriage is between children and adult or among children themselves are allowed in Malaysia for certain states despite of the negative consequences of the marriage. However, in allowing such marriage, some conditions and requirements have been imposed to safeguard the interest of the child after marriage. This conceptual paper aims to discover the legal perspective of child marriage in terms of its requirements towards Muslim children with comparison to non-Muslim children. Besides, this paper will also discuss consideration of court in allowing such application. Therefore, application of law involved will be highlighted in order to ensure the rights of children in their early marriage has not been neglected.

Keywords: Child marriage; conditions; comparison; consideration

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Children Deaths in Cars due to Parental Negligence: A Perspective from Islamic Criminal Law

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ABSTRACT

According to the statistics reported by the Social Welfare Department, there are 12,315 cases of neglected children by parents occurred from 2013 to 2018 in Malaysia. On average 400 children were neglected every year. One of the negligence was identified whereby a child being left in a car by their parents and died due to heatstroke. In July 2019, it was reported that a two year and ten month old baby girl was found dead after being left inside her grandfather's car for about two hours in Langkawi. In June 2019, reported a two year old girl died after being left inside her mother's car for almost three hours in Lahad Datu, and in February 2020 reported that a nine month old girl died of heatstroke after she was left in the backseat in her father's multipurpose vehicle for about four hours in Kuantan. All these cases were investigated under section 31 (1) (a) of The Child Act 2001 and if convicted, those found guilty were liable to a fine not exceeding RM 20,000 or jail not exceeding 10 years or both. Another punishment was under 304A of the Penal Code for causing death by negligence. By using the comparative methodology between Islamic criminal law and Child Act 2001 and Penal Code, this study focuses on analyzing whether parents or guardians neglected their child until died in the cars considered as a criminal offence in Islamic criminal law perspective.

Keyword: Islamic criminal law, parents, neglect, children

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A Prevention to Pornographic Activities based on Prophet Muhammad Characteristic

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ABSTRACT

Pornography has become a formidable threat among the community around the world. A survey in 2014 by Malaysian Population and Family Survey (MPSF 5) found that 35.3 percent of adolescents have been exposed and involved in pornography. These teenagers were vulnerable to pornographic materials through the use of social media. About 60.8 percent of this group has access to pornographic websites via the internet, 35 percent through smartphones while 20 percent are from compact discs (CDs) and pornographic video discs (VCDs). These figures clearly show that teenagers in Malaysia have varieties of access to engage in pornographic activities. It is very important to prevent of these pornographic activities to be easily assessed. On the other hand, in order to avoid users from pornographic activities, researchers believe that it is imperative to have guidelines. This guideline is designed so as to assist social media user and provide optimal usage ethically. This guideline will be based on the pillars character of 'Siddiq', 'Amanah', 'Tabligh' and 'Fathonah', the characters which are attributed from Rasulullah SAW. A survey has been conducted on a group of UiTM (Universiti Teknologi MARA) foundation students. This survey includes interviews and liturgical studies, itemising the guidelines for halal use of social media which aligns with the islamic fundamental principle.

Keywords: Halal; guidelines; pornography; adolescents; social media

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Child Sexual Abuse; A Skeleton in the Closet?

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ABSTRACT

The purpose of this paper is to look at the complex legal definitions of child sexual abuse at international and national level. Some definitions at national level entail the cultural and current perspective of local society which may affect the operative management of the issue. The aim of his paper is to compare these definitions against international standard definition provided by the United Nations Convention on the Right of The Child (CRC). Qualitative method will be used in studying the matter.

Keywords: Child sexual abuse; definition; United Nations Convention on the Right of the Child

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The Child Bride; To be or Not to be

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ABSTRACT

The paper aims to investigate the relationship between human rights and child marriages, the effects child marriages have on children and the legal frameworks available to deter or control them. Standard used are based on United Nations Conventions on the Rights of the Child and United Nations Sustainable Development Goals (SDG). Qualitative approach will be used in studying solutions exercised by some countries around the world This paper outlines the approaches taken by the countries in dealing with this issue.

Keywords: Child marriage; legal frameworks; human rights; standards approaches

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Demographic Profiles, Physical Performance, Cognitive Function and Loneliness among Malaysian Older Adults: Preliminary Study

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ABSTRACT

Physical performance and cognitive function decline had been commonly associated with older adults in various studies. Recently, there was an increase in the prevalence of loneliness among older adults, and it had been significantly related to the decline of physical performance and cognitive function. This study aimed to determine the relationship between demographic profiles, physical performance test, cognitive function and loneliness among Malaysian older adults. A cross-sectional study was conducted among 37 community-dwelling older adults aged 61 years old and above. Physical performance was measured using Timed Up Go (TUG) and handgrip test (Jamar Dynamometer); cognitive ability using Mini-Mental State Examination (MMSE); and loneliness measurement using De Jong Gierveld. The participant performed the TUG and handgrip test twice between an hour. Correlation between the variables was examined using Spearman's Rho correlation coefficient and Kendall's Tau correlation coefficient, respectively. There was moderate significant correlation including but not limited to MMSE and age ($rs=-0.335$, $p<0.042$); TUG and number of comorbid conditions ($rs=0.440$, $p<0.017$); and diastolic blood pressure with De Jong Gierveld ($rs=0.340$, $p<0.039$). Thus, the results supported previous findings on the significant relationship between the variables among older adults. Further increase in the number of participants and battery of tests are required to accurately determine the relationship between the demographic profiles, physical performance test, cognitive function and loneliness among Malaysian community-dwelling older adults.

Keywords: Older adults; physical performance; cognitive function; loneliness

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Compliance Factors of Malaysia Private Entity Reporting Standard (MPERS) by Small Medium Enterprises (SMEs)

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ABSTRACT

The objective of the study is to report the findings on a questionnaire survey in examining the factors affecting Malaysia Private Entity Reporting Standard (MPERS) compliance by small and medium enterprises (SMEs) in Malaysia. The study is based on questionnaire survey of professional accountants which involved a sample of 176 respondents who currently involved with the MPERS implementation. The result reveals that the legal restriction and requirements were the main factors that affecting the compliance of MPERS by the SMEs. The study also finds that the external user's perception, size of entities, management and accounting skills and cost and benefits consideration have little impact on the compliance of the MPERS. In addition, the study contributes to the literatures of financial reporting standard for SMEs by providing empirical from the local context of Malaysia that using MPERS and how theses standard basically affecting the reporting practices. This study should be the interest of regulatory authority, standard setters and the owner of SMEs business themselves in order to adopt the financial reporting standard that reflecting the 'true and fair view' when describing the firm's financial performance and financial position.

Keywords: Compliance; financial reporting standard; small medium enterprises; Malaysia

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Enhancement and Engagement: Examining the Relationship between Emotional Intelligence and Undergraduate Students' Academic Performance

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ABSTRACT

Over the horizon of years, Malaysian students has come a long way to achieve their academic results and yet failed to utilize the knowledge gained when they enter the working world. The lack of soft skills and emotional intelligence among these students dampened the situation further. These students are also known to have high memorisation skills instead of good grasp and understanding of the concepts behind the knowledge. Hence, this study examines the relationship between emotional intelligence and students' academic performance as measured by GPA; between each element of emotional intelligence including self-awareness, self-regulation, self-motivation, social awareness and social skills. The questionnaires are distributed to two higher education institutions among the Business and Engineering undergraduate students ranging from Year 1 to 3 in their study programmes. Results revealed that there was a significant relationship between emotional intelligence and students' academic performance as measured by GPA [R^2=.03, R^2 adj=.03, F(1,298) =9.35, p<.05).Interestingly, one element of emotional intelligence was found not to have any significant relationship with students' academic performance. The study underlined the need for emotional intelligence to be incorporated into the curriculum itself. It is proposed therefore for institutions to introduce emotional intelligence in the teaching and learning at higher level.

Keywords: Emotional intelligence; GPA; students' academic performance

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It's A Sign! Rethinking the User Experience Design Behind the "Golden Triangle" of Kuala Lumpur

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ABSTRACT

Directional signages is regarded as a critical backbone to reducing perennially risk and help enlighten one's travelling performance. However, with Golden Triangle in Kuala Lumpur ranked as the tenth most preferred and visited destinations in the world, the safety and unpleasant experiences of wayfinding among the tourists continued to become a massive concern. Not only the lack of attention to the design of directional signages had resulted in the increase of anxiety and fear among tourists, the lack of clarity in the directional signages design is a daunting task that limit their desire to navigate from one destination to another, affecting the reputations and willingness to revisit the country. This study aims to examine the design of directional signages in the vicinity of Golden Triangle in Kuala Lumpur, Malaysia. In particular, three areas are further investigated including: (i) wayfinding and navigation ability; (ii) knowledge and attitude during wayfinding; and (iii) preference for design elements in directional signage. Surveys were conducted among 200 tourists at the vicinity of Golden Triangle in Kuala Lumpur. Results show that more than half of the respondents struggle to understand the directional signages design, while 62.5 percent of them are frustrated with the time spent on achieving wayfinding. This study further reveals that 68 percent of respondents prefer the existing directional signages to be redesigned with Bold San Serif typefaces (65 percent) and cool colour (44 percent) is more preferred than neutral colours (18 percent). Of all the directional signages design, Hybrid design is highly preferred with a combination use of abstract icons (64.5 percent) and arrow with shaft symbol (90 percent). The results also highlighted that the preferences for an improved directional signage design are associated with noticeability, readability and visibility.

Keywords: User experience design; directional signage; design for tourism Malaysia; design for people

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Suicide Attempt: Recognize It as a Cry for Help, Not an Act of Crime

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ABSTRACT

In 2019, a statistic shows that there were more than 500 cases of people committing suicide or attempting suicide every year in Malaysia. A suicide attempt becoming a trend around the world
which is influenced by various factors including the unstable mental state of mind, a person's history, and access to the means of self-harm. The current legal position, however, deals with these cases by punishing those who attempted suicide with fines or terms of imprisonment by virtue of section 309 of the Penal Code. A suicide attempt is considered a crime in the majority of countries, but there are also a few countries that have decriminalized it although it is still frowned upon and discouraged. Historically, Malaysia's criminal law is adopted from India that used to criminalize suicide attempt. But later, India's law decriminalized the act by emphasizing that they shall not be punished for it when they are suffering the greatest stress. On the other hand, Malaysia does not follow suit by decriminalizing suicide attempts because knowing that the act only encourages other people to kill themselves. Therefore, this paper aims are to analyse Malaysia's legal position on attempted suicide and to compare the legal position with other countries. Besides, this research is also to analyse the rationale for decriminalizing suicide attempt. To achieve the objectives of this paper, the authors employ doctrinal research and comparative research through the reading of various kinds of literature. It is hopeful that this research will serve for the betterment of Malaysian law and to assist the relevant authorities to understand and consecutively, propose immediate abolition of the crime of suicide attempt.

Keywords: Suicide attempt; Penal Code; section 309; crime

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Cinemagraph Technique as New Media in Public Service Announcement (PSA) on Health Campaign; a Conceptual Paper

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ABSTRACT

Public health awareness is one of the strategies to inform and deliver designated messages to inform viewers on the health issue with varies of medium. This study purposed to enhance the current PSA campaign for better version of interactivity and ease of understanding. Nowadays health issue raised globally, especially in Malaysia whereby the targeted major cause of death was non-communicable diseases (NCD) and this resulting the country is on the top list for the several severe diseases. From this, the issue can be related with understanding of healthcare among the public and effectiveness of the health campaign towards them is in beneath the expected. This study would help in developing the new media of moving image in public health campaign, by exploring the public's apprehension against the health concern and references from the theory of general communication system. As the results, this study is expected to create new direction not only focusing on health campaign, but applicable in another fields on advertising. Mix method approaches were used in this study, by which the quantitative approach through questionnaire was conducted at the first stage to identify public's understanding on the present health issue. Meanwhile, a qualitative method of interview was conducted among the specialists from related industries to gain their insights on their perceptions towards the new approach in delivering health care message. Following this, the study enabled to help in evolving the variations of techniques in advertising to increase health care awareness. Additionally, professionals from advertising industries will adapt the concept of interactivity in moving image according to demand. Next, the future of health care understanding among public will be improved as their thoughts on one self-health will be changed perceptively.

Keywords: Cinemagraph; PSA; health; advertising; interactivity

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Ending Racial Tension by Eliminating the Shadow of Discrimination in the Minds of Malaysians

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ABSTRACT

A commonality between South Africa and Malaysia is that both were, or are, heavily dependent on their respective social contracts. Specifically, the apartheid law for South Africa in the past and the social contract of Malaysia that was formed nearing Malaysia's independence. These social contracts are mediums that either enforce or curb the differences of the races in both States. The objective of this research is to understand the conceptual framework and impact of these contracts to the States whether positive or negative in various aspects, to amplify the need for awareness in the society to appreciate the diverse races and finally, to form tolerance among the races in Malaysia as a result of accurate understanding of its social contract. We employed the method of doctrinal research by looking deep into the legal principles of social contracts and how it operates in the States. We referred to cases, statutes and opinions from various perspectives that relate to varying racial issues. Among our major findings from this research includes realizing that it is prominent that the law of Malaysia allows no room for negative discrimination between races, but it has become a norm in the society to discriminate instead. To put into perspective, while the social contract of Malaysia highlights Malay Privilege to a certain degree, it also protects the rights and importance of the non-Bumiputras. However, racial tension in Malaysia has been increasing, especially in recent years, mostly due to political power play and the innate fear of being overpowered by other races in one's society. To conclude, this research will not only be adding to the body of knowledge, but it will also raise awareness to the racial issues now happening in Malaysia, serving a way to form equal understanding among Malaysia's diverse community by promoting its diversity.

Keywords: Racial tension; discrimination; malay privilege; apartheid; social contract

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Urban Sprawl in Malaysia: A Review of Controlling Methods and Policies

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ABSTRACT

Urban sprawl is a widely known phenomenon, in which it can be defined as growth in urban areas that happen without much planning and development. The environment and socio-economic impact of urban sprawl have been the driving force in the creation of policies and methods to control urbanisation of cities. Many city planners and researchers had come out with their policy and ways in mitigating this rising issue of urban sprawl. The common response would be a compact city, smart growth, new urbanism, and many more. However, a certain policy did focus more on certain areas that cause a loss in another, which attracts criticism. Due to this, more and more methods are introduced to find the best way in achieving sustainable cities. The purpose of this paper is to review the methods and policies that were brought up to minimize urban sprawl by drawing the possibilities and criticism of the said method and to recommend the best method that can apply in Malaysia's cities. To achieve these objectives, the authors used analytical research through various literature on the issue of urban sprawl. It is anticipated that this research will provide the best solution in mitigating urban sprawl to prevent this phenomenon from becoming worse.

Keywords: Urban sprawl; controlling methods and policy; green compact city; Malaysia

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Female Empowerment: Managing Roles and Challenges as 'Edu-Mums'

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ABSTRACT

In female empowerment, women are given the chance to reconstruct and expand the possibilities for them to be successful in circumstances in which they previously were not able to do so due to some constraints. In line with that, female teachers, who are also 'Edu-mums', in Malaysia are advised to upgrade their academic qualification by obtaining a bachelor's degree. Besides being educators, they played the roles of a mother and a student. The objectives of this study are; to find out if these women are empowered when they are highly educated and to look into the challenges faced in their journey of pursuing their undergraduate studies. Semi-structured interviews were conducted; and questionnaires were distributed to mother-teachers in a private university. These 'Edu-mums' are from 34 years to 46 years and the number of children that they have are ranged from 1 to 6. They were also studied in terms of their multiple roles as well as the domestic, career and academic responsibilities. Special attention was paid to their coping strategies employed to overcome challenges, as well as how they had experienced empowerment through the process of managing multiple roles. The recommendations to encourage more 'Edu-mums' to pursue higher education include getting the universities to give more time allowance for completion of assignments, replacing some of the face-to-face classes with blended learning, and bringing awareness of the needs of having counselling services.

Keywords: Female empowerment; gender roles; mother-teacher-undergraduates

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The Knowledge, Preferences, and Barriers to the Adoption of Augmented Reality Books by University Students in Their Learning Process

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ABSTRACT

The objective of this paper was to measure the level of knowledge, preferences, and barriers to the adoption of augmented reality (AR) books by university students. The questionnaire research was conducted on Universiti Teknologi MARA (UiTM) students and consisted of questions that dealt with various aspects of AR books' adoption. The survey results indicated that of 73 respondents, 80% said that they had heard of augmented reality before but 66% claimed they had never heard of AR books. In seeking the respondents' level of preferences, the majority preferred AR books because it could be very useful in their learning process (74%), could increase their interest in the subject matter (71%), could enable them to have a better understanding of the subject taught (68%) and could improve their performance as students now prefer using technologies such as gadgets, internet or mobile applications (67%). The highest potential barrier, however, was the exposure and training to use the AR books by both students and lecturers (81%) and the availability of AR books in the university (77%). Future studies should enhance the usage of AR books among university lecturers and staff to provide more insights into the process of adoption of AR books by the university.

Keywords: Augmented reality books; knowledge; preferences; barriers; university students

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Malaysian Political Sphere: When is the Right Time for the Youth to Join?

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ABSTRACT

In light of the recent political events that happened, the mass turnout of the youth voter was able to change the political scene. Despite the presence they have, the older age groups perceive them as naive and have a lack of political literacy. They are also deemed as unfit to have a say in the political scene as they are not experienced enough with political ideologies. Thus, this article was initiated to study the youth's behaviour in terms of reaction, comprehension and the ability to differentiate diverse political ideologies in relation to the recent national political scenario with reliance to library research on case studies and previously conducted surveys pertaining to youth engagement towards national-level politics. Align with that, the second objective of this paper is to analyse the stated behaviour portrayed by the youth of our nation and compare it to the youth of other countries which have a stable trend of youth participation in their country based on the literature review of recent case studies. Hence, the findings of this paper are to provide collective and effective measures which serve as a guideline for relevant authorities i.e. the Ministry of Education to increase the political literacy among the youths so they will understand the ideologies and technicalities of governance in modern society. This paper then further outlines the preferred and optimum period for the youth to learn about political literacy in order for more constructive debates and reasoned choices for themselves to make.

Keywords: Political education; political literacy; politics; education; youth

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Burnout: The Relationship between Work Pressure among the Healthcare Workers in a Hospital in Malaysia

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ABSTRACT

A study conducted in a hospital in Malaysia. The aims of this study is to see the relationship between work pressure and burnout problems among the healthcare workers as well work pressure and burnout differences based on the situation which is due to the unpredictable virus of COVID-19 pandemic. Moreover, it is to see the impact towards the healthcare workers being affected which may have a significant impact on the psychological well-being & the quality of life of the staff. To meet the needs of this study, a survey using a cross-sectional design survey was conducted to over 163 staffs serving in the hospital. The instruments of the study used is demographic-related information, Maslach Burnout Inventory (Maslach Burnout Inventory) and Quality of Life Scale. Statistical analysis method SPSS Version 25 for Windows software is used to parse the data obtained. Data were analyzed using correlation and t tests. The study found that work stress was positively associated with the quality of life of the healthcare workers. However, the other three hypotheses submitted by the researcher indicate no there is a difference between work stress and burnout problems in terms of gender, marital status, & work experiences. A total of 163 of healthcare workers completed the questionnaire with results shows 64 respondents (39.3%) are Nurses, Medical Health Assistant are 42 (25.8%), Assistant Medical Officer are 20 (12.3%), Physician 19 (11.7%) and others are 18 (11%). As for limitations, there was no control group and thus we cannot claim a causal relationship between COVID-19 and the observed level of burnout.

Keywords: COVID-19; burnout; healthcare workers; stress

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Adoption of Social Network Sites for Education: a Study on the Acceptance and Factors Influences of Social Network Sites amongst University Student

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ABSTRACT

In recent years, Social Networking Sites (SNSs) have received great attention in the online education area. Social networking sites were used for a number of academic purposes and aided in educational settings for students. A recent study reported online learning are able to achieve good grades as it promotes informal learning and at the same time it increase student engagement in collaborative learning. According to the literature on social network sites, it has attracted millions of users due to availability and reachable. The report shows that it is used for different purposes. Some use it for socializing purposes, while some others use it for academic purposes to complement classroom teaching and learning activities. However, despite SNSs gaining acceptance in universities around the world, the study on students' adoption and acceptance of SNSs is still unexplored fully in Malaysia. The objectives of this study to determine the acceptance of student towards SNSs and factors influence the adoption of SNSs. Three factors have been identified as elements of SNSs adoption are perceived usefulness, perceive ease of use, and perceive security. This study is a quantitative study which distributed to university student in Klang valley. The instrument used in this study was adapted from the previous research. The Likert Scale designed was used to examine how strongly respondents agree or disagree with the statement. Sampling techniques use in this study was a convenience sampling. There are 166 data successfully collected and analyzed. This study used PLS-SEM for data analysis. The finding of this study indicated that the use of SNSs and adoption of SNSs for education, encourage students to improve their performance and education. This study is important as it benefits the university and students in many ways, especially in education and technology because at present the change of learning style is common and most universities encourage online learning rather than traditional learning method.

Keywords: Social network sites; online learning; university student

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The Mediating Effect of Customer Perceived Value in the Relationship Marketing

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ABSTRACT

In the tourism industry, the customer prefers to buy travel packages through Travel Cybermediaries instead of a travel agency. To be competitive, the travel agency has to focus more on customer orientation in delivering their services. To provide a depth understanding, customer perceived value was tested as a mediator. A survey conducted among experience customers reported that customer orientation and customer perceived value have a positive influence on customer satisfaction. Moreover, it is confirmed that the customer perceived value act as mediator. In conclusion, integration of customer orientation and customer perceived value strengthen customer satisfaction towards the travel agency.

Keywords: Customer perceived value; customer orientation; customer satisfaction; relationship marketing

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1994 Rwandan Genocide: Protecting the Rights of the Victims

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ABSTRACT

The customary international law on genocide established at the 1948 Genocide Convention affirms that persons committing genocide or any of the other actions set out in the article shall be punished, whether they are constitutionally responsible rulers, public officials or private individuals. Although this provision has not been given binding power, it reveals that genocide taking place within a wider political context in which states may or may not take action to stop it. The 1994 Rwanda genocidal tragedy has raised the issue regarding protection granted by international human rights law where there is a flagrant human rights violation occurred. A number of perpetrators including the prominent politicians were put before g*acaca* courts after 20 years of genocide. Several cases, however, ended in unjust prosecution which the court violated Rwandan's liberties. The purpose of this article is to critically study whether the legal mechanism that established in international laws gives Hutus and Tutsis the rights they deserve, which were violated after the genocide occurred. Moreover, the article looks more closely into the effectiveness of *gacaca* courts in achieving justice. The authors have used library research to achieve these goals by referring to different types of law textbooks and databases to obtain the right findings in this legal research. This article then ends by suggesting proposals and recommendations that the international community can adopt to strengthen its legal mechanism or create a new legal instrument that can be enforced and implemented its decisions, particularly in the context of genocide. It also stated some recommendations to ensure that what happened 24 years ago in Rwanda will never be repeated in any country again.

Keywords: Rwanda; *gacaca* courts; effectiveness; human rights; legal mechanism

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Risk Management: Safe Work Culture in Manufacturing Industry

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ABSTRACT

Accidents that occur within an organisation impact both employers and employees. This impact is in the form of costs and lost profit to the employers. Normally, the cost of accidents could be considered as higher than expected because they involve hidden or indirect costs. This will affect the way they work. A safe work culture needs more attention since it could influence the business to give significant attention to the operational and financial impact for the employers' business. Employees who are involved in accidents will suffer lost income. Therefore, the rate of accidents could be reduced by implementing the right risk management control. Enterprise-wide risk management (EWRM) is one of the examples of risk management. This risk management is more reliable since it could cover the risks holistically compared with traditional risk management, where risk is managed or handled individually. One of the foundations of EWRM is identifying a safe work culture. The reason is to inform entities in the department or working place of the correct or incorrect way since it's related to norms and values that are possessed by the organisation. The aim of this study to identify the relationship between strategic communication, leadership roles, organisational design, and employee engagement towards a safe work culture. This study used stratified sampling and distributed questionnaires to 379 respondents. The findings showed that all the variables had significant relationships to safe work culture. This outcome will be used as guidelines for manufacturers to evaluate the manufacturing environment as well as helping them to enhance their productivity and success in EWRM implementation.

Keywords: Enterprise risk management (ERM); Safe work culture (SWC); risk management (RM); manufacturing; accident

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Emergence & Potential of Malaysia's Agri-food to be Self-reliance through Integrating & Transformational Policy

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ABSTRACT

As cited by Fama senior director, Mohd Anis Yasin, Malaysia depends significantly on imported vegetables and fruits to feed Malaysians. This is due to lack of agri-food activities as over two-thirds of Malaysia's eight million hectares of agriculture land were used for oil palm industry, whereas other 1.2 million hectares were planted with rubber, leaving only 8% for agri-food plantation. This shall be alarming as there is significant decline in the price of palm oil, causing the future of palm oil to be uncertain. An ideal plan suggested is to make Malaysia an independent country in supplying its own food to the people of the nation. The research conducted in studying mentioned proposal is doctrinal research by analyzing literature on related area. Contrary to what has been assumed, insufficient amount of land but advanced technology in agriculture sector in Malaysia enable its potential to possesses self-reliance in supplying vegetables and fruits to local market demand. Our finding indicates that with investment of budget allocation as well as human intellects, Malaysia could minimize its dependency on other countries like China, India, Thailand, Indonesia and New Zealand for imports of vegetables and fruits in fulfilling local demands. The objective of this paper shall be to study the background of agri-food in Malaysia, to assess the accountability of Malaysia to carry out mentioned proposal, to identify the challenges faced in making such change as well as to imply other country's model in being independent in agri-food sector. This paper shall serve its purpose as guidelines or ideas to the government in implementing an integrating and transformational agri-food policy.

Keywords: Agri-food policy; self-reliance country; local demand

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Confession and Denial- Binary Opposites in Edgar Allen Poe's *The Black Cat*

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ABSTRACT

Binary opposites are a pair of related ideas, concepts which are sharply in contrast with each other but form the two ends of a complete whole. In Saussurean Structuralist Theory, binary opposites are the tools by which meaning is established in a reciprocal and complementary determination, despite the two units of language being in contrast with each other. This paper is a close textual analysis of Edgar Allen Poe's *The Black Cat* (1843) [1] to explicate the use of binary opposites in communicating the author's message to readers. The analysis focuses on the underlying structure of the text which underscores the principle that "things cannot be understood in isolation" and everything must be seen in the context of the larger structure it is a part of [Barry, 2002 cited in Putri, 2016] [2]. The analysis aims to invite the audience to consider the persona's position as a criminal of choice or circumstance.

Keywords: Binary opposites; textual analysis; close reading; literature

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The Relationship between Motivation and Willingness to Communicate in English amongst ESL Pre-University Law Students in Malaysia

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ABSTRACT

One of the main factors that contribute to the high unemployment rate among fresh graduates in Malaysia is due to their poor communication skills in English. Many studies have highlighted that willingness to communicate is an important variable that leads to learners' mastery in the second language however, not many studies have explored the possible statistical predictors that contribute to the high level of willingness to communicate in English. Hence, this study aimed to measure the relationship between motivation and willingness to communicate in English amongst the ESL pre-university Law students in Malaysia. A set of questionnaires measuring motivation and willingness to communicate in English was randomly distributed to 111 respondents. The findings revealed that there was a high and significant relationship between motivation and willingness to communicate in English (r= .72). In addition, the multivariate regression results also implied that 52.1% (R^2 = .521) of the variance in willingness could be predicted from motivation to communicate in English. Hence, all these tend to lead to implications such as the extension of corpus of knowledge and theoretical enhancements.

Keywords: Motivation to communicate; willingness to communicate; pre-university law students

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Case Review of Bin Abdullah – Impacts and Development in Malaysian Law

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ABSTRACT

Malaysia is known for its dual legal systems which consist of Civil and Syariah laws. Due to that reason, conflict of laws arises in situations like registration of name and birth of a newborn. It appears that although it is an administrative and civil matters, the National Registration Department will look on the issues such as religion and the legitimacy of a child which relates to the religion of Islam. Thus, it leads to the conflict of laws. It is unavoidable that the case will be filed in civil courts since it involves administration and registration process. The approach was taken by the court which is not allowing importation of Islamic law in this issue will result in the decision that contradicts with Islamic principles. This will affect the well-being of the party who seeks justice for their case because Syariah law may say otherwise. Thus, the objectives of this paper are to look at the recent approach taken by our Federal Court and to analyse the case of Jabatan Pendaftaran Negara & Ors v Seorang Kanak-Kanak & Ors (Majlis Agama Islam Negeri Johor, intervener) [2020] MLJU 326. Apart from that, this paper will also highlight several cases within this context. The research methodology of this paper is doctrinal. The information gathered for this research paper is based on secondary sources such as journal articles and case laws. This paper concludes that based on this particular case, it gives a new milestone in sources of laws in Malaysia by relying on Fatwa Kebangsaan to solve the issues relating to Islam. This article also analyses the usage of syariah law to fill the lacuna for matters regarding the religion of Islam in civil cases.

Keywords: Bin Abdullah's Case; conflicts of laws; civil law; syariah law

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Depression Among University Students During COVID-19 Attacks

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ABSTRACT

Depression often occurs among students at the primary, secondary or university levels. Depression can be detected through student behaviours such as anxiety, pressure and stress. The purpose of this study was to see how COVID-19 attacks affect the level of depression among students especially college-bound students who cannot return home. Data were obtained by distributing the questionnaire forms to hundred Diploma students using purposive sampling method from various faculties at Tok Gajah College Universiti Teknologi MARA, Pahang Branch, Jengka Campus. The researchers also used the Beck Depression Inventory in a three-part questionnaire, which describes students' depression and factors contributed to their depression. The data were analysed using Statistical Package for Social Sciences (SPSS) software version 23. The result of the study showed that students were depressed not due to the inability to return home due to COVID-19 attacks but other factors like family, personal issues, academic performance achievement issues, communication barriers and social interaction problems related to peer relationships. It is hoped that the results of this study are expected to provide a solution to how depression can be overcome through faith and patience.

Keywords: Anxiety; depression; stress; students

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Entrepreneurial Intention: An Empirical Study among Students Taking Entrepreneurship Course

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ABSTRACT

The research conducted particularly among the students of Universiti Teknologi MARA Pahang Branch, Jengka Campus taking Entrepreneurship Course has attempted to understand the factors that stimulate their entrepreneurial intention. The study also focused on examining how many of them possess the entrepreneurial intention towards self-employment, how the relationship of demographic factors affecting their entrepreneurial intention and how is the curriculum offered to promote students' interest in entrepreneurship. It appears that the students find entrepreneurship both personally and generally desirable which suggests that entrepreneurial career in future might become among university graduates. However, training and skill development programs are necessary to increase the personal capabilities and generate interest and intention among students to have positive attitudes towards entrepreneurship. This survey has also confirmed the previous studies by others that the male persons continue to be the most active group in terms of entrepreneurship and the role of entrepreneurial role models in the family as a positive effect on the entrepreneurial perception and intention. It also appears that the entrepreneurial intention among female students is fairly low. This paper suggests that there should be continuous effort to promote female entrepreneurship and continuous or other government agencies to raise students' awareness of various avenues of support and programs available to assist them in their business start-ups.

Keywords: Entrepreneurial course; entrepreneurial intention; students

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SULAM@UiTMDENGKIL: Churning Dynamic Human Capital from Real Societal Problems

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ABSTRACT

SULAM@UiTMDengkil is Centre of Foundation Studies UiTM's rendition of the Service Learning for Society (SULAM) project, an initiative driven by Ministry of Education Malaysia (MoE) to engage the youth in social change, targeting real problems in the society. Focusing on the Semai Orang Asli community in Dengkil, SULAM@UiTMDengkil imbued Service Learning (SL) elements within an integrated community-service initiative across several UiTM foundation programmes, aimed to enrich students' learning experience via volunteerism and youth philanthropy work. One hundred and four (n=104) student volunteers from three branches of study - Science, Engineering and TESL - embarked on a project to alleviate critical Orang Asli community issues - school attendance and learning motivation - in a 5-month long project. A 13-item questionnaire developed based on MoE's SULAM Playbook and iCGPA generic skills constructs were administered on the participants, probing the areas of generic skills attainment, self-improvement, and inspired philanthropic actions as a result of joining the project. Findings illustrated participants' positive responses in key generic skills' attainment namely communication, critical and creative thinking, problem-solving, teamwork, and ethics. Areas of personal improvement namely self-confidence, empathy and civic-awareness also showed promising responses. Data also revealed that students were inspired to be part of youth-philanthropic initiatives for social good after finishing foundation studies. Data also suggested that SULAM@UiTMDengkil proved beneficial to students across different areas of study as no significant difference can be found in how the project impacted students of different majors (Science, Applied Science and Social Science).

Keywords: Service learning; generic skills; youth philanthropy

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Youth Perceptions on the Credibility of Political Marketing and Propaganda on Social Networking Sites (SNS) in Malaysia

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ABSTRACT

Youths are susceptible to external stimuli and in today's era of the internet, they are on its frontline. Youths are shown to be very close to social networking sites (SNS). In years past, through political marketing and propaganda, the idea of fake news and misinformation is widely debated by all sides on the internet. This paper explores the credibility of political marketing and propaganda via SNS in Malaysia through youth's perceptions. As a qualitative study, seven semi-structured interviews were used to assess youth perception on Political Marketing and propaganda on SNS. Through content analysis of the transcriptions, the study found that the youths were aware of fake news and were eager to question and verify Political Marketing and propaganda information they obtained from SNS. This study highlights the need for a common definition of SNS. Future study on similar subject needs to be expanded so as to cover greater youth representation across the country.

Keywords: Youth; political marketing; political propaganda; social networking sites; fake news

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Availability of Online Literature on Politics-Administration Dichotomy in Malaysian Context

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ABSTRACT

Politics-administration dichotomy is an important cornerstone in the study of Political Science and Public Administration. It deals with the separation of administration from politics, making public administration to be more business-like and in so doing avoiding political interference. The debate on its practices and practicality has been on-going for more than a century, starting from Wilson's conception of it in 1887 to the many scholars who have debunked or supported it throughout the centuries. Malaysia has a rich public Administration history just like any other country in the world, and the concept has been viewed from and through many perspectives from different countries. This study investigates the availability of materials pertaining to the concept in Malaysia, online, where it seeks to look into titles and topics that cover the concept. As a qualitative study, it observed the uses of key terms combination such as Politics-Administration Dichotomy and looked into their contexts, both in English and Malay, using major search engines. The result shows that there was a lack of materials pertaining to the concept. This study suggests that more studies regarding the concept need to be done in order to generate sufficient Malaysian perspective of it online.

Keywords: Online literature; search engines; politics-administration dichotomy; public administration; Malaysia

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Freedom of Movement in Malaysia: The Development of the Underrated Rights

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ABSTRACT

Personal liberty, equality and freedom of religion are among popularly debated human right issues fought by human rights activists all over the world. Unlike those fancy fundamental rights, freedom of movement did not get much attention and seldom be overlooked and forgotten. However, due to the unprecedented pandemic Covid-19, people are starting to realize that they are taking these rights for granted as they are not allowed to freely move around anymore. In Malaysia, freedom of movement is provided by the Federal Constitution under Art. 9(2). It is important to note that Art. 9(2) only guarantees the right to move freely within the country and does not cover the right to have a passport and to travel abroad. However, the landscape has changed recently as the Movement Control Order (MCO) was imposed by the government in March 2020 restricting the citizen's right to move freely within country under the Prevention and Control of Infectious Diseases Act 1988 and the Police Act 1967. Many fundamental rights were inevitably violated especially freedom of movement due the implementation of MCO. In the absence of comprehensive literatures on this aspect, this paper analyses the components of freedom of movement which include restriction against Malaysian citizen to leave country and freedom to move freely within country. This paper also exemplifies the rationales behind the restriction of movement imposed by the executive body in this democratic government of ours.

Keywords: Freedom of movement; human rights; Movement Control Order; travel ban

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Determining Drivers of Green Human Resource Management Practice amongst Public Universities: A Conceptual Paper

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ABSTRACT

Green Human Resource Management (GHRM) is a relatively new concept in the business world and human resource literature field. Recently, many business organizations have aware that GHRM has become one of the important strategies for organizational sustainability. Prior study has reported that the implementations of GHRM contributes to achieving greater efficacies and create an atmosphere of better employee engagement and enable industry professionals to strengthen their corporate social responsibilities in a better manner. The interest in environmental issues also has increased, particularly in the issues of the greenhouse effect, climatic change, environmental damage, etc. Given the present environment, the organizations, including universities have to develop better strategies and focus on a few factors to successfully embrace GHRM in their organization. Ultimately, universities are important to the promotion of sustainable GHRM through their positive effects on students and other stakeholders. In Malaysia, many researchers reported that GHRM is still under-researched and needs to be covered. Therefore, this study attempts to fill up this existing gap by understanding the predictors in implementing the practices of GHRM. The study suggested a conceptual framework to determine two significant components, namely organizational environment factor (supervisory support, financial resources, technology) and individual factor (employee competencies, and employee attitude) as key factors to influence GHRM practices in public universities. This quantitative study will collect data among the administrative staff of selected public universities. The purposive sampling technique will be used. This study will employ the Structural Equation Model – Smart PLS for data analysis. This research is expected to create awareness of GHRM and its practice towards employees to increase knowledge and reduce the negative impact on the environment. Furthermore, the result of this research will become the guidelines for the organization to formulate policies and advocate programs towards achieving successful GHRM that will lead to a sustainable and inclusive nation.

Keywords: Green human resource management; organizational environment; individual; public universities

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Parliamentary Financial Scrutiny on the COVID-19 Economic Stimulus Package; Role of the Special Select Committee on Budget

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ABSTRACT

On 27th March 2020, Prime Minister Tan Sri Muhyiddin Yassin announced the launch of the PRIHATIN economic stimulus package to address economic risks associated with the COVID-19 outbreak. The economic stimulus package includes a fiscal injection from the government amounting to RM 25 billion. Two other economic stimulus packages, PRIHATIN PKS and PENJANA were later launched after the first one, totalling up to RM 295 billion, with a fiscal injection of roughly rm 35 billion. Based on the principle of check and balance, the government, being answerable to Parliament, is therefore responsible to provide details and explanations on the projects, programmes, as well as the monetary source on the fund that would be spent on the public under the economic stimulus package. Such spending must be approved by Parliament through the laying of a supplementary estimate in the Dewan Rakyat and be included in a Supply Bill. Parliamentary financial scrutiny can be carried out through a debate in chamber on the economic stimulus package in a parliamentary session. Unfortunately, during the first meeting of the third session of the 14th Parliament held on 18th May 2020, the Dewan Rakyat sitting only featured the Royal address for the opening of Parliament sitting by the Yang di-Pertuan Agong. The nearest parliamentary debate sessions would be during the second meeting proposed to be held in July 2020. However, it is observed that even though the scrutiny of the economic stimulus package could not be carried out through a parliamentary debate in the Dewan Rakyat chamber, Parliament may still carry out financial scrutiny through the Special Select Committee on Budget. Using documentary analysis on the committee meeting minutes, this paper examines the establishment of the Special Select Committee on Budget and the role it should be able to play in carrying out financial scrutiny on behalf of Parliament, particularly in relation to the economic stimulus package administered by the government in battling the COVID-19 outbreak. It is found that the Special Select Committee on Budget would be the best platform for the task of financial scrutiny on the economic stimulus packages that would be tabled in Parliament in a Supplementary Supply Bill, as it carries out its committee work continuously regardless of whether Parliament is in session or delayed, the scrutiny work is in line with the committee's Terms of Reference, and that it already has a pre-existing relationship with government officials from the Ministry of Finance that are involved in the implementation of the economic stimulus packages.

Keywords: Economic stimulus package; parliamentary financial scrutiny; special select committee on budget

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Impact of Covid-19 Outbreak on Small and Medium Enterprises (SMEs) Cash Flow

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ABSTRACT

The Covid-19 coronavirus outbreak and the Movement Control Order (MCO) are the latest economic challenges affecting SMEs business in various countries. It has affected the SMEs operations, financial position and survival. Currently, economic experts revealed that cash flow position stand as a major issue faced by SMEs. However, the specific impacts on SMEs cash flow are still understudy. Therefore, the goal of this article is to fill this gap by investigating the impact of SMEs' cash flows from the perspectives of SMEs' owner. Qualitative approach was used as the method of study, where seven selected owners were interviewed through phone calls from 18 March, 2020 until 31 March 2020 during the first phase of Malaysian MCO period. The study has identified four indicators of cash flows distress such as total loss of income; drastic reduction in income; cash flow imbalance; and increased exposure toward insolvency risks. Consequently, when deciding on the financial strategy, it is essentials for SMEs to implement the pecking order practice and prudent short-term cash flow management that emphasis on cash reserve and retain earnings. Finally, this article highlights few suggestions for future research and SMEs development agenda.

Keywords: Covid-19; Movement Control Order (MCO); SMEs; cash flow; business

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India's Plight, The Muslim's Diminish: A Study on Indian Citizenship Law [Citizenship (Amendment) Act 2019]

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ABSTRACT

The Citizenship (Amendment) Act 2019 was passed by the Parliament of India on 11 December 2019 and had become effective on 10 January 2020. This law amended the obsolete Citizenship Act 1955 and providing an Indian Citizenship to those illegal immigrants and refugees of Hindu, Sikh, Buddhist, Jain, Parsi, and Christian that fled from Pakistan, Bangladesh, and Afghanistan before 31 December 2014, on the ground of fear of religious persecution from those countries. However, this law becomes controversial since Muslims from those countries are not eligible to get citizenship and also there is a concern where this law will affect the National Register of Citizens (NRC) and Muslims from India itself will become stateless. Since then, there are hundreds of protests happened in India to express disagreement towards this law and caused hundreds of casualties. This paper attempts to identify whether this legislation has an essence of discrimination, especially discrimination towards Islam. Two objectives that crucial to be tackled by this paper are to establish the essence of discrimination towards Muslims after the law has been enacted, and to study whether this legislation had undermined the Constitution of India, which is the supreme law of India. To achieve such objectives, this research relies on two research methodologies which are library research and online research. The findings of the research prove that this legislation is discrimination in nature especially towards Muslims and oppresses the fundamental liberty of a person. This paper suggests that the international communities that consist of states and international bodies such as UNHRC and other NGOs to put tremendous effort to ensure that India will revoke this legislation.

Keywords: Citizenship (Amendment) Act 2019; National Register of Citizens; discrimination; Constitution of India

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BS
Biological Sciences

Association Between Sociodemographic Factors with Parental Allergy Knowledge and Practice

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ABSTRACT

Allergy is a non-communicable disease (NCD) that affects the global population of any age. Parents plays a crucial role in recognizing the risk that their children face as an allergy sufferer. As allergy cases among Malaysians have risen drastically in recent years, awareness and adequate treatment of allergy symptoms have compromised better strategy of prevention to reduce the adverse impact on the sufferer's quality of life. A total of 117 married couple underwent a cross-sectional quantitative survey that was conducted at Selangor, Malaysia. A questionnaire divided into part A for allergy status followed with part B and part C which outlined the parental knowledge about allergy and preventive practice, respectively. This paper highlighted the effect on sociodemographic factors such as education level and employment status towards parental knowledge, and practice of allergy. The mean score among parents for part B, C and B and C showed no significant differences between mothers and fathers. Between secondary and tertiary education level, only tertiary educated fathers scored significantly higher (3.13 ± 1.45) than secondary level fathers (2.40 ± 1.48) (p=0.011). Employment level also indicates no significant differences regardless of respondent's employment status in all part B, C and B and C. Scores between mothers and fathers of similar employment status also showed no significant differences. Chi-square analysis among fathers or mothers with or without allergies who consult or do not consult health practitioner also showed no significant association among fathers with X^2 = 0.534; P = 0.465 compared to mothers with X^2 = 1.069; P = 0.301. As summarization, there are no significant differences between maternal and paternal contribution towards preventive and treatment strategy based on parent's knowledge level. Both played their role equally in managing allergy of themselves and their family.

Keywords: Education level; employment status; allergy knowledge; allergy practice

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Emollient Efficacy Test of Structured Virgin Coconut Oil Creams using Non-Invasive Skin Biophysical Methods

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ABSTRACT

The aim of this study is to formulate and evaluate the emollient properties of cosmetic emollients creams. The focus is primarily on natural virgin coconut oil (VCO) and structured VCO (SVCO). Both oils contain medium-chain triacylglycerides (MCTs) that have been reported to have permeation enhancement effect on the lipophilic active ingredients. It is interesting to know whether the fast absorbing ingredients have the emollient effect when formulated into creams. SVCO which contains higher amount of MCTs than VCO, was produced by lipase catalysed acidolysis of caprylic/octanoic acid (eight-carbon chain) and the VCO. The emollient cream was formulated into oil in water (o/w) cream which consisted of 30% (w/w) of oils, emulsifying wax and deionised water. 5% (w/w) α-tocopherol was added to the oil phase for cream containing the active ingredient. The emollient efficacy of the oils in the formulation was determined using non-invasive skin biophysical measurements to look at the skin hydration and skin microrelief. Significant effects (p<0.05%) were observed in the skin moisture content, TEWL and skin elasticity values for all formulations as compared to the skin at T_0 (before application) after the short and long term study periods. The skin smoothness (SEsm) and skin roughness (SEr) values, which are indicators of the skin condition, also showed significant improvement. The results statistically indicated that VCO and SVCO creams exerted emollient effect when applied topically and also acted as skin permeation enhancer in the formulation.

Keywords: Emollient; permeation enhancer; skin biophysical; structured virgin coconut oil; virgin coconut oil

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Prevalence of Cow Milk Allergy (CMA) and Soy Allergy and its Association with T-IgE and Specific IgE Composition from Lactating Maternal Serum

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ABSTRACT

Allergy is an abnormal immunological condition that cause physical and biochemical changes of individual. This undesirable immunologic reaction initiated by exposure or stimulus to allergen which tolerated by normal individual but not to the sufferer. People at a broad spectrum of age can be affected by this hypersensitivity reaction which can be detected as early as in infancy.Among exclusively breastfeeding mothers, their concern on infants relies on the genetically transmission of the immunologic component through human milk which increase the risk of their infant to this disease especially at the first six months of life. In Malaysia, cow and soy milk are known as the two common sources of food allergen to trigger allergy reaction among infants and adult. Thus, this study aimed to determine the prevalence status of cow and soymilk allergy through Immunoglobulin E (IgE) among 36 lactating mothers. They were chosen on convenience sampling basis surround Dengkil, Selangor and Kuantan, Pahang. Based on clinical laboratory testing using ImmunoCAP 100 with CAP RAST(Radio-allergo-sorbent Test) system, from n=36 maternal serum, Total Immunoglobulin E (T-IgE) were ranged from 82 to 233 kU/L with mean±SD of 142.27±41.49, specific IgE to cow milk (Cow Milk IgE) ranged from 0.10 to 0.48 kU/L with mean±SD of 0.251±0.09 kU/L and specific IgE to soy (Soy IgE) ranged from 0.02 to 0.22kU/L with mean±SD of 0.127±0.04. From specific allergen test to cow milk and soy, n=7(19.4) of mother clinically diagnosed with cow milk allergy but none for soy allergy. The correlation

between those three variables has been tested using Pearson correlation while its association has been tested using Independent T-test. The results showed that there was positive strong correlation with r (36) =0.691, p<0.001 between T-IgE and CM-IgE but there was no significant correlation found between T-IgE and S-IgE since r(36)=0.159, p>0.05. Independent T-test also indicated that, there was a significance difference of T-IgE for mother who positively diagnosed with cow milk allergy ($\overline{x}$=174.00, SD=40.52) and for mother who negatively diagnosed with cow milk allergy ($\overline{x}$ =134.62 SD=38.57) conditions(34)=-2, p=0.022. Overall, both concentrations, T-IgE and specific IgE (s-IgE) must be considered to have an accurate allergy diagnosis through a clinical trial.

Keywords: Total Immunoglobulin E (T-IgE); spesific IgE (s-IgE); Cow Milk Allergy (CMA); soy allergy

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The Effect on Maternal Factors towards Total Immunoglobulin E (T-IgE) and Specific IgE(s-IgE) Composition of Lactating Maternal Serum

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ABSTRACT

Maternal immunological condition is one of the most important factors to compensate the immaturity of the infant's immune system, especially the newborn within their first six months of life. Immunological component may be transmitted from the mother through the placental barrier at the gestational stage, while human milk acts as an immunomodulatory agent for infants who exclusively breastfed after birth. The objectives of this paper was to determine the impact on maternal factors such as lactation stage, Body Mass Index (BMI) and age towards Total Immunoglobulin E (T-IgE) and specific Immunoglobulin E (s-IgE)from maternal serum. 36 lactating mothers were chosen based on convenience sampling basis surround Dengkil, Selangor and Kuantan, Pahang to undergo the clinical test. By using ImmunoCAP 100 with CAP (Radio-allergosorbent Test)RAST system, from n=36 maternal serum, (T-IgE) was ranged from 82-233 kU/L with mean±SD of 142.27±41.49, specific IgE(s-IgE) to cow milk (Cow Milk-IgE) ranged from 0.10-0.48 kU/L with mean±SD of 0.251±0.09 kU/L and specific IgE(s-IgE) to soy (Soy-IgE) ranged from 0.02-0.22kU/L with mean±SD of 0.127±0.04. The result summarized that, from specific allergen test, n=7(19.4) of mother clinically diagnosed with cow milk allergy but none for soy allergy. Besides, the association of the maternal factors was tested using Independent T-Test and Analysis of Variance (ANOVA) using SPSS Statistical Software (Version 20) for windows with the significant level at 95% ($p<0.05$) of confidence interval. The result indicated that, there was no significance difference of maternal serum T-IgE, Cow milk-IgE and soy-IgE with lactation stage as $p>0.05$ with condition [$F(5,30)=1.720$, $p=0.160$], [$F(5,30)=0.162$, $p=0.975$] and [$F(5,30)=0.515$, $p=0.763$] respectively. In addition, there were also no significant

difference between the maternal BMI towards the Total IgE, Cow Milk IgE and Soy IgE with F(2,33)=0.207, *p*=0.814, F(2,33)=0.173, *p*=0.842 and F(2,33)=0.664, *p*=0.521 respectively. However, there was a significance difference of T-IgE for mother aged from 30 years old and above ($\bar{x}$=129.31, SD=34.05) and mother who aged from 29 years old and below ($\bar{x}$=156.76. SD=45.15) conditions (34) =2, *p*=0.045. Overall, certain maternal factors such as maternal age plays as a potential indicator to affect infant's immune system especially the IgE level. It also important to determine possible risk factor of allergy that faced by infants if their mother having maternal factor such as the atopy and obesity status.

Keywords: Total Immunoglobulin E(T-IgE); Body Mass Index (BMI); maternal age; lactation stage

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Effect of Gamma Rays on Seed Germination, Survival Rate and Morphology of *Stevia rebaudiana*

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ABSTRACT

Stevia rebaudiana Bertoni is a sweetener plant from Asteraceae family that exhibit 300 times more sweetening effects compared to normal table sugar. In this study, radiosensitivity test was conducted to determine the effective doses for mutagenesis study on stevia H2. The gamma irradiation doses from 0, 100, 300, 500, 700, 900 and 1100 Gy were exposed to seeds of H2 stevia. The irradiated seeds from treatment 700, 900, and 1100 Gy depicted 0% survival, which all the seeds failed to germinate. From the observations, there is no significant difference on the plant height, number of leaves and length of leaves recorded between the irradiated and non-irradiated plants. The highest plant height was recorded in treatment 0 Gy (16.57±6.14 cm) followed by treatment 100 Gy (13.50±7.48 cm). While the highest number of leaves was also recorded in treatment 0 Gy (16.33±5) followed by treatment 100 Gy (16.00±7.66). Both parameters showed a decreasing pattern as the doses increase. Meanwhile, the length of leaves was recorded highest in treatment 300 Gy (3.00±0.89 cm) followed by treatment 0 Gy (2.94±0.64 cm). However, the result showed no significance different between irradiated and non-irradiated plant. From the observation, gamma irradiation affected the stevia plant in terms of producing a plant with longer and large leaves. This result needs to be further analysed the morphological changes and chemical content through phytochemical analysis of the irradiated plant. Based on the study, it has been found that the LD50 of the mutagen treatment is 323 Gy. Therefore, 81, 162, 242, and 323 Gy have been selected as the effective doses that will be used for mutagenesis study on H2 stevia in searching for stevia with delayed-flowering character.

Keywords: *Stevia rebaudiana*; gamma irradiation; radiosensitivity test; morphological changes; effective doses

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A Pilot Study: The Effects of Prenatal BPA Exposure on Learning and Memory Functions of the Male Sprague Dawley Rats

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ABSTRACT

Bisphenol A (BPA) is an inorganic compound used in the production of polycarbonate plastics and epoxy resins. The used of BPA containing product by human has been increasing year by year. Maternal BPA exposures are the most concerning issue as the neonates are more vulnerable towards any exposure during foetus life which lead to disorders such as anxiety and learning and memory impairments which are reflected when reaching adolescent age. The objective of this study to evaluate the exploratory and anxiety-related behaviour activity, spatial learning and memory, as well as aversive memory in prenatal BPA exposed and non-BPA exposed rats. A pregnant Sprague Dawley rat was exposed to BPA by ad libitum at the dosage of 50 mg/kg/day with 1% of Tween 80 in reverse osmosis water from gestational day 2 to 21 or until spontaneous delivery. A control pregnant rat was exposed to the same treatment except without BPA. Four male litters were identified from each mother and raised until postnatal day 35. At postnatal day 35, the rats were assessed to open field, Morris water maze and step down passive avoidance tests. The level of tested dosage triggered the atypical behaviours in all related tests. The frequency of rearing in the open field test was significantly up-regulated at day 4 ($p=0.032$) while in the step down passive avoidance test, the frequency was significantly decreased at day 5 ($p=0.045$). Meanwhile, the significant influence was less pronounced in the Morris water maze test. Overall, these results suggested that the conjugated BPA transferred to the foetus through the placenta during maternal BPA exposure which delays their neurodevelopment as reflected by the neurobehaviour impairments when they reached adult age.

Keywords: Bisphenol A; open field test; Morris water maze test; step down passive avoidance test

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The Effect of Bisphenol A Exposure below No-Observed-Adverse-Effect-Level (NOAEL) on Follicle Count of Adult Female BALB/c

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ABSTRACT

Bisphenol A (BPA) is an Endocrine Disrupting Chemical that is widely used in the manufacture of polycarbonate plastics and epoxy resins. It is known to cause disruption to the homeostasis of endocrine systems and lead to adverse effects in reproductive tissues. Exposure of BPA below No-Observed-Effect-Level (NOAEL) is considered safe for human exposure. However, emerging reports regarding the detrimental effects of doses below NOAEL on gametes and embryos raises concern. This study therefore aims to observe the effects of BPA exposure below NOAEL on the ovaries of sexually mature female BALB/c mice. The mice aged 8 to 12 weeks were randomly allocated into three groups. Group 1 (control) received the vehicle comprising tween 80 + distilled water (1:9 v/v), Groups 2 and 3 received BPA at doses of 1 mg/kg bw/day group and 3 mg/kg bw/day respectively. Treatments were administered via oral gavage for 7 days. The morphology of ovarian follicles was analysed. Body weight, as well as relative ovary weight to body weight were not significantly different between the three groups. A significant increase in the number of atretic follicles was observed in Group 3 compared to Group 1 (control). Increase in the number of atretic follicles was also observed in Group 2, but it was less pronounced compared to the increase observed

in Group 3. The number of primary and secondary follicles also decreased in both Groups 2 and 3. In conclusion, Bisphenol A exposure below the No-Observed-Adverse-Effect-Level (NOAEL) interrupts normal follicular growth.

Keywords: Bisphenol A; ovary; NOAEL; reproduction

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PS
Physical Sciences

Nuclear Magnetic Resonance Properties Calculation of Monoterpenoid Alkaloids Using Density Functional Theory

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ABSTRACT

Recently, we had reported three new alkaloids named isoformosaninol, formosaninol, and longiflorine, isolated from the leaves of *U. longiflora* var. *pteropoda* (Miq.) Ridsdale. Here, we revisit their molecular structure by modelling their nuclear magnetic resonance (NMR) properties through quantum mechanics calculation to further understand their protons and carbons structural correlation. The NMR properties were calculated using Density Functional Theory (DFT) at B3LYP/6-31+G(d,p) level including integral equation formalism of the polarizable continuum model formalisms (IEF-PCM) using the solvent deuterated chloroform. It was found that the calculated ^{1}H, and ^{13}C NMR chemical shifts provided a markedly good correlation with the experiment data characterized by a mean absolute error (MAE) of less than 1.00 ppm for protons and 6.00 ppm for carbons. The calculated NMR properties obtained here are reliable evidenced by the mean absolute percentage error of as small as *ca.* 1% in both cases.

Keywords: DFT; NMR; monoterpenoid alkaloids; *Uncaria longiflora* var. *pteropoda*

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Model Analysis on the Geometrical and Technological Aspect of Bi_2Te_3 Based MEMS Thermoelectric

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ABSTRACT

In this paper, we discussed a model analysis of MEMS thermoelectric device simulated using FE method by considering the geometrical aspect, such as the shape and leg length, the structure and technology, such as the applied temperature and material effect. The semiconductor material used in the simulation is bismuth telluride (Bi_2Te_3), and copper (Cu) is used to achieve the electrical contact between the TE leg. Two geometries, cubic and cylindrical geometers, of the thermocouple legs, are tested, showing that they have the same performances under the same conditions. The optimal leg length is around 1.5 mm to 2.0 mm for optimal output voltage. Moreover, it is shown that the higher open-circuit voltage generated by higher hot side temperature with temperature difference maintained at 70°C. The copper contact resistance was also studied, and it was verified that the open-circuit voltage decreases with increasing copper layer thickness. This analysis result should provide important parameters for the development of compact and straightforward MEMS thermoelectric design for improving the performance of the energy harvester system.

Keywords: Thermoelectric; energy harvesting; numerical simulations; single leg

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Hollow Fiber Carbon Membrane Synthesized from PPO Polymer for O_2/N_2 Binary Separation

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ABSTRACT

This works focused on the synthesis and optimization of hollow fiber carbon membrane for O_2/N_2 separation. The carbon membrane was derived from (2,6-dimethyl-1,4-phenylene oxide) (PPO). Several pyrolysis parameters, which were pyrolysis temperature, heating rate and thermal soak time, were varied to seek the optimum point between O_2 permeability and O_2/N_2 ideal selectivity. Robeson's 2008 upper bound was used to guide the optimization of the ideal separation parameters. The approach used in the optimization, one-factor-at-time, suggested the optimum carbon membrane to be pyrolyzed at 600°C without thermal soak time with heating rate of 4°C/min. The optimum values were 222 Barrer and 40 for the O_2 permeability and O_2/N_2 ideal selectivity, respectively. The carbon membrane possessed dense, symmetrical and homogeneous structure with thickness of approximately 14 µm. The gas transport of the carbon membrane was affected by molecular sieving mechanism. Excessively high or insufficiently low pyrolysis temperature rendered the carbon membrane to have low O_2 permeability and O_2/N_2 ideal selectivity. Treating the carbon membrane with high heating rate caused the O_2 and N_2 permeability to increase. Introducing even a slight degree of thermal soak time decreased the O_2 permeability and O_2/N_2 ideal selectivity. The O_2 permeability from binary test was almost similar to the O_2 permeability from single gas test. However, the O_2/N_2 permselectivity was lower than the O_2/N_2 ideal selectivity due to competitive gas transport between the O_2 and N_2 through the membrane pore.

Keywords: O_2/N_2 separation; poly (2,6-dimethyl-1,4-phenylene oxide); poly (*p*-phenylene oxide); optimization; carbon membrane; air separation

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Surfactant Functionalization of Clinoptilolite and Their Recent Application in Adsorption

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ABSTRACT

Clinoptilolite is a natural zeolite, provided in abundant in the earth's crust and considered as a low cost resources which makes it highly attractive for researchers. Having a crystalline structure of hydrated aluminosilicates, clinoptilolite houses a highly porous structure that contains water, alkali and alkaline earth cations. Clinoptilolite, as a natural zeolite has a net negative charge on its crystalline framework, which enables it to attract cations effectively. However, it has no affinity for anions and low adsorption capacity for organics in aqueous solution. Thus, surfactant functionalization is an alternative to overcome the discrepancy. This paper focuses on the review of recent progress of clinoptilolites as adsorbents that are functionalized by various surfactants for adsorption application. The functionalization of the surfactant on the clinoptilolite and corresponding performance in adsorption are discussed. There are many surfactants have been used in many studies on the clinoptilolite in the effort to improve the modest adsorption capacity of its pristine condition especially in anion removals. There are many factors that affect the functionalization of surfactant on the clinoptilolite surface and their resultant performance such as the surfactant concentration and types of surfactant. Each is discussed accordingly in order to know its further potential in the future application.

Keywords: Natural zeolite; clinoptilolite; adsorption; surfactant; functionalization

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The Scattered-Radiation Doses at Different Positions and Eye Levels in the Interventional Angiography Room

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ABSTRACT

It is important to know the distribution of harmful scattered-radiation doses that reach the eyes of interventional angiography staff. This is because those radiations are capable of causing radiation-induced cataract. Thus, a preliminary study was conducted to compare the scattered-doses in the angiography room at different positions and eye levels. An upper body phantom (Kyoto Kagaku PBU-31) that simulates a patient was exposed to radiation exposures from an angiographic system (Artis Q; Siemens Medical Solutions Inc., Erlangen, Germany). The technical factors for percutaneous transhepatic biliary drainage procedure in a posteroanterior (PA) projection were used for the exposure. Four durations of Digital Subtraction Angiography (DSA) acquisition were studied; 4s, 8s, 10s and 16s. The scattered doses at different positions and eye levels were measured using the nanodot optically stimulated luminescence (OSL) dosimeters (Landauer, Inc., Glenwood, USA). For each duration, a total of 27 nanodots were placed on nine paper tubes to simulate nine different positions of staff in the angiography room. On each paper tube, three nanodots were used to study the scattered doses at the eye levels of 135cm, 150cm and 165cm. The preliminary findings are similar for all four acquisition durations. Positions which are nearer to the phantom received higher dose except for the 165cm eye level. At this level, the flat panel detector acts as scattered-radiation absorber. Meanwhile, comparing the doses at different eye levels, 135cm eye level received higher dose as compared to others especially when nearer to the phantom. However, at farther positions, doses of three eye levels are quite similar. In conclusion, there is a pattern of increase or decrease in scattered-radiation doses with different positions and eye levels. The findings are useful for the angiography staff of different eye levels to know which position is safer for them during the procedure.

Keywords: Scattered-radiation; eye level dose; interventional angiography

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Proton Magnetic Resonance Spectroscopy (^{1}H-MRS) in Studies of Glaucoma: A Scoping Review

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ABSTRACT

Problem statement: Glaucoma is a disease that is chronic in nature and indistinctive at its early stage which leads to late detection. It has become among the public major health problem and a leading cause of irreversible blindness worldwide. The proton magnetic resonance spectroscopy (^{1}H-MRS), of late, has been utilised for evaluation of metabolites concentration in brain especially for the detection of neurodegenerative disease. Considering glaucoma being a neurodegenerative disease, studies on metabolites concentration using ^{1}H-MRS in glaucoma patients could be explored. ***Objective***: The objective of this scoping review is to examine the extent, range, and nature of studies on ^{1}H-MRS technique in human glaucoma diseases. ***Material and Method***: The literature search was conducted using MEDLINE, CINAHL and SCOPUS dated from 2000 until 2019. Studies with any type of glaucoma diagnosis using ^{1}H-MRS were considered. Any types of processing method used to characterise the metabolite concentration generated from the ^{1}H-MRS protocol were also considered. ***Findings***: Nine (9) full text studies were yielded after hundreds of literature identification, screening, and eligibility assessment. Many of the available literature relates the ^{1}H-MRS and glaucoma with several aspects: the region of interest within visual pathway for spectroscopy sequence, the type of spectroscopy technique with different parameters and the processing software of the metabolites raw data. Whilst the results of metabolites concentration of each literature vary and were relatively associated with clinical findings. ***Conclusion***: This review has revealed studies on the application of ^{1}H-MRS in human glaucoma diseases. Although several similar aspects can be developed from each literature, the sub-detail from each aspect were diverse in nature. More research is required to understand glaucoma using ^{1}H-MRS which then could potentially reveal its ability to detect an incipient glaucoma; thus, contributing to a

better management and reducing the prevalence of glaucoma related blindness.

Keywords: Spectroscopy; magnetic resonance spectroscopy; metabolites; glaucoma; neurodegeneration

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Comparison of Contact and Non-Contact Measurement for Silicon Dioxide Thickness with Different Crystal Orientation

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ABSTRACT

In this study, we investigate the thickness of silicon dioxide (SiO_2) layer deposited on the p-type silicon substrate with different crystal orientation: p (111) and p (100). For the measurement purposes, these wafers had undertaken a wet oxidation process. The process involved is wet oxidation with the temperature of 1000° C. Commonly, the growth of SiO_2 layer in terms of thickness and roughness formed on the silicon substrate surface would be varied. Therefore, this study is conducted to monitor the thickness of SiO_2 layer on the silicon substrate by using contact and non-contact measurement techniques. Here, a surface profiler and a thickness profiler used as the instrument for the silicon dioxide thickness measurement. Based on our observation, both samples showed there were grown oxide on both samples. Interestingly, we found that the thickness profiler is better in determining the native oxide because it is based on the value of the refractive index. However, there is a discrepancy between the results obtained for the thick oxide from both measurements. It can be concluded that to monitor the thickness of oxide grown on silicon substrate, both techniques must be undertaken.

Keywords: Silicon dioxide; thickness; measurement

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Discharge Characteristic of PVA/PVP-KOH Alkaline Battery

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ABSTRACT

Alkaline solid polymer electrolyte (ASPBE) films comprising a blend of poly(vinylalcohol) (PVA) and poly(vinylpyrrolidone) (PVP), potassium hydroxide (KOH) as ionic dopant, ethylene carbonate (EC) and propylene carbonate (PC) as plasticizer have been prepared by solution casting technique. . The conductivity was measured using complex impedance spectroscopy to investigate ionic conduction in blending PVA/PVP-KOH, PVA/PVP-KOH-EC and PVA/PVP-KOH-PC electrolyte systems. The complex impedance spectroscopy results revealed that the conductivity was found to increase in the order of 10^{-7} –10^{-4} Scm^{-1} with the increase in ionic dopant and plasticizer concentrations at temperature range from 30-110 °C. Electrochemical cells were fabricated and their discharge characteristics were studied under a constant current load of 1 mA. A discharge curve of the Zn|PVA/PVP-KOH-EC|MnO_2 and Zn|PVA/PVP-KOH-PC|MnO_2 cells at room temperature have been carried out with open circuit potential of 1.6 V for both cells. The open circuit voltage (OCV) obtained for Zn|PVA/PVP-KOH-EC|MnO_2 and Zn|PVA/PVP-KOH-PC|MnO_2 cells showed a decrease from 1.6 V to 1.4 V during the first two hours and remained constant for 24 h storage.

Keywords: Poly(vinylalcohol) (PVA); poly(vinylpyrrolidone) (PVP); electrical conductivity

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Investigating the Utilization Logarithmic Equation and Taguchi Method for the Design Parameter Spiral Micro-Channel

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ABSTRACT

In this day and age, seeking the most optimal micro-channel heat sink has never failed to catch the attention of the experts. The opinion utilizes the natural shape properly is expected to create a design with the critical parameters define a new direction for design the engineering equipment. The study applies the logarithmic equation into the micro-channel model by combining the Taguchi method and the Computational Fluid Dynamic software (ANSYS Fluent 14) numerical function. By a statistical approach, the Taguchi Method is using to optimize the parameters and improve the quality of geometry of the spiral microchannel heat sink. Computational Fluid Dynamics (CFD) is the software using for solved numerically the set of governing mathematical equations for predict heat and mass transfer, fluid flow, and related phenomena. The present examination to predict fluid flow and heat transfer. Besides, the data were also analyzed by the Minitab 17 software. The results delineate that the optimal design parameter can give good compromise was completed for the identification of the minimum thermal resistance of the microchannel heat sink.

Keywords: Micro-channel heat sink; spiral channel; taguchi method; logarithmic equation

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The Selection of Low Cost Airline Using Fuzzy TOPSIS Method

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ABSTRACT

This paper applies the fuzzy technique for order of preference by similarity to ideal solution (TOPSIS) for solving multi-criteria decision-making problem (MCDM) in ranking the best low cost airline. This paper aims to identify the most preferred alternative of low cost airline among Air Asia, Firefly and Malindo Air according to FSKM UiTM Shah Alam students. The decision criteria identified are time performance, price of ticket, availability of flight and price of baggage. The ranking order of all alternatives can be determined by a closeness coefficient of each alternative by calculating the distance between Fuzzy Positive Ideal Solution (FPIS) and Fuzzy Negative Ideal Solution (FNIS). The criteria are ranked by using the defuzzification method. The result shows that Firefly is ranked as the most preferred low cost airline followed by Malindo Air and Air Asia. On time performance is ranked as the most important criterion in the selection of low cost airline by FSKM UiTM Shah Alam students.

Keywords: Fuzzy; TOPSIS; low cost airline

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Forecasting Malaysian Ringgit using Exponential Smoothing Techniques

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ABSTRACT

Forecasting the foreign currency exchange is a challenging task since it is influenced by the political, economic and psychological factor. This paper focuses on the forecasting Malaysian Ringgit (MYR) exchange rate against United States Dollar (USD) using Exponential Smoothing Techniques which are Single Exponential Smoothing, Double Exponential Smoothing, and Holt's method. The objectives of this paper are to identify the best Exponential Smoothing Technique that describe MYR for 5 years period and to forecast MYR 12 months ahead by using the best Exponential Smoothing Technique. The comparison between these techniques is also made and the best one will be selected to forecast the MYR exchange rate against USD. The result showed that Holt's method has the smallest value of error measure which depending on the Mean Square Error (MSE) for the evaluation part. The MSE is 1.43915x10-14. Meanwhile, the forecast value of MYR in August 2019 is RM 4.30226.

Keywords: Exponential smoothing techniques; forecasting; univariate model

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I-CReST 2020: 065-054

Minimizing Travel Distance for Backpacker's Tour in Malacca, Malaysia using Asymmetric Traveling Salesman Problem

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ABSTRACT

Malacca has been one of the attraction cities for backpacker due to its trading history and multicultural heritage. Backpackers are cost conscious and love to search for authentic experience. They usually spend one or two night in one place before travel to other destination. As they are budget-minded, most of backpacker prefers to explore new places by walking. Their trip objective is to visit as many places of interest as possible during their stay. However, they also face difficulties because they do not know the town very well. Improper planning trip risks them to spend more cost and limits the places to be visited within their short stay. Therefore, this study aims to guide backpackers for visiting fourteen top places in Malacca with minimum travel walking distance. A mathematical approach called as Asymmetric Traveling Salesman Problem (ATSP) is utilized to find the shortest distance between places of interest (POI). Prior to that, an identification of the POI has been carried out. Branch and bound algorithm have been considered in this study as the solving method due to its nature to cater for high number of nodes. ATSP provides more effective and intelligent shortest route system in providing the solution for the traveller to reach their preferred destination. The solution provided in this study is based on 1-day tour schedule with fourteen POIs in Malacca. The proposed route in this study serves as a guide for backpackers (local or international) in planning their trip in Malacca with minimum time and maximum POIs. In addition, this study can contribute to promote the tourism in Malaysia, which indirectly contributes to the economic growth and tourism sector for Malaysia.

Keywords: Trip planning; backpacker; shortest route; optimization; asymmetric travelling salesman problem

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Heat Transfer Analysis of Casson Fluid Restricted by Thin-Film with Hybrid Nanoparticles

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ABSTRACT

Considering the applications of Casson fluid, the SiC / TiC -blood as the base fluid confined by thin-film flow through porous medium over an unsteady stretching sheet with heat flux analysis is studied. The fluid has been sucked and injected with positive and negative velocity. The Navier-Stokes or momentum equation and energy equation in form of partial differential equations (PDEs) with mixed boundary conditions are considered. The implementation of the similarity transformations reduced the PDEs into a series of ordinary differential equations (ODEs) which were then resolved numerically by imposing a bvp4c solver in MATLAB software. The characteristics of thin-film flow and heat transfer through the variation of the governing parameters; local skin friction, Nusselt number, velocity as well as temperature profiles were addressed and evaluated in form of the graphs and tables. Dual solution was obtained for the suction of the accelerated fluid flow.

Keywords: Thin-film; heat flux; local skin friction; Nusselt number; bvp4c

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A Comparative Study of Artificial Neural Network and Multiple Linear Regression Approach in Predicting Dengue Outbreak

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ABSTRACT

Dengue fever is caused by mosquito borne virus which currently has no specific medication to cure the disease. It is estimated that there are more than 100 million dengue cases worldwide every year. Hence, there have been many studies for predicting dengue outbreak being conducted. Early dengue outbreak detection can be useful for the authorities to curb the problem from getting out of hand. This study aimed to determine the best prediction model for predicting dengue outbreak using rainfall, temperature, and humidity data gathered from Malaysia Meteorology Department. While the dengue cases data gathered from one of Malaysia's Pejabat Kesihatan Daerah (PKD). Two approaches were investigated in this study, namely Artificial Neural Network (ANN) and Multiple Linear Regression (MLR). Results from these experiments were tabulated and the error rate between predicted outcomes of these approaches and actual data were calculated. The study result showed that ANN has smaller error rate, hence it is better than MLR at predicting dengue outbreak.

Keywords: Prediction model; dengue outbreak; artificial neural network

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I-CReST 2020: 078-100

Thin Film Hybrid Nanofluid Flow and Heat Transfer on A Time-Dependent Stretching Sheet with Internal Heat Generation

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ABSTRACT

This paper investigated the heat and mass transport in the ethylene glycol-based hybridized silicon and silicon carbide under the influence of internal heating on a time-dependent stretching sheet. The model is governed by the governing equations, consist of a set of ordinary differential equations that are reduced from partial differential equations by similarity transformations, subjected to their boundary conditions. The transformed equations are numerically solved by a solver in MATLAB, bvp4c, which is also a collocation method. This paper focuses on the governing parameters and the effect they have on the physical quantities. The numerical results are given in the form of tables and are visually presented through the velocity and temperature profiles.

Keywords: Internal heat generation; hybrid nanofluid; MATLAB; numerical; heat transfer

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Detection of Adjective Compound Word in Malay Language using Enhanced Syntactic Rules

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ABSTRACT

Compound word is defined as combination two or more words and it will produce a new meaning. Generally, compound word is existed in many languages such as English, Mandarin, Arabic and others. Although, there are discussion of existing methods to detect compound word yet some limitations on detecting Malay compound word. Thus, this study is done to improve accuracy towards adjective compound words. Training data is used in this study was Malay storybooks. Digitization data of Malay storybook is used in this study. Then, the pre-processing method involved tokenization, stemming, bi-gram and part-of-speech (POS) tagging has been applied to produce the candidate compound word. Applying the enhanced syntactic rules shown the precision result is 70.3% through this study.

Keywords: Compound word; syntactic rules; Malay language

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Traffic Monitoring System on Modified Clock

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ABSTRACT

The increase in the number of vehicles has led to traffic congestion. This is due to the populace and the improvement of the economy. Because of the traffic jam and lack of proper traffic management system, time, and money of the public are wasted. One such problem is fuel consumption, where it causes wastage of non-renewable resources such as petrol and diesel. Consequently, it leads to an increase in carbon dioxide emissions, outdoor air pollution as well as exposure time spent by the passenger. The main objective of the paper is to describe a system that can alert users about traffic conditions based on the Global Positioning System (GPS) signals coming from Arduino embedded in the clock. This system mainly consists of a microcontroller; GPS module and 1sheeld. 1sheeld is used for GPS connectivity along with microcontroller. It shows how an Arduino System provided with a GPS shield able to be used for driver tracking and fast enough to allow the server to calculate the travel time for each road in real-time. This system is mostly targeted towards to the public for a person who works at traffic prone area because it increases the efficiency of the work done as less time is wasted on the road From the system proposed, driver more aware on the road traffic situation since the clock will light up to red indicating road congestion. Thus, the driver can plan their journey especially on peak hour during weekdays.

Keywords: Traffic monitoring system; arduino; GPS, 1Sheeld

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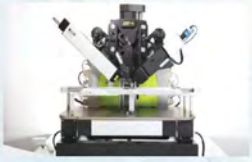

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