SCOPUS PUBLICATION
YEAR 2022
VOL 3, ISSUE 9

UniKL
UNIVERSITI
KUALA LUMPUR

Compilation of Research Articles (Scopus Index) by UniKL MITEC Researchers

The objective of this research article compilation is to increase the visibility of UniKL MITEC research output. Making your research visible and accessible will increase the chances of your research being noticed, used, and having an impact, thus increasing your reputation.

Copyright Disclaimer

These research articles are protected by copyright and are made available here for research and educational purposes. Permission to reuse, publish, or reproduce the object beyond the bounds of Fair Use or other exemptions to copyright law must be obtained from the copyright holder.

TABLE OF CONTENTS

1	**Effects of Ruqyah Recitation During Phasmophobia (Fear of Ghosts) Attacks: An EEG Analytical Approach** *Sairul Izwan Safie, Mohd Aimullah Tai, Noor Huda Ja'afar*
2	**Fractional Casson Fluid Flow via Oscillating Motion of Plate and Microchannel** *Marjan Mohd Daud, Rahimah Mahat, Lim Yeou Jiann, Sharidan Shafie*
3	**Innovative in 3D Printing: Design And Development of A User-Friendly Wheelchair** *Ahmad Nur Aizat Ahmad, Md Fauzi Ahmad, Norhadilah Abdul Hamid, Lee Tee Chuan, Mohd Kamarul Irwan Abdul Rahim, Gusman Nawanir, Adnan Bakri, Mustaqqim Abdul Rahim.*
4	**Investigation of Customer Purchase Intention Towards Car Battery On-Site Delivery Services** *Hairul Rizad Md Sapry, Nurfaziq Nordin, Abd Rahman Ahmad, Shathees Baskaran*
5	**Optimization Planning Model for Carbon Dioxide Emissions Reduction Via Renewable Energy Switch in a Coal Power Station** *Siti Hafshar Samseh, A. Johari, H. Hashim, Saeed Isa Ahmed*
6	**Polymer-Free Transfer Of Graphene-Based Material Derived From Cooking Palm Oil By Chemical Vapour Deposition Technique** *Azzafeerah Mahyuddin, Ismail, A.K., Omar, M.F., Ainul Hakimah Karim.*

7	**Secondary flow structure characteristics of an automotive mixed flow turbocharger turbine volute at different aspect ratios** *Amiza Azmi, Muhamad Hasbullah Padzillah*
8	**Selection of Lean Tools in Manufacturing Company towards Productivity Using AHP Method** *Ahmad Nur Aizat Ahmad, Md Fauzi Ahmad, Norhadilah Abdul Hamid, Rumaizah Ruslan, Lee Tee Chuan, Gusman Nawanir, Adnan Bakri, Mustaqqim Abdul Rahim*
9	**Spoken Digit Recognition Using Convolutional Neural Network** *Sairul Izwan Safie*
10	**Terms and Condition of Services (T & C) for Drop Trailer Method (DTM) of Haulage Industry in Malaysia** *Mazlan Md Zahid, Syazwa Nabila Mohd Raidzuan, Mustakim Melan, Rohafiz Sabar; Kasypi Mokhtar, Pichit Prapinit*
11	**The Elimination of Plastic Bags: A Customer Perspective on Logistics Challenges** *Hairul Rizad Md Sapry, Aina Syuhada Badrul Hisham, Abd Rahman Ahmad*
12	**Development Of Polyvinylidene Fluoride (Pvdf) – Silica Aerogel (Sa) Composite As Evaporation Suppression Geo-Membrane For Fresh Water Reservoir** *Amran, R., Yajid, M.A.M., Nuha Awang*
13	**Document details - Development of Underwater Pipe Crack Detection System for Low-Cost Underwater Vehicle using Raspberry Pi and Canny Edge Detection Method** *Mohd Aliff Afira Sani, Hanisah, N.F., Ashroff, M.S., Sallaudin Hasan, Nurr, S.F., Sani, N.S.*

1

Title:
Effects of Ruqyah Recitation During Phasmophobia (Fear of Ghosts) Attacks: An EEG Analytical Approach

Journal: 8th IEEE International Conference on Smart Instrumentation, Measurement and Applications, ICSIMA 2022.

Document Type: Conference Paper

Authors:
Sairul Izwan Safie, sairulizwan@unikl.edu.my
Mohd Aimullah Tai,
Noor Huda Ja'afar, noorhuda.jaafar@unikl.edu.my

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28124
Publisher : https://ieeexplore.ieee.org/document/9929084

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85141872451&doi=10.1109%2fICSIMA55652.2022.9929084&partnerID=40&md5=db87ce7a0620b87edded4ddf1eda7ec7

Abstract:
This paper investigates the effects of changes in electroencephalographic (EEG) signals when Ruqyah recitations are recited during the Phasmophobia attack. Phasmophobia is defined as an extreme fear of ghosts. Ruqyah recitations are used to minimize this feeling of fear. The experiment was conducted on 15 UniKL MITEC students, aged between 20-30 years. Whilst, 19 channels of CONTEC Medical EEG System KT88-3200 have been used as the main recording devices. Based on our study, there is evidence of a correlation between the psychological state, behavior and physiological signals of Phasmophobia candidates. The EEG recording generates a different type of signature regarding the level of fear the candidates encountered. Moreover, the recitation of Ruqyah can reduce the Phasmophobia episodes and transit the candidates into calm and relaxing conditions. This will lead to an advanced method for detecting Phasmophobia episodes automatically based on EEG recognition. A more physiological signal needs to be monitored and correlated with the EEG, such as the Electrocardiogram (ECG) and Electromyogram (EMG).

2

Title:
Fractional Casson Fluid Flow via Oscillating Motion of Plate and Microchannel

Journal:
CFD Letters, volume 14, issues 11

Document Type: Article

Authors:
Marjan Mohd Daud,
Rahimah Mahat, rahimahm@unikl.edu.my
Lim Yeou Jiann,
Sharidan Shafie

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28125
Publisher : https://semarakilmu.com.my/journals/index.php/CFD_Letters/article/view/918

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85141790227&doi=10.37934%2fcfdl.14.11.18&partnerID=40&md5=43f999f05fd8e0b54074321aa6082157

Abstract:
The impact of the Caputo fractional derivative on the unsteady mixed convention boundary layer flow of Casson fluid is investigated. It is evaluated the flow via two different geometries which are plate and microchannel with oscillating motion. The problems are modelled using a set of partial differential equations with appropriate initial and boundary conditions. The dimensional equations are turned into dimensionless governing equations by using relevant dimensionless variables. The obtained solutions are transformed into fractional form using Caputo fractional derivative. The exact solutions are obtained using the Laplace transform approach. Inverse Laplace transform is applied to the oscillating plate problem while Zakian's explicit formula approach is used to obtain the results of temperature and velocity profiles. Both profiles are graphed and studied its behaviour in both geometries. The temperature profile is shown to have an opposite pattern of graph for both geometries. While when compared between both geometries on its velocity profile, oscillating plate has a higher velocity compared to oscillating plate. For both profiles, increasing the fractional parameter resulted in a greater pattern. This study aids in the comprehension of Casson fluid flows in fractional systems.

3

Title:
Innovative in 3D Printing: Design And Development of A User-Friendly Wheelchair

Journal:
AIP Conference Proceedings, Volume 2644, Issue 1

Document Type: Conference Paper

Authors:
Ahmad Nur Aizat Ahmad,
Md Fauzi Ahmad,
Norhadilah Abdul Hamid,
Lee Tee Chuan,
Mohd Kamarul Irwan Abdul Rahim,
Gusman Nawanir,
Adnan Bakri, adnanb@unikl.edu.my
Mustaqqim Abdul Rahim.

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28126
Publisher : https://pubs.aip.org/aip/acp/search-results?page=1&q=Innovative%20in%203D%20Printing%3A%20Design%20And%20Development%20of%20A%20User-Friendly%20Wheelchair&fl_SiteID=1000005

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85142497224&doi=10.1063%2f5.0104781&partnerID=40&md5=2ea5295b0d66a231e7857c19d15ff1df

Abstract:
This paper is presented a new design of innovative wheelchair which contributed to health care by using SolidWorks software and 3D printing. The combination function of wheelchair can help the user as a walking aid or the user can control the wheelchair through the wheels in both side of wheelchair. The number of wheelchair design distributed around the world is grown at an expedite rate, but there is a lack of flexibility performance of wheelchair design in different topography. Whether follow the advice by medical personnel, but the wheelchair provided is often not well fitted to the user and not suitable for the user to use in their living environment. The limited function of current design wheelchair cause restricts use of upper limbs and limited to activities of daily living such as positioning, personnel hygiene which can affect their quality of life. The purpose of this research is to improve the user experience by identify the contribution of innovative wheelchair for health care, design the wheelchair prototype by using SolidWorks application, and evaluate the user expectation toward the needs of health care equipment. Based on the observation and feedback collected from the user, can understand that the expectation of user toward the design and innovative of a wheelchair. As for the result, the final prototype of wheelchair had been fabricated by using Fused Deposition Modelling (FDM) machine successfully with the dimension 17cm x 14 cm. The innovative in wheelchair development can better meet the needs and requirements of users. The result of this research is contributing to the user by giving the comparison of existing and an innovative design of wheelchair.

4

Title:
Investigation of Customer Purchase Intention Towards Car Battery On-Site Delivery Services

Journal:
Journal of Optimization in Industrial Engineering, Volume 15, Issue 2

Document Type: Article

Authors:
Hairul Rizad Md Sapry, hairulrizad@unikl.edu.my
Nurfaziq Nordin,
Abd Rahman Ahmad,
Shathees Baskaran

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/22868
Publisher : https://jie.qazvin.iau.ir/?_action=article&au=2819274&_au=Nordin,%20Nurfaziq

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85142518185&doi=10.22094%2fjoie.2022.1962052.1970&partnerID=40&md5=f6e1ad209dffd3a006418796657fc97d

Abstract:
This study investigates the factors that influence customers' purchase intention among Bateriku.com customers. Through a self-administered questionnaire, data were collected from eighty-eight (88) customers who had experience using the service of on-site delivery of a car battery. This study is aimed to investigate perceptions of the customer on a new business model introduced by Bateriku.com for the purchase of the car battery and how this perception impacts the actual purchase that the customers make. This study will turn out to be a benchmark in comparing with the traditional purchase processes of the car battery and to understand the factors influencing the customers towards their purchase of the car battery using a new business process. Three (3) independent variables were identified namely technology, service marketing, and people to investigate its impact on actual purchase by employing multiple regression analysis. The results of the study indicated that service marketing has a significant influence on customer purchase intention for the car battery on-site delivery. The results also showed the impact of technology in improving customer confidence towards the new business model. The recommendations are also provided to Bateriku.com to exploit the advancement in technology to minimize further human interaction during the inquiry process to introduce process standardization for efficient operation. This study presents a foundational framework for future researchers to embark on new avenues in producing in-depth insights about new business models in acquiring car batteries and related services.

5

Title:
Optimization Planning Model for Carbon Dioxide Emissions Reduction Via Renewable Energy Switch in a Coal Power Station

Journal:
Journal of Optimization in Industrial Engineering, Volume 15, Issue 2

Document Type:
Article

Authors:
Siti Hafshar Samseh, sitihafshar@unikl.edu.my
A. Johari,
H. Hashim,
Saeed Isa Ahmed

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28128
Publisher : https://jie.qazvin.iau.ir/article_695247.html

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85142517601&doi=10.22094%2fjoie.2022.1962173.1973&partnerID=40&md5=00363886bce8ed2b433336ae987ab552

Abstract:
Stable economy status has made many foreign investors invested in various industries sectors in Malaysia. Therefore, rapid development of industrial sector has caused the energy demand to increase tremendously year by year. To continue attract foreign investors, Malaysia has taken various efforts to maintain economic stability by developing a sustainable energy sector to ensure electricity demand is sufficient for industries with less cost, reliable supply, and also less impact to the environment. However, over dependence on fossil fuels as the main energy source could not guarantee the energy security and also could evoke issues of environmental problem mainly the increase in carbon dioxide (CO2) emission in the atmosphere. In this study, a linear programming model and mixed integer linear programming optimization model under carbon constraints was developed to address issue of rising atmospheric concentrations of CO2 from energy sector. The developed model was able to determine the optimum energy sources mix which is most economical and to satisfy the forecasted electricity demand at Tanjung Bin Power Station (TBPS) in Iskandar Malaysia region. The model includes energy source switching and analyzing different renewable energy technologies such as biomass system, biogas system, solar thermal and photovoltaic (PV) plant in power generation. The applicability of the model was tested on various CO2 emission reduction targets which is at 6, 25, 40 and 50 % under several scenarios either without or with government subsidy. The results in this study indicated that the optimum energy source mix for TBPS is the mix of coal and solar energy (mainly solar thermal for without government subsidy and solar PV for with government subsidy). The results show that with government subsidy, the electricity tariff was acceptable for the consumers. The average electricity

tariff at 6, 25, 40 and 50 % CO_2 emission reduction is RM 0.35, RM 0.44, RM 0.51 and RM 0.57 per kWh, respectively. Increase of CO_2 emission reduction show increase in electricity tariff compared to current tariff at RM 0.21 per kWh. Finally, by applying energy source switching, TBPS can significantly reduce CO_2 emission by avoiding 1.00 Mt of CO_2 emission at 6 % of CO_2 emission reduction, 4.14 Mt of CO_2 emission at 25 % of CO_2 emission reduction, 6.63 Mt of CO_2 emission at 40 % of CO_2 emission reduction, and 8.28 Mt of CO_2 emission at 50 % of CO_2 emission reduction by 2030. This is great contributions for TBPS in CO_2 reduction effort. The results gained in this study provide better understanding to the factors and impact of energy source switching to the capacity, CO_2 emission, and also cost of electricity. The model developed could help the TBPS to plan their future energy direction. The model develop also can serve as an example for other sectors, territories, states, and even countries.

6

Title:
Polymer-Free Transfer Of Graphene-Based Material Derived From Cooking Palm Oil By Chemical Vapour Deposition Technique

Journal:
Malaysian Journal of Analytical Sciences, Volume 26, Issue 5

Document Type: Article

Authors:
Azzafeerah Mahyuddin, azzafeerah@unikl.edu.my
Ismail, A.K.,
Omar, M.F.,
Ainul Hakimah Karim, ainulhakimah.karim@unikl.edu.my

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28129
Publisher : Malaysian Society of Analytical Sciences
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwixltuDlIuAAxX3R2wGHSqBDLMQFnoECA0QAQ&url=https%3A%2F%2Fmjas.analis.com.my%2Fmjas%2Fv26_n5%2Fpdf%2FAzzafeerah_26_5_16.pdf&usg=AOvVaw36tJxW1dz1Xmv9HTRFWxR1&opi=89978449

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85140851235&partnerID=40&md5=292b85509d0a9c084a0cf37fba5e1209

Abstract:
Chemical vapour deposition (CVD) of cooking palm oil precursors with a nickel (Ni) catalyst is an established method to produce graphene-based materials. Nonetheless, transferring the graphene sheets from the substrate surface to a selected target substrate presents a major challenge. The utilisation of well-known poly (methyl methacrylate) (PMMA)-assisted graphene transfer promotes defects, impurities, folds, and wrinkles in the graphene sheets, thus affecting its properties. Consequently, the present study demonstrated a polymer-free graphene sheets transfer technique on a Ni substrate derived from cooking palm oil. A dropwise hexane layer substituted the PMMA supporting layer during the etching process to remove the Ni substrate. The quality of the graphene sheet was investigated with optical microscopy by employing a Leica DM1750 M microscope, scanning electron microscopy (SEM) with a Hitachi S-3400N, and Raman spectroscopy utilising a UniDRON automated microscope Raman mapping system with 514 nm laser excitation. Resultantly, macroscopically clean and crack-free graphene sheets were was obtained. Furthermore, the technique was less complicated than the PMMA-assisted transfer technique. The Raman spectra of the polymer-free method also revealed visible graphene peaks, which was absent in the PMMA-transferred samples.

7

Title:
Secondary flow structure characteristics of an automotive mixed flow turbocharger turbine volute at different aspect ratios

Journal:
Journal of Thermal Analysis and Calorimetry, Volume 148, Issue 8

Document Type: Article

Authors:
Amiza Azmi, amiza.azmi@unikl.edu.my
Muhamad Hasbullah Padzillah

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28130
Publisher : https://link.springer.com/article/10.1007/s10973-022-11637-5

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85141797943&doi=10.1007%2fs10973-022-11637-5&partnerID=40&md5=fd5f08043a48ccbbfc47e67bc9851587

Abstract:
This paper presents an experimentally validated numerical analysis of the influence of volute aspect ratio (VAR) on the fluid flow characteristics of a volute in a mixed flow turbine. The geometry of the volute subjects the flow to centrifugal forces that affect the vertical motion of the fluid, commonly known as secondary flow, which is fundamentally opposed in straight channels commonly associated with the primary flow. The flow characteristics were analysed for four-volute designs with constant volute area-to-centroid radius ratio (A/r) but with different VARs ranging from 0.5 to 2.0 at selected circumferential positions under steady state at different operating conditions. Secondary flow structure characteristics were identified based on pressure contours, velocity contours and streamlines. The internal volute flow structure was found to be dependent on the VAR. The results show corner and counter-rotating Dean effect-type vortices at higher volute aspect ratios. In addition, the results also show that as the pressure ratio increases, the deflection of primary flow increases and at certain positions, flow separation occurred. The resulting secondary flow structures that exist in the volute are strongly influenced by the VAR at different operating conditions, thus affecting turbine performance.

8

Title:
Selection of Lean Tools in Manufacturing Company towards Productivity Using AHP Method

Journal:
AIP Conference Proceedings, volume 2644

Document Type: Conference paper

Authors:
Ahmad Nur Aizat Ahmad,
Md Fauzi Ahmad,
Norhadilah Abdul Hamid,
Rumaizah Ruslan,
Lee Tee Chuan, Gusman Nawanir,
Adnan Bakri, adnanb@unikl.edu.my
Mustaqqim Abdul Rahim

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28131
Publisher : https://pubs.aip.org/aip/acp/search-results?page=1&q=Selection%20of%20Lean%20Tools%20in%20Manufacturing%20Company%20towards%20Productivity%20Using%20AHP%20Method&fl_SiteID=1000005

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85142505754&doi=10.1063%2f5.0104783&partnerID=40&md5=c2498ce5b3703328858bbe11c9da32fb

Abstract:
Lean tools is known as philosophy, a method and management skills to increase productivity by eliminating the waste in manufacturing environment. Every sector in manufacturing implementing lean tools since it applicable. Due to this issue, the purpose of this research is to select five over seven lean tools to rank the lean tools based on the frequent implemented at manufacturing company in Malaysia. Lean tools that are selected in this research were 5S, Value Stream Mapping (VSM), Kanban, Kaizen, Just in Time (JIT) and Standardized Work aims to outline the ranking hierarchy. There are 20 respondents based on four selected manufacturing company. This research used Multi Criteria Decision making and Analytic Hierarchy Process, AHP with EVM multiple inputs version 2018. The consistency ratio positive and the result shows only 5S, Kanban, JIT, VSM and Standardized Work commonly implemented in manufacturing. The highest rank is 5S and the last rank is Kanban. This study served as research reference for academicians related to lean manufacturing.

9

Title:
Spoken Digit Recognition Using Convolutional Neural Network

Journal:
2022 Applied Informatics International Conference (AiIC)

Document Type: Conference paper

Authors:
Sairul Izwan Safie, sairulizwan@unikl.edu.my

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/25375
Publisher : https://ieeexplore.ieee.org/document/9914596

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85141428886&doi=10.1109%2fAiIC54368.2022.9914596&partnerID=40&md5=3a0ebe55e48a5380df013edfe0f25d8e

Abstract:
This paper presents a spoken digit recognition study based on features extracted from Bark spectrogram and classifies it using convolutional neural network (CNN). In this work, training and test databases of the spoken digits were developed from TI20 corpus. 6,506 spoken digits from 16 individuals have been used in the study. A 198 x 50 feature map has been extracted from each spoken digit to be fed as input to the CNN. A 5-layer convolutional filters have been added as layers in the CNN architecture. Adam optimization algorithm is then used to train the CNN. A confusion matrix resulting from classification on the test database has been presented in this paper. It is shown in this paper that the proposed CNN architecture performing on the test database achieved an average accuracy of over 99% for the known spoken digits and wrongly classify as digit up to 3.4% for the unknown spoken words.

10

Title:
Terms and Condition of Services (T & C) for Drop Trailer Method (DTM) of Haulage Industry in Malaysia

Journal:
AIP Conference Proceedings, Volume 2644

Document Type: Conference Paper

Authors:
Mazlan Md Zahid, mazlanmz@unikl.edu.my
Syazwa Nabila Mohd Raidzuan, syazwanabila@unikl.edu.my
Mustakim Melan,
Rohafiz Sabar,
Kasypi Mokhtar,
Pichit Prapinit

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28133
Publisher : https://pubs.aip.org/aip/acp/article-abstract/2644/1/030019/2831063/Terms-and-condition-of-services-T-amp-C-for-drop?redirectedFrom=fulltext

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85142537251&doi=10.1063%2f5.0104464&partnerID=40&md5=4873179099c014a8a25915ffa9c3d3f0

Abstract:
Haulage Industry has implemented the Terms and Condition (T & C) of services on drop trailer method (DTM) for prime movers and trailers. Haulage tariff is the condition of service used to charge for their operations and deliveries. The standard charges that stated in the terms and conditions consists of the haulage rates, trailer, detention charges, driver overtimes, Fuel Adjustment Factor (FAF), toll charges and other matters requested by their customers. The terms and conditions of services are to address on DTM issues such as maximize trailers' utilization. The T&C is an important mechanism to ensure that users uphold the contract as stipulated in the T&C towards the requests made. The hauliers are concerned on their trailers' utilization, hence the implementation of T & C will be effective and benefiting from the reduction of lost times and costs. It also improves the deployments towards better managing of the trailers' detention in future.

11

Title:
The Elimination of Plastic Bags: A Customer Perspective on Logistics Challenges

Journal:
Journal of Optimization in Industrial Engineering, Volume 15, Issue 2

Document Type: Article

Authors:
Hairul Rizad Md Sapry, hairulrizad@unikl.edu.my
Aina Syuhada Badrul Hisham,
Abd Rahman Ahmad

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28134
Publisher :
https://jie.qazvin.iau.ir/?_action=article&au=2819096&_au=Aina+Syuhada++Badrul+Hisham

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85142527774&doi=10.22094%2fjoie.2022.1961962.1969&partnerID=40&md5=3c17c83eef908ae3978998c24e6976f1

Abstract:
Plastic bags have become synonymous with the culture of our society today. The use of plastic bags is very widespread and facilitates the consumers especially in facilitating them to carry goods such as supermarkets, retail stores, and others. Every year nearly 1 trillion shopping plastic bags have been used, as they are easy to carry, cheap, and convenient to use. But with constant use, it has had a negative impact not only on the environment but also on the logistics perspective. In response, the Malaysian government has launched a campaign to discourage the use of plastic bags known as a 'No Plastic Bag Day". The objective of the program is to educate the consumer on the impact of plastic bags on the environment. However, this campaign has drawn a mixed response from the customer which is against the traditional practice of using a plastic bag as many of the customers still fail to bring their bag for packing their purchased items. As such, this study aims to investigate the impact of the campaign from the logistics perspective by examining the relationship between logistics challenges and customer awareness on the implementation of the campaign. This research used a quantitative method by distributing a questionnaire to understand the customer perspective toward the logistics challenges on the elimination of plastic packaging. A total of 132 questionnaires were completed and returned for analysis by SPSS. The findings of this study, contribute a significant impact on logistical challenges in terms of the safety of goods, material handling, and customer readiness on the implementation of the campaign. According to the inferential analysis that was conducted from the data collected, customer readiness was the best factor that influenced the level of customer awareness on the elimination of plastic usage for shopping. Whereas the variable of customer readiness and safety & security which are less than 0.05 shows a unique contribution to the dependent variable. Based on the current research, the recommendations that can be made for future research are by doing a mixed-method and expand the scope of the study to get a better understanding of the localized perception before developing the mass survey.

12

Title:
Development Of Polyvinylidene Fluoride (Pvdf) – Silica Aerogel (Sa) Composite As Evaporation Suppression Geo-Membrane For Fresh Water Reservoir

Journal:
Malaysian Journal of Microscopy, Volume 18, Issue 2

Document Type: Article

Authors:
Amran, R.,
Yajid, M.A.M.,
Nuha Awang, nuha.awang@unikl.edu.my

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28135
Publisher : Microscopy Society of Malaysia

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85144537526&partnerID=40&md5=2affc3d12602ca86f2239001ad6418a7

Abstract:
Polyvinylidene fluoride (PVDF) membrane was synthesized using dimethylformamide (DMF) solvent then prepared by phase inversion casting. The properties of PVDF have been enhanced by adding 10 wt.% of aerogel. The aerogel undergoes surface modifying using 30 wt.% of trimethylsilyl chlorosilane (TMCS). Membrane microstructure had been characterized by Fourier-transform infrared spectroscopy (FTIR) and scanning electron microscope (SEM). The samples had been undergone hydrophobicity test to characterized the psychochemical properties and for mechanical properties had been characterized by tensile test. SEM results for silica aerogel shows its multi porous properties. While SEM results for PVDF membrane shows silica aerogel is well scattered in the membrane. Results also showed that contact angle of PVDF membrane has increased about 36 % and the hydrophobicity effect due to silylated has displayed by FTIR. FTIR result is highlight that crystalline conformation of the chain from 849 cm-1 wavelength. The tensile strength of membrane increased about 14.71 % from 1.45 MPa to 1.70 MPa for PVDF 10 wt.% and PVDF 10 wt.% with silica aerogel (with silylating TMCS 30 wt.%) respectively. It can be concluded that by adding optimum amount of silica aerogel will enhance PVDF membrane properties.

13

Title:
Development of Underwater Pipe Crack Detection System for Low-Cost Underwater Vehicle using Raspberry Pi and Canny Edge Detection Method

Journal:
International Journal of Advanced Computer Science and Applications, Volume 13, Issue 11

Document Type: Article

Authors:
Mohd Aliff Afira Sani, mohdaliff@unikl.edu.my
Hanisah, N.F.,
Ashroff, M.S.,
Sallaudin Hasan, sallaudin@unikl.edu.my
Nurr, S.F.,
Sani, N.S.

Full text link:
UniKL IR : https://ir.unikl.edu.my/jspui/handle/123456789/28136
Publisher : Science and Information Organization

Scopus preview:
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85143861146&doi=10.14569%2fIJACSA.2022.0131152&partnerID=40&md5=89e895ad8d39252d8891fc96995aa7d4

Abstract:
The effective loading area decreases because of cracking, leading to a rise in stress and eventual structural failure. Monitoring for cracks is an important part of keeping any pipeline or building in excellent working order. There are several obstacles that make manual inspection and monitoring of subsea pipes challenging. The fundamental objective of this study is to create a relatively inexpensive underwater vehicle that can use an image processing technique to reliably spot cracks on the exteriors of industrial pipes. The tasks involved in this project include the planning, development, and testing of an underwater vehicle that can approach the circular pipes, take pictures, and determine whether there are fractures. In this project, we will utilize the Canny edge detection technique to identify the crack. The system could function in either an online or offline mode. Using a Raspberry Pi and a camera, the paper will discuss the procedures followed to locate the pipe cracks that activate the underwater vehicle. While Python is used for image processing to capture photographs, analyze images, and expose flaws in particular images, the underwater vehicle's movement will be controlled via a connected remote control. When the physical model has been built and tested, the results are recorded, and the system's benefits and shortcomings are discussed. © 2022,International Journal of Advanced Computer Science and Applications.