LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah	:	Godong Expansive Soil Stabilization Using Sugar Cane and Sikacim Concrete Additive		
Jumlah Penulis	:	4 Orang (**S P R Wardani**, A R A Setiaji, Y Justiandaru, I S Hidayatullah)		
Status Pengusul	:	Penulis Pertama		
Identitas Prosiding	:	a. Judul Prosiding	:	Journal of Physics: Conference Series, Volume 1444, 012052 The 8th Engineering International Conference 2019
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		Alamat Artikel	:	https://iopscience.iop.org/article/10.1088/1742-6596/1444/1/012052/pdf
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Kategori Publikasi Makalah (beri ✓pada kategori yang tepat) : [√] *Prosiding* Forum Ilmiah Internasional
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	Reviewer I	Reviewer II	
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b. Ruang lingkup dan kedalaman pembahasan (30%)	7,25	7,00	7,13
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	7,50	7,00	7,25
d. Kelengkapan unsur dan kualitas penerbit (30%)	7,50	7,00	7,25
Total = (100%)	**25,00**	**24,00**	**24,50**
Nilai Pengusul = 60% x 24,50 = 14,70			

Semarang,

Reviewer I

Prof. Dr. Ir. Suripin, M.Eng.
NIP. 196004271987031001
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Prof. Ir. M. Agung Wibowo, MM, M.Sc, Ph.D
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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
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c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9,00		7,50
d. Kelengkapan unsur dan kualitas terbitan /prosiding (30%)	9,00		7,50
Total = (100%)	30,00		**25,00**
Nilai Pengusul = 60% x 25,00 = 15,00			

Catatan Penilaian artikel oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi prosiding:**
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2. **Ruang lingkup dan kedalaman pembahasan:**
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3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:**
   Data dan informasi yang digunakan ada 11 buah, 8 diantaranya berupa standar, 1 jurnal, 1 prosiding dan 1 buku. Metodologi yang digunakan cukup jelas dan sesuai dengan tujuan.
4. **Kelengkapan unsur dan kualitas terbitan:**
   Kelengkapan unsur cukup lengkap, namun sub title yang digunakan kurang umum. Kualitas penerbitan kurang, editing kurang cermat, sehingga masih ditemukan beberapa salah ketik yang seharusnya tidak terjadi.

Semarang, 02 Juli 2020
Reviewer 1

Prof. Dr. Ir. Suripin, M.Eng.
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Unit kerja: Departemen Teknik Sipil FT UNDIP

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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
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b. Ruang lingkup dan kedalaman pembahasan (30%)	9,00		7
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9,00		7
d. Kelengkapan unsur dan kualitas terbitan /prosiding (30%)	9,00		7
Total = (100%)	30,00		24
Nilai Pengusul = 60% x 24 = 14,4			

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1. **Kesesuaian dan kelengkapan unsur isi prosiding:**
   Paper terdiri dari : Abstract, Preliminary, Research Material, Research Method, Result and Analysis, Conclusion, References.
   Tujuan penelitian → dpt dijabarkan dalam Literature serta dijawab dalam conclusion.
2. **Ruang lingkup dan kedalaman pembahasan:**
   Result and Analysis → mendiskusikan soil properties, soil classification, water content, Grain size Analysis, Atterberg Limit, Standard Compaction Test (Proctor), Swell test Dedo meter, CBR → paper tidak terlalu merefer journal ≥ mutakhir pd. pembahasan.
3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:**
   Research Method → Metode penelitian memiliki : Soil properties, Standard Compaction Test (Proctor), Mixing Soil Expansive, Swell Test Dedometer, CBR
   Research Method and Data analysis → berbasis Laboratorium based.
4. **Kelengkapan unsur dan kualitas terbitan:**
   Paper memiliki → Abstract, Preliminary, Research Method, Research Material, Result and Analysis, Conclusion, References.
   Paper diterbitkan pada Prosiding Ilmiah International, terindeks Scopus.

Semarang,
Reviewer 2

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Volume 1444, Issue 1, 4 February 2020, Article number 012052
8th Engineering International Conference 2019; Semarang; Indonesia; 16 August 2019 through ; Code 157404

Godong expansive soil stabilization using sugar cane and sikacim concrete additive (Conference Paper) (Open Access)

Wardani, S.P.R., Setiaji, A.R.A., Justiandaru, Y., Hidayatullah, I.S.

Save all to author list

Department of Civil Engineering, Diponegoro University, Indonesia

Abstract

View references (11)

his research was carried out to analyse the expansive soil sample obtained from Godong , Purwodadi with the addition of sugar cane at 0%, 2.5%, 5%, 7.5% and 10%. The soil (water content, specific gravity, hydrometer, and Atterberg limits), and mechanical properties of Swell Test (Oedometer) and CBR (California Bearing Ratio) were tested, which obtained 93.65% LL (liquid limit), 31.08% PL (plastic limit) and 62.57% IP (plasticity index). While a fine fraction sieving size <0.075 mm (90.48%), and coarse fraction of 0.075 mm (2.16%) were obtained. Also, the addition of sugar cane increases the soil properties of LL and PL, and decreases its IP. It also affected the values of the soaked and unsoaked CBR with a steady increase at 7.5% and decrease at 10%. But not capable to improve soil shrinkage. © Published under licence by IOP Publishing Ltd.

SciVal Topic Prominence

Topic: Laterite | Liquid Limit | Dry Density

Prominence percentile: 78.467

Indexed keywords

Engineering controlled terms: Concrete additives | Concretes | Density (specific gravity) | Shrinkage | Soil mechanics | Soil testing | Soils | Stabilization | Strength of materials

Engineering uncontrolled terms: Atterberg limits | California bearing ratio | Coarse fractions | Expansive soils | Fine fraction | Plasticity indices | Soil property | Soil shrinkage

Engineering main heading: Sugar cane

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www.astm.org

Wardani, S.P.R.; Department of Civil Engineering, Diponegoro University, Indonesia; email:wardani_spr@yahoo.com

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Red blood cell classification on thin blood smear images for malaria diagnosis

Budi Sunarko[1*], Djuniadi[1], Murk Bottema[2], Nur Iksan[1], Khakim A N Hudaya[1] and Muhammad S Hanif[1]

[1]Department of Electrical Engineering, Universitas Negeri Semarang, Indonesia
[2]Flinders University, Australia

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Abstract. Parasite detection is important for the diagnosis of many blood-borne diseases including malaria. As part of a program to develop a fast, accurate, and affordable automatic device for diagnosing malaria, a critical step is to automatically classify individual red blood cells in thin blood smear images. To automatically recognize malaria parasites in an image, this paper presents a red blood cell classification study for malaria diagnosis. To diagnose malaria, the threshold-based segmentation is implemented using the Otsu's method succeeded by the distance transform and statistical classifier. The methods are applied to red blood cell images obtained from Kaggle. These experimental results show that the classification recognizes malaria parasite with 94.60% accuracy, 96.20% specificity, and 93% sensitivity.

1. Introduction

Red blood cell classification is important for the diagnosis of blood-borne diseases such as malaria. In most cases, highly trained individual inspects samples.

Malaria is an endemic disease and major cause of mortality, especially in tropical regions. Globally, 3.2 billion people in 97 countries and territories are at risk of being infected with malaria and 1.2 billion are at high risk [1].

Clinically, many diseases generate similar symptoms. Typically, malaria produces flu-like symptoms around nine to 14 days after an infective Anopheles mosquito bite; however this can vary with different malaria species. If appropriate drugs are unavailable or the parasite has gained resistance to the drugs, the infection can progress rapidly and become life threatening. If left untreated, malaria can kill by infecting and destroying red blood cells, causing anaemia and by blocking capillaries that carry blood to the brain [2].

Malaria cannot be treated until it is diagnosed and currently, microscopy is the most commonly used technique to diagnose malaria. In malaria microscopy, two kinds of Giemsa-stained blood films, thin films and thick films, are recommended [3]. A well-prepared thin blood film consists of a single layer of red blood cells and leukocytes. In thin blood films, the morphology of red blood cells and parasites is fairly easy to see and counting the number of cells in a single field of view is feasible. However, in order to distinguish between low parasitaemia and the absence of malaria, a prohibitively large number of fields must be examined.

In general, Giemsa stain enhances differences between key components of infected red blood cells [3]. Parasites appear dark red and blue, the vacuole appears clear, the host red blood cells appear light red, and the pigment appears golden brown to black. Malaria parasites infect and develop in red blood

Automated trash collector design

Hirdy Othman, Mohammad Iskandar Petra, Liyanage Chandratilak De Silva and Wahyu Caesarendra

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Abstract. The objective of this paper is to study, analyse and investigate the main contributor of plastic pollution which has become the world major infamous problem nowadays, and to explain our platform design which aim to help in reducing the issue of floating trash. Annually, more than 2 million tonnes of plastics have been tossed to water body and eventually washed away to the sea. Not just living marine organisms become targets and carrier of harmful viruses but some of marine animals suffer a direct mortality after plastic ingestion. Numerous negative impacts of plastic pollution to the environment and the society had been identified. This study shall include the methodology; classification of trash cleaning systems as well as the efforts to tackle this problem. Static and dynamic systems have been categorized to distinguish their effectiveness. As for this paper, the proposed design will be focusing on dynamic system which is fully autonomous. It is a multi-functional design which incorporated with different types of sensors. This paper also emphasizes the novelty and uniqueness of the proposed design as compared to existing ones; in terms of architecture and its functionality.

1. Introduction

Pollution can be characterized as an expansion of substances to the encompassing condition [1]. The substances could be categorized as good and bad and it can be determined in three states of matter; either in the form of solid, liquid and gas. These three major forms of substances may carry damage to condition particularly to environments and to human as well. The most common pollutions known are air, land and water pollution. Aside from these infamous pollutions, there are different kinds of pollutants including noise pollution, light pollution and plastic pollution. As can be alluded to reference [1], it is said that any sorts of pollutions consistently have negative effects on the surrounding environment; to wildlife and frequently human wellbeing and prosperity. In reference to [1], the pollution may also be caused by natural events. The events could be occurring due to forest fire and active volcanoes. These two natural events may create all the three pollutions, to air, water and land pollution. Not to mention by human as well, the pollution may occurred as a result of human activities such as deforestation and coal mining which consistently lead to land and air pollution.

Above all those pollutions, plastics pollution has been become the greatest threat ever faced by the world nowadays. According to reference [2], plastics were initially being used in the year of 1284. It was in England by Horners Company. They used tortoiseshells for natural plastic production. As mentioned in [3], the term tortoiseshells was invented in 1601 and it can be addressed to as “thermoplastic” or “natural plastic” due to its properties. Dated back in 1600 BCE, a ritualistic

Characterization of pyroligneous acid produced from microwave-assisted treatment of palm kernel shell

Raja Safazliana Raja Sulong[1], Seri Elyanie Zulkifli[1], Rosnani Hasham[1] and Zainul Akmar Zakaria[2*]

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Abstract. Palm oil plantation is one of the largest cultivation in Malaysia. The massive production of palm oil has abandoned huge palm oil biomass such as palm kernel shell that has become increasingly threatening environmental issue. Conversion of biomass through microwave pyrolysis has become one of the solutions to manage the abundance of biomass. Therefore, the aim of this study is to utilize the palm kernel shell for the production of pyroligneous acid (PA) by using microwave-assisted pyrolysis which would then be evaluated for its total phenolic content and scavenging DPPH free radicals. Pyroligneous acid of palm kernel shell will be produced from the condensation of smoke generated during pyrolysis process. From this study, the TPC observed was 49.96 mg GAE/g, whereas for the IC50, DPPH value obtained was, 66.19 µg/mL. Pyroligneous acid produced during the pyrolysis process has the potential to apply in various applications and could serve as an alternative eco-friendly source of natural antioxidant.

1. Introduction

Elaeis guineesis or known as oil palm tree is one of the most important fruit crops in the world. Nowadays, Malaysia has reached approximately 5.8 million hectares of oil palm planted area that cover the area of peninsular Malaysia, Sabah and Sarawak which accounted for 36% of the world's production (Table 1) which also put Malaysia as the world's second largest producers of palm oil after Indonesia.

Unfortunately, the massive production of palm oil has resulted in the abundance of oil palm biomass. Most of these oil palm biomasses were disposed poorly and it has become increasingly threatening environmental issue. Oil palm biomass includes oil palm trunk (OPT), oil palm fronds

MEMS-Based Microfluidic Fuel Cell for In Situ Analysis of the Cell Performance on The Electrode Surface

Yusuf Dewantoro Herlambang [1], Anis Roihatin [1], Kurnianingsih[2], Shun- Ching Lee[3], Jin-Cherng Shyu[3]*

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Abstract. The present study investigates various effects of MEMS-based microfluidic fuel cell on the performance of direct formic acid microfluidic fuel cells that breathe air as an oxidant. A miniaturized fuel cell of the structure and design of a typical T-shaped air- breathing Direct Formic Acid Fuel Cell with micro channel is 1.5 mm x 25 mm in width multiply length. Both anode and cathode electrode having a width and length of 0.6 mm and 20 mm, respectively, with an electrode spacing of 0.3 mm. An air-breathing microfluidic fuel cell having a 0.6 mm in width and 20 mm in length that is placed on cathode GDE down-side. In such systems for the fluid delivery, both formic acid (0.5 M) as a fuel solution mixing sulfuric acid (0.5 M) at a node channel side and as an electrolyte used sulfuric acid (0.5 M) place take on the cathode channel side are injected together into the end of the channel outlet by two syringe pumps. Firstly, a three-dimensional microfluidic fuel cell model was established using Computational Fluids Dynamics to simulate the fuel cell performance. Further, both V-I curves obtained from simulation and published experimental data under similar operating condition were compared to assure the validity of the simulation. Modelling the transport and electrochemical phenomena were described with hydrodynamic equations, the porous media flow, mass transport, electrochemical reaction and charge equation. The porous media flow in the gas diffusion layer was described by Brinkman equation. The Butler-Volmer equations were applied to get the V-I-P curves. An anode electrode surface performance, respectively, is presented.

1. Introduction

In recent years, the power generation for small power applications has been growing rapidly along with the begin abandonment of conventional power plants based on fossil fuels. Many renewable energy sources are used as micro-scale power generation which can be mass-produced with a micro-scale miniaturization technology [1, 2]. An application of micro-scale renewable energy generation has increased very significantly. In particular, micro portable devices that can be operated continuously for a long time without needing to be replaced and recharged periodically. In connection with the scale of power generation, micro-scale power well-designed has some advantages, i.e. more flexible, more efficient, more reliable related in diverse power input, higher energy density, higher power density, lower to zero emissions, lower noise pollution, lower maintenance, longer lifetimes,