

4th International Conference on Science, Technology, and Interdisciplinary Research (IC-STAR 2018)

IOP Conference Series: Materials Science and Engineering
Volume 532

Tanjung Pandan, Indonesia
29 - 30 August 2018

Editors:

**Ardian Ulvan
Dewi Agustina Iryani
Melvi Ulvan**

**Hery Dian Septama
Irza Sukmana
Ahmad Kafrawi Nasution**

ISBN: 978-1-5108-8918-7
ISSN: 1757-8981

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 3.0 International Licence. Licence details:
<http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed by Curran Associates, Inc. (2019)

For permission requests, please contact the Institute of Physics at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 532

The 4th International Conference on Science, Technology and Interdisciplinary Research (IC-STAR 2018)

29–30 August 2018, Bangka-Belitung Province, Indonesia

Accepted papers received: 16 April 2019

Published online: 13 June 2019

Preface

[The 4th International Conference on Science, Technology and Interdisciplinary Research \(IC-STAR 2018\)](#)

[Peer review statement](#)

Papers

Processing, Engineering and Application

[Kinetics of Fly Ash Geopolymerization using Semi Quantitative Fourier-Transform Infrared Spectroscopy \(FTIR\); Corr Data](#)

Himawan Tri Bayu Murti Petrus, Arie Satya Adelizar, Achmad Widiyatmoko, Muhammad Olvianas, Wisnu Suprpta, Indra Perdana, Agus Prasetya and Widi Astuti.....1

[Performance Evaluation of a Liquid-Liquid Cylindrical Cyclone \(LLCC\) for Oil-Water Separation](#)

I A Dharma, A Widyaparaga and F I Faza.....10

[Warehouse Layout Designing of Slab Using Dedicated Storage and Particle Swarm Optimization](#)

Y Muharni, Kulsum and M Khoirunnisa.....16

[Calcination process on chanos chanos forsk \(CCF\) of milkfish bones to get Hydroxyapatite \(HAp\) as Composites Application](#)

Agus Pramono, Fatah Sulaiman, Suryana and Anistasia Milandia.....27

[Graphical Analysis Springs Dampers System on the A Freight Cars](#)

Indrawan Arifianto, Rahmat Alamtaha, Ary Syahriar and Dwi Astharini.....35

[Two-Stage Algorithm for the Open Vehicle Routing Problem](#)

A Imran.....43

[Effect of adhesive thickness on the strength of steel-composite joints aged in wet environment](#)

S Sugiman, S Salman, P D Setyawan and S Sulardjaka.....49

[Effect of fiber length on the mechanical properties and water absorption of bamboo fiber/polystyrene-modified unsaturated polyester composites](#)

S Sugiman, P D Setyawan and B Anshari.....58

[Single stage dimethyl ether plant model based on gasification of palm empty fruit bunch](#)

R Heryadi, A S Uyun, E Yandri, S M Nur and K Abdullah.....69

[Noise reduction in near infrared-based glucose concentration measurement sensor](#)

K Prawiroredjo, E S Julian and G Tjahjadi.....78

[Design and Mechanism Analysis of Paddlewheel Aerator with Movable Blades](#)

Samsul Bahri, Radite Praeko Agus Setiawan, Wawan Hermawan and Muhammad Zairin Junior.....85

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

A Fadli, S R Yenti, R Rasyidin and M Sari.....94

[Extraction of ElectroEncephaloGraph \(EEG\) Signal Using the Subband Coefficient of Wavelet Transform on Cursor Moves](#)

H Hindarto and A Muntasa.....101

[Friction welding of AZ31-SS316L for partially-degradable orthopaedic pins](#)

A K Nasution, P Nawangsari, A Junaidi and H Hermawan.....109

Multidisciplinary

[Colour Behaviour and Stability of Anthocyanin in the Blue Flower of *Stachytarpheta jamaicensis* and *Hydrangea macrophylla*](#)

AM Marpaung, I Zhang and H Sutanto.....118

[A mathematical model of the intravenous glucose tolerance test illustrating an \$n\$ -order decay rate of plasma insulin in healthy and type 2 diabetic subjects](#)

A Kartono, Nurullaeli, H Syafutra, S T Wahyudi and T Sumaryada.....124

[Functional cake characteristics of modified arrowroot starch \(MAS\) with the gelatinization-retrograde method](#)

D Damat, A Tain, H Handjani, U Chasanah and D D Siskawardani.....133

[Bioactive Compounds of Lemongrass \(*Cymbopogon citratus*\) essential oil from different parts of the plant and distillation methods as natural antioxidant in broiler meat](#)

E S Hartatie, I Prihartini, W Widodo and A Wahyudi.....139

[Integration Distance Similarity with Keyword Algorithm for Improving Cohesion between Sentences in Text Summarization](#)

Rizki Darmawan and Adi Wijaya.....145

[A New Geological Map of Formation Distribution on Southern Part of South China Sea:: Natuna Island, Indonesia](#)

H Kausarian, S Lei, G T Lai, Y Cui and A Suryadi.....152

[Molecular Reidentification of Endophytic Fungus LBKURCC40 Isolated from Dahlia's Tuber \(*Dahlia Variabilis*\) Using the Sequence of ITS rDNA](#)

Nabella Suraya, Finna Piska, Nova Wahyu Pratiwi, Aulia Ardhi and Saryono.....160

[Developing organic feed stuff as the main component of broiler chickens' feed with canvas model in East Java: A Case Study of Analysis on Organic Rice and Corn in Malang and Tulungagung](#)

A Sutanto, W Widodo and I D Rahayu.....167

[Agronomic character of several local genotypes of sorghum \(*Sorghum bicolor* L.\) at East Java](#)

Sulistiyawati, Dyah Roeswitawati, Jabal Tarik Ibrahim and Maftuchah.....172

[Chemistry and Structure Characterization of Bamboo Pulp with Formacell Pulping](#)

S Hidayati, E Suroso, W Satyajaya and D A Iryani.....177

[Electrical Resistivity Imaging \(ERI\) and Induced Polarization \(IP\) Survey to Solve Water Drought Problem at Alor Gajah, Melaka, Malaysia](#)

A Suryadi, Batara and S N Amir.....185

[Synthesization and characterization of chlorhexidine/calcium phosphate/poly\(lactic-co-glycolic acid\) bone cement](#)

N M Daud, Z Tapsir, A Idris, A K Nasution and S Saidin.....192

Analysis and Characterization

Optimization of Bioactive Metabolite Production From *Fusarium oxysporum* LBKURCC41

S Marlinda, H Y Teruna, N W Pratiwi, A Ardhi and Saryono.....198

Isolation and Identification of Bacteria and Actinomycetes Isolated from Wilting Banana Plants (*Musa Sp.*)

Saryono, P. Finna, P. Usman, P. N. Wahyu and A. Aulia.....207