4th International Conference on Science and Engineering in Mathematics, Chemistry and Physics (ScieTech 2016)

Journal of Physics: Conference Series Volume 710

Bali, Indonesia 30 – 31 January 2016

Editor:

Ford Lumban Gaol

ISBN: 978-1-5108-2421-8

ISSN: 1742-6588

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.

Copyright© (2016) by the Institute of Physics All rights reserved. The material featured in this book is subject to IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2016)

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 710

4th International Conference on Science & Engineering in Mathematics, Chemistry and Physics 2016 (ScieTech 2016) 30–31 January 2016, Bali, Indonesia

Accepted papers received: 6 April 2016

Published online: 5 May 2016

Preface

011001 OPEN ACCESS

4th International Conference on Science & Engineering in Mathematics, Chemistry and Physics 2016 (ScieTech 2016)

011002 OPEN ACCESS Keynote Speakers

011003 OPEN ACCESS Photographs

011004 OPEN ACCESS Peer review statement

Papers

012001 OPEN ACCESS

The approximate solutions of nonlinear Boussinesq equation

Dianhen Lu, Jie Shen and Yueling Cheng....1

OPEN ACCESS

<u>Influence of Temperature, Roughness and Washer Shape on Crevice Corrosion for 254</u> SMO Alloy

Sanaa T. Arab, Khadijah M. Emran, Huda M. Alghamdi and Mohammed I. Abdulsalam.....9

012003

OPEN ACCESS

Cryptanalysis of Password Protection of Oracle Database Management System (DBMS)

Timur Koishibayev and Zhanat Umarova.....17

012004

OPEN ACCESS

Comparison of Catalytic Activities for Sonocatalytic, Photocatalytic and Sonophotocatalytic Degradation of Methylene Blue in the Presence of Magnetic Fe₃O₄/CuO/ZnO Nanocomposites

Ardiansyah Taufik, Hendry Tju and Rosari Saleh....23

012005

OPEN ACCESS

Enhanced UV Photocatalytic Performance of Magnetic Fe₃O₄/CuO/ZnO/NGP Nanocomposites

Hendry Tju, Ardiansyah Taufik and Rosari Saleh....32

012006

OPEN ACCESS

Sonocatalytic Methylene Blue in The Presence of Fe₃O₄-CuO-TiO₂ Nanocomposites Heterostructure

Malleo Fauzian, Shofianina Jalaludin, Ardiansyah Taufik and Rosari Saleh.....38

012007

OPEN ACCESS

<u>Intelligent QoS routing algorithm based on improved AODV protocol for Ad Hoc</u> networks

Liu Huibin and Zhang Jun.....46

OPEN ACCESS

Acidic Barren Slope Profiling using Electrical Resistivity Imaging (ERI) at Ayer Hitam area Johor, Malaysia

A T S Azhar, Z A M Hazreek, M Aziman, D S Haimi and Z M Hafiz.....58

012009

OPEN ACCESS

<u>Preparation and Application of Chitosan Membranes to Filter Silver from X-ray Film Processing Wastes</u>

N Nyoman Rupiasih, Rendra Rustam Purnomo and Made Sumadiyasa.....67

012010

OPEN ACCESS

Analysis of Realized Volatility for Nikkei Stock Average on the Tokyo Stock Exchange

Tetsuya Takaishi and Toshiaki Watanabe.....75

012011

OPEN ACCESS

Compressive and Shear Wave Velocity Profiles using Seismic Refraction Technique

M Aziman, Z A M Hazreek, A T S Azhar and D S Haimi.....84

012012

OPEN ACCESS

<u>Production of Starch Based Bioplastic from Cassava Peel Reinforced with</u> Microcrystalline Celllulose Avicel PH101 Using Sorbitol as Plasticizer

Maulida, M Siagian and P Tarigan.....92

012013

OPEN ACCESS

Mobile Attendance Checking System on Android Platform for Kazakhstani University

N Saparkhojayev, E Shakhov and Y Mailybayev.....99

OPEN ACCESS

The Synergize effect of Chain extender to Phosporic acid catalyst to the ultimate property of Soy-Polyurethane

Flora Elvistia Firdaus.....107

012015

OPEN ACCESS

Study on online community user motif using web usage mining

Meera Alphy and Ajay Sharma....115

012016

OPEN ACCESS

Application of the Augmented Reality in prototyping the educational simulator in sport - the example of judo

Wojciech B. Cieślńiski, Janusz Sobecki, Paweł A. Piepiora, Zbigniew N. Piepiora and Kazimierz Witkowskil.....125

012017

OPEN ACCESS

Casing strength degradation in thermal environment of steam injection wells

M I P Hidayat, S Irawan and Mohamad Zaki Abdullah.....133

012018

OPEN ACCESS

Logistics Management: New trends in the Reverse Logistics

A Antonyová, P Antony and B Soewito.....143

012019

OPEN ACCESS

Application of The Full-Sweep AOR Iteration Concept for Space-Fractional Diffusion Equation

A. Sunarto, J. Sulaiman and A. Saudi.....153

OPEN ACCESS

Comparative Study of Stearic Acid/Iron-Oxide Binary and Stearic Acid/Iron-Oxide/Titanium-Oxide Ternary for Use as Energy Storage Material

Rizky Andiarto, Muhammad Khalish Nuryadin and Rosari Saleh.....159

012021

OPEN ACCESS

Effects of supplementary lighting by natural light for growth of Brassica chinensis

Shih-Chuan Yeh, Hui-Ping Lee, Shih-Tse Kao and Ju-Lin Lu....167

012022

OPEN ACCESS

Implementation of Elliptic Curve Cryptography in Binary Field

D R Susantio and I Muchtadi-Alamsyah....176

012023

OPEN ACCESS

Quarter-sweep Nonlocal Discretization Scheme with QSSOR Iteration for Nonlinear Two-point Boundary Value Problems

M. U. Alibubin, A. Sunarto and J. Sulaiman....185

012024

OPEN ACCESS

<u>Directly executable formal models of middleware for MANET and Cloud Networking</u> and Computing

D. V. Pashchenko, Mustafa Sadeq Jaafar, S. A. Zinkin, D. A. Trokoz, T.U. Pashchenko and M. P. Sinev.....191

012025

OPEN ACCESS

A study: Effect of Students Peer Assisted Learning on Magnetic Field Achievement

Wannapa Mueanploy.....203

OPEN ACCESS

Thermodynamics properties study of diatomic molecules with q-deformed modified Poschl-Teller plus Manning Rosen non-central potential in D dimensions using SUSYQM approach

A Suparmi, C Cari and B N Pratiwi.....209

012027

OPEN ACCESS

<u>Fabrication and Characterization of Sansevieria trifasciata, Pandanus amaryllifolius and Cassia angustifolia</u> as Photosensitizer for Dye Sensitized Solar Cells

Cari, Agus Supriyanto, Ulfa Mahfudli Fadli and Ashari Bayu Prasada.....219

012028

OPEN ACCESS

Impact of Foreign Direct Investment on the Unemployment Rate in Malaysia

Hamidah Muhd Irpan, Rosfadzimi Mat Saad, Abu Hassan Shaari Md Nor, Abd Halim Md Noor and Noorazilah Ibrahim....226

012029

OPEN ACCESS

The Research on Computerized Adaptive Testing

Peng Lu and Xiao Cong.....236

012030

OPEN ACCESS

Synthesis, Characterization and Catalytic Properties of Perovskite LaFeO₃ Nanoparticles

Nur Afifah and Rosari Saleh.....246

012031

OPEN ACCESS

Experimental Study on a Standing Wave Thermoacoustic Prime Mover with Air Working Gas at Various Pressures

Ikhsan Setiawan, Wahyu N. Achmadin, Prastowo Murti and Makoto Nohtomi.....254

OPEN ACCESS

<u>Potential of Solar Energy in Kota Kinabalu, Sabah: An Estimate Using a Photovoltaic</u> System Model

F M Markos and J Sentian....262

012033

OPEN ACCESS

The Preemptive Stocker Dispatching Rule of Automatic Material Handling System in 300 mm Semiconductor Manufacturing Factories

C N Wang, H S Lin, H P Hsu, Yen-Hui Wang and Y P Chang.....272

012034

OPEN ACCESS

Encryption On Grayscale Image For Digital Image Confidentiality Using Shamir Secret Sharing Scheme

Rodiah, Dyah Anggraini, Fitrianingsih and Farizan Kazhimi.....280

012035

OPEN ACCESS

Evaluation of Condition Assessment of Tunnel Lining using Inspection Manual of CIRIA and FHWA

Fathoni Usman, Nursimaa Banuar, Mohd Nadzari Ismail and Nor Azura Othman.....289

012036

OPEN ACCESS

A simplified nonlinear model of the Marangoni instability in gas absorption

E F Skurygin and T A Poroyko....294

012037

OPEN ACCESS

TE and TM modes polaritons in multilayer system comprise of a PML-type magnetoelectric multiferroics and ferroelectrics

Vincensius Gunawan and Hendri Widiyandari.....301

OPEN ACCESS

Cross-validation method for bivariate measure with certain mixture

Rachid Sabre.....311

012039

OPEN ACCESS

The dynamics of the total output of the fishery sector: The case of Indonesia

Ubaidillah Zuhdi.....324

012040

OPEN ACCESS

The dynamics of the total output of the Japanese fisheries sector: An analysis using inputoutput approach

Ubaidillah Zuhdi.....334

012041

OPEN ACCESS

The dynamics of the total outputs of Japanese information and communication technology sectors: A further study

Ubaidillah Zuhdi.....344

012042

OPEN ACCESS

Corrosion Inhibition by *Tithonia diversifolia* (Hemsl) A. Gray leaves extract for 304 SS in hydrochloric acid solution

S Firdausi and F Kurniawan....354

012043

OPEN ACCESS

<u>Determination of free radical scavenging activity from aqueous extract of *Curcuma mangga* by DPPH method</u>

N A Indis and F Kurniawan....360

012044 OPEN ACCESS

<u>Temperature-dependence of Threshold Current Density-Length Product in Metallization Lines: A Revisit</u>

Rahmat Saptono Duryat and Choong-Un Kim.....365