

IOP Conference Series

Materials Science and Engineering

2nd International Conference
on Robotics and Mechantronics

517

VOLUME 517 – 2019

8–11 November 2018
Singapore

EDITOR
Meng Joe G

The open access journal for conference proceedings
iopscience.org/jpcs

IOP Publishing

PAPER • OPEN ACCESS

The 2nd Annual Applied Science and Engineering Conference (AASEC 2017)

To cite this article: 2018 *IOP Conf. Ser.: Mater. Sci. Eng.* **288** 011001

View the [article online](#) for updates and enhancements.



IOP | ebooks™

Bringing you innovative digital publishing with leading voices to create your essential collection of books in STEM research.

Start exploring the **collection** - download the first chapter of every title for free.

Preface

The 2nd Annual Applied Science and Engineering Conference (AASEC 2017) was held in Bandung, Indonesia, on 24 August 2017. AASEC 2017 is hosted by the UPI Publication Center, Universitas Pendidikan Indonesia (UPI). This conference is jointly organized with Universitas Sumatera Utara (USU), Universitas Negeri Manado (UNIMA), Universitas Negeri Surabaya (UNESA), and Universitas Muhamadiyah Purwokerto (UMP).

The conference was used as a scientific forum for accommodating discussions among young researchers that originated from Indonesia in the field of applied science and engineering. Therefore, the invited speakers in this conference were young researchers that are well-known and reputable in the world.

The participants of AASEC 2017 were from almost every part of the world with various background, including academia, industry, and even well-known enterprise. In general, more than 320 papers were participated from various topics, including mathematics, physics, computer science, material science, chemistry, biology, pharmacology, sport science and technology, management science, mechanical engineering, chemical engineering, civil engineering, electrical engineering, electronics engineering, material engineering, environmental engineering, industry engineering, information engineering, computer and communication engineering, and architecture.

We would like to thank all of those who helped and supported AASEC 2017. Each individual and institution's support was very important for the success of this conference. Specifically, we would like to acknowledge the advisory board, scientific committee, and organizing committee for their valuable advice, help, suggestion, and support in the organization and helpful peer-reviewing process of the papers. We would also extend our best gratitude to keynote speakers for their valuable contribution for sharing ideas and knowledge in the AASEC 2017.

We sincerely hope that AASEC 2017 will be a forum for excellent discussions for improving the quality of research and development relating to the applied science and engineering. We also hope that this forum will put forward new ideas and promote collaborative researches among participants. We believe that the proceedings can serve as an important research source of reference and the knowledge. Indeed, the proceedings will lead to not only scientific and engineering progress but also other new products and processes for better science and technology.

The Editors

Dr. Ade Gafar Abdullah

Dr. Eng. Asep Bayu Dani Nandiyanto

Dr. Isma Widiaty



LIST OF COMMITTEE

Conference Chair:

Dr. Eng. Asep Bayu Dani Nandiyanto

Co- Conference Chair:

Dr. Ade Gafar Abdullah

International Advisory Boards:

Dr. Eng. Sidik Permana, Institut Teknologi Bandung, Indonesia
 Dr. Eng. Tedi Kurniawan, University Malaysia Pahang, Malaysia
 Dr. M. Roil Bilad – Nanyang Technological University, Indonesia
 Dr. Oki Muraza – King Fahd University of Petroleum and Minerals, Saudi Arabia
 Dr. Farid Fadhilah – Al Imam Mohammad bin Saud Islamic University, Saudi Arabia
 Dr. Zulfan Adi Putra, Petronas University, Malaysia
 Syeilendra Pramuditya, Ph.D, Institut Teknologi Bandung, Indonesia
 Dr. Astri Rinanti – Universitas Trisakti, Indonesia
 Dr. rer. nat. I Gusti Ngurah Agung Suryaputra – Universitas Pendidikan Ganesha, Indonesia
 Dr. Lilik Anifah – Universitas Negeri Surabaya, Indonesia
 Andri P Pramono, Ph.D – Univ Pembangunan Veteran Jakarta, Indonesia
 Dr. Eng. Suranto AM – Universitas Pembangunan Nasional “Veteran”, Yogyakarta, Indonesia
 Krismadinata, Ph.D. – Universitas Negeri Padang, Indoneisa
 Dr. Juniastel Rajagukguk – Universitas Negeri Medan, Indonesia
 Dr. Hadi Kuncoro, Universitas Mulawarman, Indonesia
 Rino A Nugroho, Ph.D, Universitas Sebelas Maret, Indonesia
 Prof. Dr. Muhammad Ali Ramdhani, UIN Sunan Gunung Djati Bandung, Indonesia
 Dr. Remon Lapisa, Universitas Negeri Padang, Indonesia

Scientific Committee

Prof. Dr. Asep Kadarohman, Universitas Pendidikan Indonesia, Indonesia
 Prof. Dr. Didi Sukyadi, Universitas Pendidikan Indonesia, Indonesia
 Prof. Dr. Anna Permanasari, Universitas Pendidikan Indonesia, Indonesia
 Prof. Dr. Sumarto , Universitas Pendidikan Indonesia, Indonesia
 Prof. Dr. M. Syaom Barliana, Universitas Pendidikan Indonesia, Indonesia
 Prof. Dr. Ratih Hurriyati, Universitas Pendidikan Indonesia, Indonesia
 Dr. Eng. Himsar Ambarita, Universitas Sumatera Utara, Indonesia
 Mahyudin KM Nasution, Ph.D, Universitas Sumatera Utara, Indonesia
 Prof. Dr. Madlazim, Universitas Negeri Surabaya, Indonesia
 Dr. Sc. Agr. Yuni Sri Rahayu, Universitas Negeri Surabaya, Indonesia
 Arie Wardhono, Ph.D, Universitas Negeri Surabaya, Indonesia
 Dr. Ing. Parabelem Rompas, Universitas Negeri Manado, Indonesia
 Dr. Verry Palilingan, Universitas Negeri Manado, Indonesia
 Prof. Dr. Herry Sumual, Universitas Negeri Manado, Indonesia
 Dr. Sriyanto, Universitas Muhammadiyah Purwokerto, Indonesia
 Dr. Asmiyenti Djaliasrin Djalil, Universitas Muhammadiyah Purwokerto, Indonesia
 Haryanto, Ph.D, Universitas Muhammadiyah Purwokerto, Indonesia

Organizing Committee

Dr. Isma Widiaty – Universitas Pendidikan Indonesia

Dr. Ana – Universitas Pendidikan Indonesia

Tutin Aryanti, Ph.D – Universitas Pendidikan Indonesia

Al Jupri, Ph. D – Universitas Pendidikan Indonesia

Dr. Dadang Lukman Hakim - – Universitas Pendidikan Indonesia

Ari Arifin, M.A. – Universitas Pendidikan Indonesia

Cep Ubad Abdullah, M. Pd – Universitas Pendidikan Indonesia

Nia Amelia, S.Pd – Universitas Pendidikan Indonesia

Agus Juhana, S.Pd – Universitas Pendidikan Indonesia

Diky Zakaria, S.Pd – Universitas Pendidikan Indonesia

Wildan Arrasyid, S.Pd – Universitas Pendidikan Indonesia

CONFERENCE PHOTOGRAPH











Peer review statement

All papers published in this volume of *IOP Conference Series: Materials Science and Engineering* have been peer reviewed through processes administered by the proceedings Editors. Reviews were conducted by expert referees to the professional and scientific standards expected of a proceedings journal published by IOP Publishing.





IOP Conference Series team



Anete Ashton

Publisher, Conference Series

Anete Ashton is the Publisher for the proceedings programme at IOP Publishing. With an MA in linguistics and over ten years' experience in proceedings publication she has developed and grown the IOP Conference Series and has commissioned some of the most prestigious conferences in physics and related subject areas.

E-mail [Anete Ashton](#)

Tel +44 (0)117 930 1280



Steph Gill

Commissioning Editor

Steph joined the Conference Series team after eight years in the Production department. She has a degree in Media and Film from the University of Winchester.

E-mail [Steph Gill](#)

Tel +44 (0)117 930 1252



Kayleigh Parsons

Conference Publishing Co-ordinator, Conference Series

Kayleigh looks after the day-to-day operations of IOP Conference Series, including commissioning content and liaising with conference organizers/editors. Kayleigh joined IOP Publishing back in 2008 working in Publishing, she then took 18 months off to travel but re-joined the company in 2015. Kayleigh then joined the Conference Series team in 2018.

E-mail [Kayleigh Parsons](#)

Tel +44 (0)117 930 1888

Contact us

Publication procedure and editorial questions can be sent to the individual journal e-mail addresses:

- *Journal of Physics: Conference Series*
jpcs@ioppublishing.org
- *IOP Conference Series: Materials Science and Engineering*
mse@ioppublishing.org
- *IOP Conference Series: Earth and Environmental Science*
ees@ioppublishing.org
- Or to the general address:
conferenceseries@ioppublishing.org

Abstracted In

Please note: IOP Publishing provides volume data to the A+I providers on publication. However, it is at the discretion of each provider as to how quickly they upload new content.

[For information regarding Impact Factors](#)

JPCS

EES

MSE

IOP Conference Series: Materials Science and Engineering (MSE)

Conference Proceedings Citation Index – Science (CPCI-S)
(Thomson Reuters, Web of Science)

Scopus

Compendex



NOTICE: Denial of service attack

Table of contents

Volume 288

2018

[◀ Previous issue](#) [Next issue ▶](#)

The 2nd Annual Applied Science and Engineering Conference (AASEC 2017)
24 August 2017, Bandung, Indonesia

[View all abstracts](#)

Accepted papers received: 18 December 2017

Published online: 25 January 2018

Preface

OPEN ACCESS 011001

The 2nd Annual Applied Science and Engineering Conference (AASEC 2017)

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 011002

Peer review statement

[+ View abstract](#) [View article](#) [PDF](#)

Papers

OPEN ACCESS 012001

Green Chemistry Principles: An Alternative Approach to Practice Laboratory Safety and Health

A S Wahyuningsih, M T Multazam, A B D Nandiyanto, A G Abdullah and I Widiaty

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012002

Bioactivity of Acetone Extract from *Spirulina Platensis*

A D Djalil, Y Nurmareta, U Pribadi, W S Rahayu, P I Utami and Suwandri

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012003

The Effort to Enhance Students' Mathematics Learning Outcome in the Topic of Fraction Addition by Using Drawing Media

D G Asep and K Sobariah

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS	012004
Analysis of Bus Station Services with <i>Importance-Performance Analysis</i> : Empirical Results of Gerbangkertosusila Region	
A D Witjaksono, Suyatno and Soeparno	
+ View abstract View article PDF	
OPEN ACCESS	012005
Improvement Value of Urban Kampong Based on Community Potential in an Architectural Perspective Study	
A F Prajawisastra, D Hamid Z and L Yosita	
+ View abstract View article PDF	
OPEN ACCESS	012006
On The Design of Array Microstrip Antenna with S-Band Frequency for Radar Communication	
A Faroqi, F Zaelani, R Kariadinata and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012007
Design of Moderator Neutron for Boron Neutron Capture Therapy in Kartini Nuclear Reactor Using Monte Carlo N Particle 5 Simulation	
D Wahyuningsih, A Jufriadi, H D Ayu and M I Muslih	
+ View abstract View article PDF	
OPEN ACCESS	012008
Chemopreventive Activity of Kola (Cola Accuminata) Seed Ethanol Extract in Mice Induced by Cyclophosphamide	
I Nugraha, A N Annisa, A T Wibowo and A M Kusuma	
+ View abstract View article PDF	
OPEN ACCESS	012009
Fault Diagnosis for Distribution Feeder Base on Fuzzy Logic	
A Nugroho, Y Mulyadi, A G Abdullah and A B D Nandiyanto	
+ View abstract View article PDF	
OPEN ACCESS	012010
Design of Hybrid Power System for Remote Area	
A R Syarifah, A G Abdullah, D L Hakim and A B D Nandiyanto	
+ View abstract View article PDF	
OPEN ACCESS	012011
Expert System for Deciding a Solution of Mechanical Failure in a Car using Case-based Reasoning	
A Rahman, C Slamet, W Darmalaksana, Y A Gerhana and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012012
Seventh Grade Students' Scientific Creativity Test: A Preliminary-Study on Earth Science Context	
A Samsudin, A H Setyadin, E Suhendi, D T Chandra and P Siahaan	
+ View abstract View article PDF	
OPEN ACCESS	

Tensile Strength Improvement of LLBC Material for Low Speed Wind Turbine Rotor Blade by Varying Composite Matrix	012013
A Setiawan, M M Al Gifari and R H Putra	
+ View abstract	View article PDF
OPEN ACCESS	
	012014
<i>Evodia suavoelense</i> 's Repellent Action against <i>Aedes aegypti</i> from Entering a Room	
A Sulianti and M A Ramdhani	
+ View abstract	View article PDF
OPEN ACCESS	
	012015
Dhikr to Manage Epileptiform Activity in a Teenager with Depressive Disorder	
A Sulianti, Y Yulianti, R Riswanda, A D Amalia and R Anwar	
+ View abstract	View article PDF
OPEN ACCESS	
	012016
Biopsychological Approach on Hearing Impairment Caused by Instrumental Hearing Habit	
A Sulianti, N Darojah, N G Rosalina, B N Wahid and M A Ramdhani	
+ View abstract	View article PDF
OPEN ACCESS	
	012017
Cyberwellness Learning Resources (CLR) Access Content Filter As Dangerous and Learning Network On the Internet	
A Sumarno and S C Wibawa	
+ View abstract	View article PDF
OPEN ACCESS	
	012018
Design of Smart System to Detect Ripeness of Tomato and Chili with New Approach in Data Acquisition	
A Taofik, N Ismail, Y A Gerhana, K Komarujaman and M A Ramdhani	
+ View abstract	View article PDF
OPEN ACCESS	
	012019
Comparison Study of Class F and Class C Fly Ashes as Cement Replacement Material on Strength Development of Non-Cement Mortar	
A Wardhono	
+ View abstract	View article PDF
OPEN ACCESS	
	012020
Physical Fitness Development Regarding Maximum Pulse Rate: A Case of Indonesian Adolescents	
A Wijaya and A Amrulloh	
+ View abstract	View article PDF
OPEN ACCESS	
	012021
Potential Improvement of Cihideung Village Through Layout Modification of Local Housing and Settlement	
A William, I Setiawan and L Yosita	
+ View abstract	View article PDF
OPEN ACCESS	
	012022
Classification of Gamelan Tones Based on Fractal Analysis	
A Wintarti, D Juniati and I N Wulandari	

OPEN ACCESS 012023

Economic Evaluation of the Production Ethanol from Cassava Roots

A B D Nandiyanto, A C Maulana, R Ragadhita and A G Abdullah

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012024

Feasibility Study on the Production of Biogas in Dairy Farming

A B D Nandiyanto, R Ragadhita, A C Maulana and A G Abdullah

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012025

Economic Perspective in the Production of Preserved Soybean (Tauco) with Various Raw Material Quantities

A B D Nandiyanto, R Ismiati, J Indrianti and A G Abdullah

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012026

Economic Analysis of the Conventional Production of Traditional Brem Food

A B D Nandiyanto, J Indrianti, R Ismiati and A G Abdullah

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012027

HOT Lab-Based Practicum Guide for Pre-Service Physics Teachers

A Malik, A Setiawan, A Suhandi, A Permanasari and S Sulasman

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012028

Design Control Systems to Detect Applied Grease Machine Based on Programmable Logic Controller in Manufacturing Industry

A Ponco, A Palito F and S Ardi

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012029

Work Rotation to Reduce the Effect of Noise Exposure for Operators in Sugar Factory

Anizar, Erwin, R M Sari, K Syahputri and I Rizkya

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012030

Building Character Through Science Learning with Scientific Literacy Based

B Rubini, A Permanasari and I Permana

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012031

Stabilization of Output Voltage with Feedback Circuit and Filter on 2 Stages-Step Up Converter (24V to 312V DC)

B Budiman, N Ismail, A Risdiyanto, B Susanto and M A Ramdhani

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS	012032
Wireless Sensor Network Based Atmega16 Microcontroller as Temperature and Current Monitoring System on Distribution Network Transformator	
B Suprianto and S Nidzom	
+ View abstract View article PDF	
OPEN ACCESS	012033
Additional Halogen Group (F, Cl, and Br) to 2-Phenyl-imidazole[1,2- α]pyridine on Corrosion Inhibition Properties: A Computational Study	
C D D Sundari, S Setiadji, M A Ramdhani, A L Ivansyah and N I T Widhiasiari	
+ View abstract View article PDF	
OPEN ACCESS	012034
Growth and Yield of Chili in Nutrient Film Technique at Different Electrical Conductivity	
C Hidayat, M R Pahlevi, B F Taufiqqurahman and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012035
The Analysis of Total Solar Eclipse Pictures on August 21, 2017 at Wyoming, USA	
C P Asmoro, A R Achmad, A F C Wijaya, N D Ardi and S H Budisulistiorini	
+ View abstract View article PDF	
OPEN ACCESS	012036
Basic Physics Concepts of New Renewable Energies	
C Rochman, D Nasrudin and Sulasman	
+ View abstract View article PDF	
OPEN ACCESS	012037
Automated Text Summarization for Indonesian Article Using Vector Space Model	
C Slamet, A R Atmadja, D S Maylawati, R S Lestari, W Darmalaksana and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012038
Web Scraping and Naïve Bayes Classification for Job Search Engine	
C Slamet, R Andrian, D S Maylawati, Suhendar, W Darmalaksana and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012039
Social Media-Based Identifier for Natural Disaster	
C Slamet, A Rahman, A Sutedi, W Darmalaksana, M A Ramdhani and D S Maylawati	
+ View abstract View article PDF	
OPEN ACCESS	012040
Does IT Matter?	
D A Nuswantara, D Nugrohoseno and S Iriani	
+ View abstract View article PDF	
OPEN ACCESS	012041
DEA Optimization with Neural Network in Benchmarking Process	
D Abdullah, Tulus, S Suwilo, S Effendi and Hartono	

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012042

The Implementation of Speech Recognition using Mel-Frequency Cepstrum Coefficients (MFCC) and Support Vector Machine (SVM) method based on Python to Control Robot Arm

D Anggraeni, W S M Sanjaya, M Y S Nurasyidiek and M Munawwaroh

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012043

A Modern Vibe: The-redesign of Traditional Market

D Fitria, T Megayanti and I Surasetja

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012044

Physics Phenomena on Housing Architecture in Kampung Naga

D Nasrudin, C Rochman and A Muhyiddin

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012045

Store Image: Mediator of Social Responsibility and Customer Perceived Value to Customer Trust for Organic Products

D P Alamsyah and D Syarifuddin

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012046

Experimental Study of Incorporating Fins on the Rotor Blades of Savonius Wind Turbine

D Prabowo, D S Wijayanto and I Widiastuti

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012047

Systematic Design of Expert System Using Unified Modelling Language

D S Maylawati, W Darmalaksana and M A Ramdhani

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012048

Model of Cytation Network Analysis using Sequence of Words as Structured Text Representation

D S Maylawati, A Rahman, M I N Saputra, W Darmalaksana and M A Ramdhani

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012049

Identification and Calculation of Pollutant Load in Ciwaringin Watershed, Indonesia: Domestic Sector

D S Wijaya and I Juwana

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012050

Computer Virtual Media-Aided Active Learning Student Sheets (ALSS) to Improve Students' Understanding on PV, PT, VT, and TS Diagrams of Ideal Gas

D Saepuzaman, S Karim, M G Nugraha and A Zulfikar

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS	012051
Expansion Parallel Liquid Refrigerant On A Vapor Compression Systems With R-290	
D Supriawan, E T Berman, M Komaro and Mutaufiq	
+ View abstract View article PDF	
OPEN ACCESS	012052
Emoji: Representations of Nonverbal Symbols in Communication Technology	
D Tandyonomanu and Tsuroyya	
+ View abstract View article PDF	
OPEN ACCESS	012053
Improving Students' Argumentation by Providing Analogical Mapping-Based Through Lab Inquiry for Science Class	
Diniya and D Rusdiana	
+ View abstract View article PDF	
OPEN ACCESS	012054
The Implementation of Alert System for LAN Network Monitoring Using the Dude Based Email	
E A Z Hamidi, L S Dzudin, A Faroqi and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012055
The Effectiveness of Ointment of Patah Tulang Stem's (<i>Euphorbia Tirucalli</i>) Ethanol Extract for Burn Wound Healing on White Rats (<i>Rattus Norvegicus</i>)	
S Aisah, P I Utami and E Genatrika	
+ View abstract View article PDF	
OPEN ACCESS	012056
Selection of Optimal Factor Level From Process Parameters in Palm Oil Industry	
E Ginting and M M Tambunan	
+ View abstract View article PDF	
OPEN ACCESS	012057
Genius Learning Strategy of Basic Programming in an Adventure Game	
E Junaeti, H Sutarno and R R Nurmalasari	
+ View abstract View article PDF	
OPEN ACCESS	012058
Plant Leaf Recognition Using Competitive Based Learning Algorithm	
E M Imah, Y S Rahayu and A Wintarti	
+ View abstract View article PDF	
OPEN ACCESS	012059
Environmental Performance Measurement of the Simple Urban Housing in Martubung Medan	
E Nababan, N Siahaan, P Bangun and E Rosmaini	
+ View abstract View article PDF	
OPEN ACCESS	012060
Design and Development of Impact Load Sensor for Dynamic Testing Purposes	
E Permana and Yayat	

OPEN ACCESS

012061

Determine the Optimal Solution for Linear Programming with Interval Coefficients

E R Wulan, M A Ramdhani and Indriani

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012062

Ecological Approach of Campus Wastewater Treatment using Constructed Wetland

E T Winanti, E Rahmadyanti and I N Fajarwati

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012063

Manipulative's of Function Translation

E Sudihartinih and T Purniati

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012064

Evaluation of performance an air conditioning systems using t-junction flash gas refrigerant

E T Berman, A Setiawan, E S Arifianto and Mutaufiq

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012065

Study of Adjustment Delay Scheme on IEEE 802.15.4 Networks at Beacon Enabled Mode

E Yundra

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012066

MPPT based on Fuzzy Logic Controller for Photovoltaic System using PSIM and Simulink

E N Yaqin, A G Abdullah, D L Hakim and A B D Nandiyanto

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012067

Parental Defence on the Offspring: Mathematical Model and Simulation

F Ilahi, J Juariah and R Kariadinata

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012068

Augmented Reality (AR) Technology on The Android Operating System in Chemistry Learning

F S Irwansyah, Y M Yusuf, I Farida and M A Ramdhani

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012069

Finite Element Analysis on the Unloading Elastic Modulus of Aluminum Foams by Unit-cell Model

F Triawan, B A Budiman, F B Juangsa, L A Prananto and M Aziz

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS

012070

Dye Sensitized Solar Cells (DSSC) Performance Reviewed from the Composition of Titanium Dioxide (TiO₂)/Zinc Oxide (ZnO)

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012071

Effect of Biodiesel and Radiator Tube Heater on Fuel Consumption of Compression Ignition Engine

H Bisri, D S Wijayanto and Ranto

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012072

Adventure Game Application as a Digital Media to Introduce Baturraden Folklore

H Mustafidah and S H Ramadhani

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012073

Method Comparison of 3D Facial Reconstruction Corresponding to 2D Image

H P A Tjahyaningtijias, P Puspitasari, Y Yamasari, L Anifah and IGP A Buditjahyanto

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012074

A Review of Spent Lead-Acid Battery Recycling Technology in Indonesia: Comparison and Recommendation of Environment-friendly Process

H Zakiyya, Y D Distya and R Ellen

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012075

Optimization Model of K-Means Clustering Using Artificial Neural Networks to Handle Class Imbalance Problem

Hartono, O S Sitompul, Tulus and E B Nababan

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012076

Biocompatible Hydrogel Film of Polyethylene Oxide-Polyethylene Glycol Dimetacrylate for Wound Dressing Application

Haryanto, Fani and A Mahardian

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012077

Improving Work System Design using Macro-Ergonomics Approach in Rubber Processing Plant

D Wahyuni, I Budiman, H Nasution and K Wijaya

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012078

Learning Material of Chemistry in High School Using Multiple Representations

I Farida, I Helsy, I Fitriani and M A Ramdhani

[+ View abstract](#) [View article](#) [PDF](#)




























OPEN ACCESS

012079

Analysis of New Student Selection using Clustering Algorithms

I M Suartana and A I N Hidayat

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS	012080
<p>Economic Value of Palm Plantation in North Sumatera and Contribution to Product Domestic Regional Bruto</p> <p>I Muda, H S Siregar, S A Sembiring, Ramli, H Manurung and Z Zein</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012081
<p>Performance Measurement Analysis of Palm Cooperative Cooperation with Using Balanced Scorecard</p> <p>I Muda, F Roosmawati, H S Siregar, Ramli, H Manurung and T Banuas</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012082
<p>Institutional Fishermen Economic Development Models and Banking Support in the Development of the Innovation System of Fisheries and Marine Area in North Sumatera</p> <p>I Muda, Rahmanta, Marhayanie and A S Putra</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012083
<p>How to Improve Service Quality in School Counselling Services?</p> <p>M Idat, A S Gina and M N Ardi</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012084
<p>Cardiorespiratory Endurance and Balance of Elderly Dementia Patients in Nursing Home</p> <p>I N Arshintia, L A Fitriana, T Adikusuma, S Rohaedi and T P Putri</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012085
<p>Comparison of Periodic Review Policy and Continuous Review Policy for the Automotive Industry Inventory System</p> <p>I Rizkya, K Syahputri, R M Sari, Anizar, I Siregar and E Ginting</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012086
<p>Application of Desktop-Based Batik Information System</p> <p>I Widiaty, L S Riza, A G Abdullah and S R Mubarok</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012087
<p>MathDroid Application Development on Three-Dimensional Geometry Materials</p> <p>J Juariah, A H Syaf, I Rohimah, H Sugilar and R Kariadinata</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012088
<p>The Tensile Strength Evaluation of Untreated Agel Leaf/Jute/Glass Fiber-Reinforced Hybrid Composite</p> <p>K A Ilman, Jamasri, Kusmono and H Hestiawan</p> <p> View abstract  View article  PDF</p>	
OPEN ACCESS	012089

Analysis of Causes of Defects Gloves and Bar Soap Using Failure Mode and Effect Analysis (FMEA) in XYZ Company

K Siregar and S F Siregar

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012090

Improving Assembly Line Balancing Using Moodie Young Methods on Dump Truck Production

K Syahputri, R M Sari, Anizar, I Rizkya, J Leviza and I Siregar

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012091

Morphological Characterization of Etlingera Elatior (Jack) Explored in Sukabumi, West Java, Indonesia

L Chaidir, C Hidayat, A Supriadin, A Aina, Nuryan and M A Ramdhani

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012092

Implementation of Automation System for Humidity Monitoring and Irrigation System

L Kamelia, M A Ramdhani, A Faroqi and V Rifadiapriyana

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012093

Review of Some Existing Work for Self-Recovery Fragile Watermarking Algorithms

L Rakhmawati and N Rochmawati

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012094

The Implementation of Floor-Area Ratio in the Eastern Corridor of Jalan Ir. H. Djuanda Bandung

L Widaningsih, T Megayanti and R Minggra

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012095

Improvement of Cibaduyut Housing District to Facing City Growth Phenomena, based on "System Approach to Architecture" Concept

L Yosita, Rr T Busono and D Ahdiat H

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012096

Optimization of Rectilinear Motion Experiments using Tracker Application

M G Nugraha, K H Kirana, F Nugraha, E A Nurinsani and F N Sholihat

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012097

Effect of Prunus Dulcis Extract against Total Cholesterol Level in Mice that Given Monosodium Glutamate

M I Sari, N B Rahmat and D W Wijaya

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012098

Designing Web Database Application for Local Medicinal Plants of Gorontalo Using MVC Architecture

M Latief, N Kandowangko and R Yusuf

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS	012099
Microencapsulation of Dragon Fruit (<i>Hylocereus polyrhizus</i>) Peel Extract Using Maltodextrin	
M N Handayani, I Khoerunnisa, D Cakrawati and A Sulastri	
+ View abstract View article PDF	
OPEN ACCESS	012100
E-Rubric: Scientific Work Based on Android for Experimental Physic	
M N Hudha, S D Aji and C Huda	
+ View abstract View article PDF	
OPEN ACCESS	012101
Development of Vocational Interactive Multimedia based on Mobile Learning	
M S Sumbawati, R C Wibawa, Munoto and S C Wibawa	
+ View abstract View article PDF	
OPEN ACCESS	012102
Competitive Advantage: Mediator of Diversification and Performance	
M Sihite	
+ View abstract View article PDF	
OPEN ACCESS	012103
Inclusion Properties of Orlicz Spaces and Weak Orlicz Spaces Generated by Concave Functions	
M Taqiyuddin and A A Masta	
+ View abstract View article PDF	
OPEN ACCESS	012104
Implementation of Sharing Knowledge Management in Internship Program Using Web-Based Information System	
M Somantri, A Djohar, A G Abdullah, A Juhana and S Aryadi	
+ View abstract View article PDF	
OPEN ACCESS	012105
On the Design of Watering and Lighting Control Systems for Chrysanthemum Cultivation in Greenhouse Based on Internet of Things	
N Fajrin, I Taufik, N Ismail, L Kamelia and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012106
Investors Psychology: Mediator of CSR and Market Capitalization	
N H Rusdi, I Primiana, E T Sule and M F Cahyandito	
+ View abstract View article PDF	
OPEN ACCESS	012107
The Effect of Amplitude Modulation Index and Frequency Modulation Index on Total Harmonic Distortion in 1-Phase Inverter	
N Ismail, A Permadi, A Risdiyanto, B Susanto and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012108
Performance of Pelton Turbine for Hydroelectric Generation in Varying Design Parameters	

OPEN ACCESS

012109

A Responsive Web-Based QR Code for Inventory in The Laboratory of Informatics, UNESA

N Rochmawati, I G P A Buditjahjanto, R E Putra and A Y Wicaksono

OPEN ACCESS

012110

Preliminary Study of Failure Analysis on Tube Material Boiler Based on Pressure Aspect

N S Drastiwati, H Zakiyya, F Y Utama and W D Kurniawan

OPEN ACCESS

012111

A Mathematics Model for Determinating the Value of Ijarah Contract

N Sumarti

OPEN ACCESS

012112

Physiological Demands of Playing Field Hockey Game at Sub Elite Players

N W Kusnanik, Y S Rahayu and B Rattray

OPEN ACCESS

012113

Determination of Sodium, Potassium, Magnesium, and Calcium Minerals Level in Fresh and Boiled Broccoli and Cauliflower by Atomic Absorption Spectrometry

Nerdy

OPEN ACCESS

012114

Green Awareness and Purchase Intention for Organic Products

O I B Hariyanto

OPEN ACCESS

012115

Fatty Acid Analysis of Lipid Extracted from Rats by Gas Chromatography-Mass Spectrometry Method

P I Utami, W S Rahayu, I Nugraha and A N Rochana

OPEN ACCESS

012116

The Emerging Wireless Body Area Network on Android Smartphones: A Review

P Puspitaningayu, A Widodo and E Yundra

OPEN ACCESS

012117

Study on the Seawater Surface Elevation through Numerical Modeling Approach in Gulf of Manado

P T D Rompas and J D I Manongko

OPEN ACCESS

012118

Modified Polysulfone Ultrafiltration Membrane for Humic Acid Removal During Peat Water Treatment

P T P Aryanti, A M Noviyani, M F Kurnia, D A Rahayu and A Z Nisa

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012119

Short Term Load Forecasting for Weekends in Indonesia: Comparison of Three Methods

E N Yaqin, A G Abdullah, D Chandra, T A Pratiwi, S Adhigunarto, A M Shidiq, A J Ramadhan, R P Putra, A F Alfaridzi, M F A Muttaqin and A B D Nandiyanto

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012120

The Influence of Base Course Types on Rigid Pavement Concrete Strength

Purnawan and S Utami

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012121

Implementation of Neural Network to determine the New College Students

R E Putra, A I Nurhidayat and A Y Wicaksono

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012122

The Enactment of Mathematics Content Knowledge and Mathematics Pedagogical Content Knowledge in Teaching Practice of Ratio and Proportion: A Case of Two Primary

R Ekawati, F Lin and K Yang

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012123

Isolation and Characterization of Oil-Degrading Bacteria from One of South Sumatera's Oilfield

I A Purwasena, D I Astuti, R Fatmawati and Q Afinanisa

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012124

Sequencing of Dust Filter Production Process Using Design Structure Matrix (DSM)

R M Sari, A R Matondang, K Syahputri, Anizar, I Siregar, I Rizkya and C Ursula

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012125

Crossing Rivers Problem Solution with Breadth-First Search Approach

R Ratnadewi, E M Sartika, R Rahim, B Anwar, M Syahril and H Winata

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012126

Implementation of Automatic Clustering Algorithm and Fuzzy Time Series in Motorcycle Sales Forecasting

Rasim, E Junaeti and R Wirantika

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012127

Preparation of Carbon-Chitosan-Polyvinyl Chloride (CC-PVC) Material and its Application to Electrochemical Degradation of Methylene Blue in Sodium Chloride Solution

Riyanto and A D Prawidha

OPEN ACCESS

012128

Electrochemical Synthesis of Ethanol from Carbon Dioxide Using Copper and Carbon-Polyvinyl Chloride (C-PVC) Electrode

Riyanto and T A Afati

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012129

Development Mathematic Assessment to Increase Mathematical Prerequisite Ability on The Student with Learning Disabilities in Inclusive Elementary School

S T U Robiansyah, F Nanang and Hidayat

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012130

Creative Digital Worksheet Base on Mobile Learning

S C Wibawa, R Cholifah, A W Utami and A I Nurhidayat

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012131

Computer Animation with Adobe Flash Professional Cs6 in Newton's Law

S D Aji, M N Hudha, C Huda and G Gufran

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012132

Performance 'S' Type Savonius Wind Turbine with Variation of Fin Addition on Blade

S F Pamungkas, D S Wijayanto, H Saputro and I Widiastuti

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012133

Analysis of Rules for Islamic Inheritance Law in Indonesia Using Hybrid Rule Based Learning

S Khosyi'ah, M Irfan, D S Maylawati and O S Mukhlas

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012134

Investigation on Municipal Solid Waste Characteristics from Commercial Sources and Their Recycling Potential in Padang City, Indonesia

S Raharjo, Y Ruslinda, V S Bachtiar, R A Regia, M Fadhil, I Rachman and T Matsumoto

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012135

Extra n-Heksana Antifungi Cream Alpinia Galanga

S Rahmatullah, N Windayani and N N Fadilah

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012136

Conversion of Carbon Dioxide into Ethanol by Electrochemical Synthesis Method Using Cu-Zn Electrode

Riyanto, S Ramadan, S Fariduddin, A R Aminudin and A K Hayatri

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS	012137
Multimedia Based on Scientific Approach for Periodic System of Element	
S Sari, D M Aryana, C Z Subarkah and M A Ramdhani	
+ View abstract View article PDF	
OPEN ACCESS	012138
Theoretical Investigation of Inclusion Complex between Omeprazole Enantiomers and Carboxymethyl- β -Cyclodextrin	
S Setiadji, C D D Sundari, M A Ramdhani, A B K Umam and A L Ivansyah	
+ View abstract View article PDF	
OPEN ACCESS	012139
Needs and Problems of Posbindu Program: Community Health Volunteers Perspective	
S T Putri and S Andriyani	
+ View abstract View article PDF	
OPEN ACCESS	012140
Accuration of Time Series and Spatial Interpolation Method for Prediction of Precipitation Distribution on the Geographical Information System	
S Y J Prasetyo and K D Hartomo	
+ View abstract View article PDF	
OPEN ACCESS	012141
Mucolytic Activity Test of Shallot Extract (<i>Allium Ascalonicum</i> L) by in Vitro	
D A Deswati, M A Dhina and S R Mubarog	
+ View abstract View article PDF	
OPEN ACCESS	012142
The CFD Simulation of Cyclone Separator without and with the Counter-cone in the Gasification Process	
H Saputro, T Firdani, R Muslim, Y Estriyanto, D S Wijayanto, S Lasmini and Khaniffudin	
+ View abstract View article PDF	
OPEN ACCESS	012143
Bird on Your Smartphone: How to make identification faster?	
T Hidayat, I S Kurniawan and F S Tapilow	
+ View abstract View article PDF	
OPEN ACCESS	012144
Building Coverage Ratio at the Eastern Corridor of Jalan Ir. H. Djuanda Bandung	
T Megayanti, L Widaningsih, R Minggra and N I K Dewi	
+ View abstract View article PDF	
OPEN ACCESS	012145
The Concept of the Relationship between Information System Maturity and Industry Performance in Indonesia	
V R Palilingan and T P Mario	
+ View abstract View article PDF	
OPEN ACCESS	012146

Effect of Wind Angle Direction on Carbon Monoxide (CO) Concentration Dispersion on Traffic Flow in Padang City

V S Bachtiar, P Purnawan, R Afrianita and N Dahlia

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012147

Implementation of Mamdani Fuzzy Method in Employee Promotion System

W B Zulfikar, Jumadi, P K Prasetyo and M A Ramdhani

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012148

Implementation of STEAM Education to Improve Mastery Concept

W Liliawati, H Rusnayati, Purwanto and G Aristantia

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012149

Qibla Finder and Sholat Times Based on Digital Compass, GPS and Microprocessor

W S M Sanjaya, D Anggraeni, F I Nurrahman, W G Kresnadjaja, I P Dewi, Mira, H Aliah and L Marlina

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012150

A Polychoric Correlation to Identify the Principle Component in Classifying Single Tuition Fee Capabilities on the Students Socio-Economic Database

W Yustanti and Y Anistyasari

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012151

The Performance of Chrome-Coated Copper as Metallic Catalytic Converter to Reduce Exhaust Gas Emissions from Spark-Ignition Engine

Warju, S P Harto and Soenarto

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012152

The System of Inventory Forecasting in PT. XYZ by using the Method of Holt Winter Multiplicative

W Shaleh, Rasim and Wahyudin

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012153

Implementation of Nearest Neighbor using HSV to Identify Skin Disease

Y A Gerhana, W B Zulfikar, A H Ramdani and M A Ramdhani

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012154

Integration Head Mounted Display Device and Hand Motion Gesture Device for Virtual Reality Laboratory

Y A Rengganis, M Saifrodin and S Sukaridhoto

[+ View abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012155

Analysis Impact of Distributed Generation Injection to Profile of Voltage and Short-Circuit Fault in 20 kV Distribution Network System

Y Mulyadi, T Sucita and M D Rahmawan

OPEN ACCESS 012156

Fast Depiction Invariant Visual Similarity for Content Based Image Retrieval Based on Data-driven Visual Similarity using Linear Discriminant Analysis

Y Wihardi, W Setiawan and E Nugraha

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012157

Geological Engineering Characteristics of the Residual Soil: Implementation for Soil Bearing Capacity at Gayungan, Surabaya, East Java

Y Y Rukmana and M Ridwan

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012158

The Role of Teak Leaves (*Tectona grandis*), Rhizobium, and Vesicular-Arbuscular Mycorrhizae on Improving Soil Structure and Soil Nutrition

Yuliani and Y S Rahayu

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012159

Integration Telegram Bot on E-Complaint Applications in College

M A Rosid, A Rachmadany, M T Multazam, A B D Nandiyanto, A G Abdullah and I Widiaty

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012160

The Effectiveness of Full Day School System for Students' Character Building

A Benawa, R Peter and S Makmun

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012161

Effect of Ginger Drinks on Nausea Vomiting in The First Trimester of Pregnancy

P A Kusumawardani, S Cholifah, M T Multazam, A B D Nandiyanto, A G Abdullah and I Widiaty

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012162

Classification of Indonesian quote on Twitter using Naïve Bayes

A Rachmadany, Y M Pranoto, Gunawan, M T Multazam, A B D Nandiyanto, A G Abdullah and I Widiaty

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012163

The Implementation of Blended Learning Using Android-Based Tutorial Video in Computer Programming Course II

C Huda, M N Hudha, N Ain, A B D Nandiyanto, A G Abdullah and I Widiaty

[+ View abstract](#)
[View article](#)
[PDF](#)

OPEN ACCESS 012164

The Development of Dispatcher Training Simulator in a Thermal Energy Generation System

D L Hakim, A G Abdullah, Y Mulyadi and B Hasan

[+ View abstract](#)
[View article](#)
[PDF](#)

PAPER • OPEN ACCESS

Green Awareness and Purchase Intention for Organic Products

To cite this article: O I B Hariyanto 2018 *IOP Conf. Ser.: Mater. Sci. Eng.* **288** 012114

View the [article online](#) for updates and enhancements.



ECS
The Electrochemical Society
THE KOREAN ELECTROCHEMICAL SOCIETY

**The best technical content in
electrochemistry and solid state
science and technology!**

Available until November 9, 2020.

PRIME™
PACIFIC RIM MEETING
ON ELECTROCHEMICAL
AND SOLID STATE SCIENCE
2020

**REGISTER TO ACCESS
CONTENT FOR FREE! ▶**

Green Awareness and Purchase Intention for Organic Products

O I B Hariyanto

AKPAR BSI Bandung, Indonesia

oda.oib@bsi.ac.id

Abstract. Organic vegetables are a healthy product that is consumed and it is friendly for environment, because it does not use pesticide material. But, customer's awareness in Indonesia selects organic vegetables is still low. Those cases are happened because customer's knowledge for organic product is still low. This study is conducted on 136 customers who knows organic vegetables product at supermarket retail in Bandung City, through descriptive and verificative analysis. Research funding is known that purchase intention will improve and it is accompanied by the improvement of customer's knowledge for green awareness and trust. Besides that, the location of urban customer also gives impact on customer behaviour of organic products.

1. Introduction

Global warming issue as impact from unhealthy environment has been socialized, especially for developing country [1]. That issue also impacts to business industries where it is marketing strategy from environmental sustainability-based industry. It is in order to attract customer's attention, remember that customer's pattern has been also changed on environmentally friendly product consumption or it is called "*green consumerism*" [2]. The development of global warming issue and green consumerism do not seem to apply for Indonesia, this case seems from the consumption of organic vegetables products that has not been optimum compared with common products, especially in West Java Province as the largest province in Indonesia [3]. Organic vegetables are vegetables that are produced without chemical materials and it is healthy to be consumed in long term period. Unfortunately, most of customers in West Java Province does not aware those cases [4]. It is supported with customer buying behaviour today in selecting organic products, in reality most of them are not because understand on healthy and the content but they understand because of social status [5]. Talking about social status, it is close related with income level customer location which is in urban or sub-urban. It is sometimes becoming attention, where it is known purchasing power customer. In which customer is in urban has the higher of buying power [6]. West Java Province is formed by some cities and districts, so the review of customer location becomes interesting to be noticed.

Organic product in Indonesia itself currently is still on introducing level, but its development has been quite good, where there are widely offered especially for supermarket retail as their product choice. Supermarket that is dominant sell organic vegetables products is located dominated in central city [4]. By assumption can offer its product to customer that has higher-buying power. Therefore, with still low customer's concern on organic product or the low of customer green awareness. It demands supermarket to evaluate its marketing strategy. Where it is truly trying to improve customer in conducting organic product purchasing, one of them are organic vegetables. It marks that the



importance of a customer's interest in buying, so many efforts are conducted by company included supermarket [7]. The review on previous research, it is known that purchase intention can be controlled by customer behaviour [8]. But it is special for organic products, it is specialized to seeing from customer's concern for organic products, it is common called with customer green awareness [9] and trust owned by customer [3]. Reviewing from the phenomena of customer behaviour on organic vegetables products, so study of green awareness and customer trust will impact on organic products in improving of customer purchase intention. However, customer in West Java Province are various [8], so the study of customer behaviour on organic vegetables product is need to be reviewed from demography field. This study is useful not only for industries that involved in studying customer behaviour on organic products. But also for government in facing "global warming" issue through support on environmentally friendly products.

2. Literature review

2.1. Customer green awareness

Nowadays, company tries to approach customer by green marketing strategy, as impact from customer behaviour for organic products that is improving currently. It is conducted with the aim to improve customer trust for organic products offered by company. Those trusts seem on green awareness, it is itself apart of customer behaviour which is customer's concern for environmentally friendly products assessed [10]. Obviously, this behaviour is most influenced of others customer behaviour, one of them are on customer interest in selecting environmentally friendly products [9].

Theoretically, it is stated that "green awareness is based on recognizing and recalling the brand as a green brand as a result of the green activities and associations" [10]. Those theories emphasize that activities have been done by company on a labelled organic product, become one of customer attention in green awareness. It means that green awareness is truly controlled by company that creates its product; the last is how company can deliver those products in order to be selected by customer. This customer behaviour becomes important when it relates to customer decision in selecting environmentally friendly products [11]. In the previous study, customer buying behaviour or it is called with purchase intention of green awareness that is owned by customer [9]. It is directly emphasized that there is close correlation between green awareness with customer purchase intention. Relating to customer buying behaviour, green awareness can be formed by four cases which is consumers' environmental concerns, awareness of green product, awareness of price, and awareness of brand image [9].

2.2. Customer trust on organic products

Customer trust is built by some disciplines, interprets that trust has different definition in every science [12], those differentiations has reviewed from industries type in the study of each researcher [13]. Customer trust is truly built by company, it is useful to improve behaviour both customer on company; one of them is loyalty and purchasing decision [14]. Underlying those cases are assumed to be important for customer trust to company [15], especially on organic products offered by company.

It is stated on previous research that customer trust level determines customer purchase intention towards organic product [16], it is also supported by study from [17], explained that customer trust is positively significant to influence customer buying decision. Especially for organic product of a customer trust can be assessed by four important cases which is the level of reliable, dependable, trustworthy, and expectations [18]. It is reviewed by researches on the previous organic vegetables products in Indonesia, that customer trust on organic vegetables product covers all four dimensions [3].

2.3. Purchase intention on organic products

Customer buying behaviour that is common known by purchase intention today, becomes important attention for company [19]. Remember that purchase intention is starting for customer does product

purchasing offered by company [20]. It is assumed that underlies to company in marketing strategy developed to improve customer purchase intention. Especially for environmentally friendly products like organic vegetables [3], that has different characteristic from common product and it is obviously its marketing approach also different. As the most prominent is that organic product price is more expensive from conventional product, so it is needed customer behaviour that is more caring because of product's content than product's price [3]. And all of them start from customer interest to have those products. Purchase intention is important concept in marketing strategy, where purchase intention gives prediction to company in producing goods or services [21]. Purchase intention is stated as "the expectance and probability of buying a new product given a reference price in a time-specific frame" [22]. It can be interpreted as a possibility that will be conducted by customer for a product offered by company. This study focuses on customer purchase intention for organic products, so it is reviewed its preference of organic products. In which it is known that those interests appear from some cases like customer's desire to do organic product purchasing, be ready to pay more expensive for organic products, having organic products to be consumed, do organic products purchasing in the later and be ready to recommend to others [23]. It has been known that customer purchase intention on organic products surely has correlation with customer's concern for organic product (green awareness) [9].

3. Methods

Research method conducted by survey on customer in Bandung City, where it was spread about 150 respondents. The study discussed descriptive and verificative analysis, which was the correlation of green awareness and trust with purchase intention. Remember that the aim of research, so respondent is obtained data through questionnaire and quantitative data were processed by simple linier regression and also conducted research hypothesis test. There was main variable in this study was green awareness, trust, and customer purchase intention. However, it was added moderating from demography of location' customer. Demography was conducted to seeing its support in the correlation between green awareness (GA), trust (TR) and customer purchase intention (PI), but it was not processed its data on statistical operation (Figure 1).

Reviewing from research's purposes, so it is stated some research hypothesis that will be tested, as follows:

H1. Green awareness can influence customer purchase intention on organic product

H2. Customer trust can influence customer purchase intention on organic products

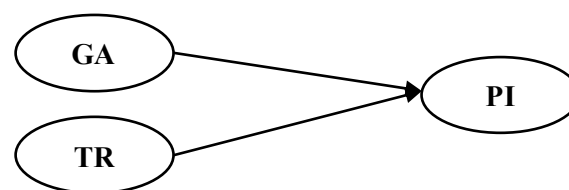


Figure 1. Research Paradigm

4. Results and discussion

After conducting survey for 150 respondents, there are only 136 respondents that are valid for questionnaire data. In which from those data obtained that there is customer who does not know the correct organic label (43%). Besides that, most of customers who come to supermarket are in City (47%). Next research finding is stated on Figure 2, where it is stated that green awareness and customer trust on organic product, it has influence on customer purchase intention.

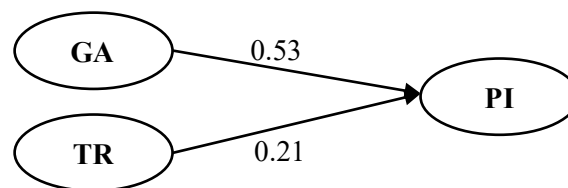


Figure 2. Research Model Findings

4.1. The influence of green awareness on customer purchase intention

According to research finding (Figure 2), it is found that customer green awareness for organic products actually has influence on customer purchase intention. In which correlation value owned is quite large 0.53, it means that it has influence about 28%. This research finding is in line with previous research [9], that has interpretation customer's concern for environmentally friendly product improves customer's desire in having environmentally friendly product.

4.2. The influence of trust on customer purchase intention

Trust is a perception that is embraced by customer for product assessed. It is important in encouraging customer's passion to buy. However, especially for organic products, trust is not enough. It is based on finding where the influence value from customer trust on purchase intention is smaller than green awareness value (Figure 2). Although, trust is obviously has influence on customer purchase intention, and this study result completes previous study that trust has correlation on customer purchase intention [7].

4.3. Customer location support on customer behaviour for organic products

This study is surely also investigating other cases that has important correlation which is location from customer with buying behaviour. Where in this study it is re-processed the correlation among research variables depends on customer's location, and the result for customer that locates in city has the correlation level of green awareness and customer trust are higher on purchase intention, than customer is in sub-urban. Based on those result, it can be emphasized that customer location also encourages customer behaviour in selecting organic products. It is understood; remember that organic products has more expensive characteristic from common vegetables [3], and it is more sold in supermarket.

5. Conclusion

In customer behaviour, it is known that there is called with green awareness and trust, where both of them have support in improving of customer purchase intention. But especially for organic product, support from green awareness is more needed. Besides that, customer's location also gives the influence on customer's selection for organic products. This study concludes that marketing strategy which has correlation with environment; it is needed to improve customer awareness in selecting environmentally friendly products. So it also becomes research limitation and it is recommended in next research, where green market awareness also impacts on customer buying behaviour [24].

References

- [1] S B Hackett and E. Moxnes 2015 Natural capital in integrated assessment models of climate change *Ecol. Econ.* **116** 354–361
- [2] A M F Paço and M L B Raposo 2010 Green Consumer Market Segmentation: Empirical Findings From Portugal *Int. J. Consum. Stud.* **34** 1996 429–436
- [3] D P Alamsyah, A Trijumansyah and O I B Hariyanto 2017 Mediating of Store Image on Customer Trust for Organic Vegetables *MIMBAR J. Sos. dan Pambang.* **33** 1

- [4] D P Alamsyah and R Y Angliawati 2015 Buying Behavior of Organic Vegetables Product: The Effects of Perceptions of Quality And Risk *Int. J. Sci. Technol. Res.* **4** 12 28–35
- [5] A Krystallis and G Chrysosoidis 2005 Consumers' willingness to pay for organic food: Factors that affect it and variation per organic product type *Br. Food J.* **107** 5 320–343
- [6] J Paul 2012 Consumer behavior and purchase intention for organic food *J. Consum. Mark.* **29** 6 412–422
- [7] R Chinomona and M Sandada 2013 Customer Satisfaction, Trust and Loyalty as Predictors of Customer Intention to Re-Purchase South African Retailing Industry *Mediterr. J. Soc. Sci.* **4** 14 437–446
- [8] R Hurriyati and D M P Sofwan 2015 Analysis of Co-Creation Experience Towards A Creative City as a Toursim Destination and its Impact on Revisit Intention *J. Environ. Manag. Tour.* **6** 2 353–364
- [9] N M Suki 2013 Green awareness effects on consumers' purchasing decision: Some insights from Malaysia *Int. J. Asia-Pacific Stud.* **9** 2 49–63
- [10] M Mourad, Y Serag and E Ahmed 2012 Perception of green brand in an emerging innovative market *Eur. J. Innov. Manag.* **15** 4 514–537
- [11] S Wu and Y Chen 2014 The Impact of Green Marketing and Perceived Innovation on Purchase Intention for Green Products *Int. J. Mark. Stud.* **6** 5 81–101
- [12] J Knight, D Holdsworth and D Mather 2007 Determinants of Trust in Imported Food Products : Perceptions of European Gatekeepers *Br. Food J.* **109** 10 792–804
- [13] D Bülbül 2013 Determinants of Trust in Banking Networks *J. Econ. Behav. Organ.* **85** 1 236–248
- [14] P Guenzi, M D Johnson and S Castaldo 2009 A Comprehensive Model of Customer Trust in Two Retail Stores *J. Serv. Manag.* **20** 3 290–316
- [15] B Huo, Y Ye and X Zhao 2015 The impacts of trust and contracts on opportunism in the 3PL industry: The moderating role of demand uncertainty *Int. J. Prod. Econ.* **170** 160–170
- [16] S Tung, S Wei and Y Chen 2012 Attitudinal Inconsistency Toward Organic Food in Relation to Purchasing Intention and Behavior An Illustration of Taiwan Consumers *Br. Food J.* **114** 7 997–1015
- [17] S Yoon 2002 *The antecedents and consequences of trust in online-purchase decisions*
- [18] Y Chen 2010 The Drivers of Green Brand Equity: Green Brand Image, Green Satisfaction, and Green Trust *J. Bus. Ethics* **93** 1 307–319
- [19] L Gatti, A Caruana and I Snehota 2012 The role of corporate social responsibility, perceived quality and corporate reputation on purchase intention: Implications for brand management *J. Brand Manag.* **20** 1 65–76
- [20] C J Yee, N C San and C H Khoon 2011 Consumers' Perceived Quality , Perceived Value and Perceived Risk Towards Purchase Decision on Automobile *Am. J. Econ. Bus. Adm.* **3** 1 47–57
- [21] R Chinomona, L Okoumba and D Poe 2013 The Impact of Product Quality on Perceived Value, Trust and Students' Intention to Purchase Electronic Gadgets *Mediterr. J. Soc. Sci.* **4** 14 463–472
- [22] H H Tuu and S O Olsen 2012 Certainty, Risk and Knowledge in The Satisfaction-Purchase Intention Relationship in a New Product Experiment *Asia Pacific J. Mark. Logist.* **24** 1 78–101
- [23] M R Shaharudin, J J Pani, S W Mansor and S J Elias 2010 Purchase Intention of Organic Food: Perceived Value Overview *Can. Soc. Sci.* **6** 1 70–79
- [24] N M Suki, N M Suki and N S Azman 2016 Impacts of Corporate Social Responsibility on the Links Between Green Marketing Awareness and Consumer Purchase Intentions *Procedia Econ. Financ.* **37** 16 262–268

2017 **AASEC** CERTIFICATE

ANNUAL APPLIED SCIENCE AND ENGINEERING
CONFERENCE

No. 6117/UN40.R4/PB/2017

This certificate is awarded to

O I B Hariyanto

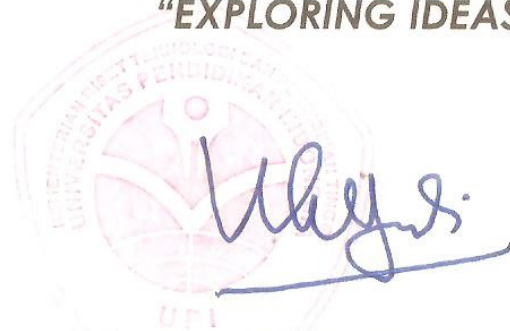
as *Presenter* of a paper entitled

Green Awareness and Purchase Intention for Organic Products

in the 2nd UPI International Conference
on **Annual Applied Science and Engineering Conference**

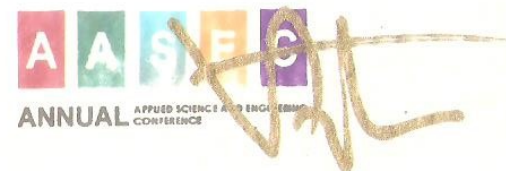
"EXPLORING IDEAS FOR YOUNG RESEARCHERS IN ADVANCED SCIENCE AND TECHNOLOGY"

Bandung, Indonesia. August 24th 2017



Prof. Dr. Didi Sukyadi, MA

Vice Rector for Research, Partnership, and Business
Universitas Pendidikan Indonesia



Dr. Eng. Asep Bayu Dani Nandiyanto
Conference Chair

