

## PREFACE

The 10<sup>th</sup> EIC was organized by Faculty of Engineering, Universitas Negeri Semarang, Indonesia in cooperation with Faculty of Engineering, Mahasarakham University, Thailand. This year conference was successfully conducted on September 23<sup>rd</sup>, 2021 with the theme of “Exploring the Innovation of Green-advanced Research in Applied Sciences, Engineering, and Technologies.” Due to the impact of COVID-19 and government travel restrictions, this year annual conference was also conducted virtually via Zoom meeting and broadcasted on YouTube as in the previous year.

The conference was opened by the Academic Vice Rector of Universitas Negeri Semarang who was also giving a brief information about the university. After that, four keynote speakers from Japan, Taiwan, Malaysia and Indonesia are delivered their keynote speech in the plenary session. Each of them delivered the speech in 45 minutes and followed by 15 minutes Q&A session. All of the speakers requested to join Zoom meeting in delivering their speech. Moreover, qualified and experienced moderators from Faculty of Engineering UNNES guided this session. More than 900 participants were excitedly joined in Zoom meeting to take part in the opening ceremony to the end of plenary session.

After the plenary session, the 92 presenters from Indonesia, Malaysia, Thailand, and Taiwan were divided into nine meeting rooms in Zoom based on the manuscript's topics to have a parallel session presentation. Each room had a moderator who managed the presentation and Q&A session. They had 10 minutes presentation and 5 minutes Q&A session allocation time. All of the presenters and participants in each room had a fruitful discussion, so it can improve participants' understanding based on the material presented. It also aims to exchange ideas among others.

Despite of the pandemic situation, the most profound appreciation was given to the partner, committee, keynote speakers, presenters, participants, and those who have supported so that this virtual conference was successfully conducted. All of the participants joined and took part in all of the session without any significant problems. At the end, the best presenter from each parallel room was announced to appreciate their great effort in preparing the presentation. As the proof of conference participation, all keynote speakers, presenters, and participants got a certificate from the committee after the conference.

This proceeding is the compilation of 92 accepted manuscripts from the presenters. It presents the research results, ideas, information, and application related to the theory, design, development, implementation, testing or evaluation in the areas of green technology. Various topics in engineering fields are covered in this proceeding. The concept of green technology is applied in the following topics:

- 1) Biotechnology and Bioprocess
- 2) Biomass Conversion
- 3) Waste Treatment
- 4) Environmental Monitoring
- 5) Energy Efficiency
- 6) Renewable Energy
- 7) Renewable Resources
- 8) Renewable and Sustainable Materials



- 9) Renewable Energy Power Generation
- 10) Intelligent Control System
- 11) Sustainable Architecture
- 12) Sustainability in the Built Environment
- 13) Green Materials
- 14) Green Transportation
- 15) Green Construction
- 16) Green Technology System
- 17) Green Chemicals

We hope that this volume can give contribution to the further development of green technology. Moreover, we hope everyone enjoy reading this volume of proceeding and get advantages in developing idea of the research in engineering field. We appreciate the effort and the hard work from those involved and look forward to a more successful conference next year.

**Scientific Committee**

Dr. Kongkiti Phusavat  
Professor  
Department of Industrial Engineering,  
Kasetsart University, Thailand

Dr. Achmad Nizar Hidayanto  
Professor  
Faculty Of Computer Science  
Universitas Indonesia

Dr. Wahyu Caesarendra  
Associate Professor  
Faculty Of Intergrated Technologies  
Universiti Brunei Darussalam

Naraphorn Paoprasert, Ph.D.  
Associate Professor  
Department of Industrial Engineering,  
Kasetsart University, Thailand

Fernando Lopez-Caballero, Ph.D.  
Associate Professor  
Centrale Sup'elec Laboratoire MSS Mat Grande Voie des Vignes 92290 - Ch<sup>^</sup>atenay -  
Malabry, France

Dr. Bambang Haryadi  
Professor  
Civil Engineering Department  
Universitas Negeri Semarang, Indonesia

Boon Cheong Chew, Ph.D.  
Associate Professor  
Department of Technology, Management Faculty of Technology Management & Technopreneurship  
(FPTT)  
Universiti Teknikal Malaysia Melaka (UTeM), Malaysia

Samsudin Anis, Ph.D.  
Associate Professor  
Mechanical Engineering Department  
Universitas Negeri Semarang, Indonesia

Dr. Megawati, S.T., M.T.  
Associate Professor  
Chemical Engineering Department  
Universitas Negeri Semarang, Indonesia

Dr. Subiyanto, S.T., M.T.  
Professor  
Electrical Engineering Department  
Universitas Negeri Semarang, Indonesia

Adhi Kusumastuti, Ph.D  
Associate Professor  
Faculty of Engineering  
Universitas Negeri Semarang, Indonesia

Dr. Rini Kusumawardani S.T., M.T., M.Sc.  
Associate Professor  
Civil Engineering Department  
Universitas Negeri Semarang, Indonesia

Dr. Dwi Widjanarko S.Pd., S.T., M.T.  
Associate Professor  
Mechanical Engineering Department  
Universitas Negeri Semarang, Indonesia

**Technical Committee**

Chief of EIC 2021

Dr. Prima Astuti Handayani, S. T., M. T.

Secretary

Sita Nurmasitah, S.S., M.Hum.

Maharani K, S.T., M.Eng..

Treasurer

Delta Apriyani, S.Pd., M.Pd.

Radenrara Dewi A P, S. T., M. T.

Caecilia Sri W, S.E.

Conference Publication

Samsudin Anis. S. T., M. T., Ph. D.

Haniif Prasetiawan, M. Eng.

Nadya Rlfa Cahaya I, S.T., M.Eng..

Esa Apriaskar, S.T., M.T.

Angga SePtiYanto, S.Pd , M T.

IT &amp; Humas

Nur Iksan, S. T., M. Kom

Irene Nindita Pradnya, S.T., M.Sc.

Zuhriyan Ash S B, M. T.

Andi Suhono, S.Pd.

Sponsorship

Dimas Wicaksono, S. T., M` Eng.

Nur Azis Salim, S.T., M Eng.

Secretariat

Sarwi Asri, S.Pd., M.Pd.

Masni Maksiolq A.Md

Asti Dwi Afidah, A.Md

# Table of contents

Volume 969

2022

◀ Previous issue      Next issue ▶

**The 10th Engineering International Conference 23 September 2021, Semarang, Indonesia (VIRTUAL)**

Accepted papers received: 12 January 2022

Published online: 07 February 2022

[Open all abstracts](#)

---

## Preface

---

**OPEN ACCESS**

011001

Preface

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

---

**OPEN ACCESS**

011002

Peer review declaration

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

---

## Papers

---

**OPEN ACCESS**

012001

Mechanical properties characterization of Ti6Al4V for artificial hip joint materials prepared by investment casting

R Ismail, A P Bayuseno, D F Fitriyana, R B Taqriban, R C Muhamadin, R A N Al Hakim and J P Siregar

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

---

**OPEN ACCESS**

012002

Organoleptic analysis of saga seeds (*Adenanthera pavonina*) fermented for feasibility raw material of making tempe

A Damayanti, Z A S Bahlawan, R D A Putri, G A Mahendra, L R Astuti and D H K Triaji

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

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).

---

**OPEN ACCESS**



Production of biogas using AnF2B reactor from cassava starch wastewater with consortium bacteria as biocatalyst 012003

Prayitno and S Rulianah

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

---

OPEN ACCESS 012004

Utilization of HVS paper waste with collage art and paper quilling techniques as a 2-dimensional medium for hair styling in beauty education program

T Widowati, Marwiyah, D Apriyani, T A Achmadi, I E Wahyuni, N W Pangastuti and F S H Dewani

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

---

OPEN ACCESS 012005

Utilization of beverage cans waste as innovation of Balinese bride accessories in new normal era

E Setyowati

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

---

OPEN ACCESS 012006

Physicochemical and photodegradation characteristics of hematite-biochar nanocomposite prepared from bamboo sawdust

W Astuti, R Musfiroh, A A Yahya, T Sulistyaningsih and Rusiyanto

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

---

OPEN ACCESS 012007

Study of the distribution of lead (Pb) on mangrove roots (*Rhizophora mucronata*) and the utilization of mangrove roots as solid fuel

Y Kurniati, F A Prasetya, A Rahmat, N F Maghfirah and T N Khanifa

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

---

OPEN ACCESS 012008

Collagen face spray: facial moisturizer from chicken egg shell membrane to prevent premature aging

E W Agustin, D E C Tassabila, Z A Nisa, I K Rizqi, E N Safitri and M I Sulistiyowati

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

---

OPEN ACCESS 012009

Differences in preferences, water content, and dietary fibre of jackfruit seed crackers enriched with red beetroot (*Beta vulgaris*)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



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

---

**OPEN ACCESS**

012010

Service improvement of regional water company (PDAM) at Surakarta City

Diharto

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

---

**OPEN ACCESS**

012011

Challenges and possibilities of implementing sustainable palm oil industry in Indonesia

N Sylvia, W Rinaldi, A Muslim, H Husin and Yunardi

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

---

**OPEN ACCESS**

012012

The utilization of gypsum board and fly ash waste on brick in terms of compressive strength to reduce environmental pollution

A Taveriyanto, H T C Andiyarto, M V Saefullah and M P Haliza

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

---

**OPEN ACCESS**

012013

Metal adsorption of Pb and Fe in refillable drinking water in Semarang City using Powdered Activated Carbon (PAC) based on coconut shell and ozonation technology

I N Pradnya, L N Verren and J A Permana

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

---

**OPEN ACCESS**

012014

Optimization of ideal temperature using Mamdani fuzzy logic algorithm on tunnel flow type chicken cage for brooding period

U M Arief and S Damayanti

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

---

**OPEN ACCESS**

012015

Signal acquisition system based on wireless transmission for environmental sound monitoring system

V N Sulistyawan, S E Widhira, A Fatin and N A Salim

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

---

**OPEN ACCESS**

012016

Face mask detection services of Covid19 monitoring system to maintain a safe environment  
This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.





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

---

**OPEN ACCESS**

012017

Classification of *Rastrelliger kanagurta* and *Rastrelliger brachysoma* using Convulational Neural Network (CNN)

K Kurniawan, B B Sedayu, A R Hakim and I M S Erawan

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

---

**OPEN ACCESS**

012018

Stress and displacement analysis of powder packaging machine of capacity 2,600 pcs/hours

D H Al-Janani, Kriswanto, R Unggul, A Roziqin, R D Widodo, A Hangga, B Wiratama, B Wijayanto and J Jamari

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

---

**OPEN ACCESS**

012019

Preserving snapper spinach (*Amaranthus hybridus*) using ozone technology and cold temperature

R Wulansarie, S Bismo, A Stefani, B R Maulana and W D P Rengga

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

---

**OPEN ACCESS**

012020

Physical comparison of parijoto fruit from hydroponic farming with parijoto fruit from natural plantations

M Ansori, M F Putri, S Widayani, Karnowo, N H Lestari, C D Eryanti, A M Izzah and L Natalia

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

---

**OPEN ACCESS**

012021

Increasing groundwater replenishment through environmentally friendly parking lot pavement model

D A Wulandari, Suripin, D Ulfiana, C W Hermawan and E Grimaldi

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

---

**OPEN ACCESS**

012022

Design and static testing of electric vehicle chassis trike front-wheel drive

W Aryadi, A Setiawan, Kriswanto and A Rizky

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

---

**OPEN ACCESS**

012023

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our privacy and cookies policy



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

---

**OPEN ACCESS**

012024

Modelling of lighting system utilizing natural and artificial lighting using DIALux

A Hangga, A M Nisa, M Apriliyanto, M Afandi, D Pratama, M A Aziz, A Wijanarko and S Witrianto

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

---

**OPEN ACCESS**

012025

Identification of microwave heating system with symmetrical octagonal tube cavity using ARX model

D Prastiyanto, E Apriaskar, P A Handayani, R Destanto, M A Malik and A E Ramadhan

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

---

**OPEN ACCESS**

012026

Simulation study of  $\text{Al}_2\text{O}_3\text{-H}_2\text{O}$  nanofluids as radiator coolant using computational fluid dynamics method

S Anis, Y C Kayunda, A Kusumastuti and J P Simanjutak

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

---

**OPEN ACCESS**

012027

Analysis and solutions of traffic shift on 4G networks in the campus environment during the Covid-19 pandemic

N A Salim, V N Sulistyawan and F T Intan

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

---

**OPEN ACCESS**

012028

The effect of the performance of using a boost converter on the voltage of the solar panel

E Supraptono, B P Abiyasa, R D M Putri and T Andrasto

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

---

**OPEN ACCESS**

012029

Design of a solar power plant system for micro, small, medium enterprise uses PVSyst 7.1 as a renewable energy alternative source in remote areas

J Windarta, S Handoko, T Sukmadi, K Nafadinanto, S Muqtasida and C Halim

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

---

**OPEN ACCESS**

012030

This Site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see [Zedificatory Copying policy](#)

Zeolite catalytic pyrolysis of waste tire into fuel in gasoline hydrocarbon range

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

---

**OPEN ACCESS**

012031

Technical study of 1.2 KWP solar plant on Tanbihul Ghofilin Islamic Boarding School  
Banjarnegara

J Windarta, Denis, A Firmansyah, A I Avinda and I A Kusuma

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

---

**OPEN ACCESS**

012032

Assessment of lighting system in library room of E11 building, Universitas Negeri  
Semarang

A Hangga, R D M Putri, D Pratama, A M Nisa, M A Aziz and M Apriliyanto

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

---

**OPEN ACCESS**

012033

Development of a power breaker system in small-scale wind power plants when there is high  
rotation (over speed)

H Ananta, A Murnomo, Isdiyarto, S Sunardiyo, S B P Pridayanto and I Nurmaulida

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

---

**OPEN ACCESS**

012034

Diesel engine performance test using solar-dex and biodiesel (B30) on power and torque

A Setiawan, A Novianto, N B A Afkar, F Chabib, F R Amelia and I Pratiwi

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

---

**OPEN ACCESS**

012035

Nutritional content and preference analysis of red dragon fruit spaghetti

Saptariana and R Budiono

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

---

**OPEN ACCESS**

012036

Physical characteristics and nutritional value of cassava analogue rice with fortified protein  
tempeh and the addition of xanthan gum for healthy dieters

R D A Putri, K A N Rohmah, I P Lestari, Z A S Bahlawan, W Astuti, M Kusumaningrum, T R Yanuar, F Nurzulcha  
and D Purwanti

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

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see

[our Privacy and Cookies policy.](#)

012037

## Weeds as an environmentally friendly alternative dyes

Atika, A Kamis, R Syamwil, Widowati, I S Fadia and A S Milannis

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

---

### OPEN ACCESS

012038

#### Textile natural dye powder of *Terminalia catappa* leaves

M Krisnawati, I W N Cahyani, O Paramita and A Kusumastuti

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

---

### OPEN ACCESS

012039

#### The influence of *Arenga pinnata* fibres – reinforced orientation on tensile and flexural strength of epoxy matrix based composite

R D Widodo, F B Darsono, Rusiyanto, K Mukmin and Masturi

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

---

### OPEN ACCESS

012040

#### Preparation and characterization of activated carbon derived from the bovine bone doped urea as an electrode material

N Khoirina, A F Nugraheni, A A Alfian and W D P Rengga

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

---

### OPEN ACCESS

012041

#### Production of bay leaf instant powder drink using different amounts of rock sugar to the level of preference and nutrient content (carbohydrates and flavonoids)

Wahyuningsih, Y Safitri, Rosidah and T Agustina

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

---

### OPEN ACCESS

012042

#### The use of Siam weed (*Eupatorium Odoratum l.*) as natural dye in eco-print with pounding technique

Musdalifah, R D Maulina, S Nurmasitah and A Damayanti

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

---

### OPEN ACCESS

012043

#### Quality of motif, colors and fastness of Sekar Ayu ecoprint products in terms of mordant type, natural dyes, and types of leaves on silk fabrics

S E Wahyuningsih, A Kusumastuti, M Krisnawati, O Paramita, M Yuniar and M R Furi

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

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



## Quality test of current catfish nuggets in improving children's health

S Widayani, T Darmi, T Agustina, R M Astuti, D Elvita, N Aini and A Dewantara

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

## The effect of hydroxyapatite concentration on the mechanical properties and degradation rate of biocomposite for biomedical applications

D F Fitriyana, F W Nugraha, M B Laroybafih, R Ismail, A P Bayuseno, R C Muhamadin, M B Ramadan, A RA Qudus and J P Siregar

[+ Open abstract](#) [View article](#) [PDF](#)The impact of different types of mordant on the eco-print dyeing using tingi (*Ceriops tagal*)

S Nurmasitah, R Solikhah, Widowati and A S Milannisa

[+ Open abstract](#) [View article](#) [PDF](#)Natural food colourant of beetroot skin (*Beta vulgaris L*): characterisation study

O Paramita, M Ansori, A Kusumastuti and N Fatimah

[+ Open abstract](#) [View article](#) [PDF](#)Preparation and characterization of binahong (*Anredera cordifolia*) leaves extract-based liquid hand soap

Megawati, N A C Imani, D S Fardhyanti, W Astuti and D S Hadikawuryan

[+ Open abstract](#) [View article](#) [PDF](#)The impact of the use of different mordant types on the ecoprint dyeing using tegeran (*Cudraina javanensis*) dye on primisima fabric

R Sholikhah, Widowati, S Nurmasitah and R Nafi'ah

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

## Optimization of the pH of mosquito repellent from citronella using response surface methodology

P A Handayani, D Hartanto, W T Eden, D F Anyelir and G R H H Salsabila

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see

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

---

**OPEN ACCESS**

012051

Ternary liquid-liquid equilibrium for eugenol + tert-butanol + water and eugenol + 1-octanol + water systems at 303.15 K and atmospheric pressure

R K H Sucipto, K Kuswandi and G Wibawa

**+** [Open abstract](#)

 [View article](#)

 [PDF](#)

---

**OPEN ACCESS**

012052

Preparation and characterization of RHA based ceramic membrane for gas leak testing in SOFC seals

Gunawan, Sulistyo and I Setiawan

**+** [Open abstract](#)

 [View article](#)

 [PDF](#)

---

**OPEN ACCESS**

012053

Evaluation of 35 kWp on grid solar power plant based on economic and environmental factors in ESDM office Jawa Tengah, Indonesia

S Sunardiyo and T Winarsih

**+** [Open abstract](#)

 [View article](#)

 [PDF](#)

---

**OPEN ACCESS**

012054

Technical analysis feasibility solar power plant on-grid system design in Junior High School 3 Purwodadi

J Windarta, E S Sinuraya, Karnoto, I Kurniawan and I M N Diansyah

**+** [Open abstract](#)

 [View article](#)

 [PDF](#)

---

**OPEN ACCESS**

012055

Data warehouse capability maturity model assessment for efficient monitoring process: a case study in National Narcotics Board

Fahmi, A N Hidayanto, Solikin, H S Indriany, A Prastya and S F Mardiansyah

**+** [Open abstract](#)

 [View article](#)

 [PDF](#)

---

**OPEN ACCESS**

012056

Risk management for energy efficiency in information technology project: a case of a government agencies in Indonesia

A S T Wahyudi, T Raharjo and L J Wantania

**+** [Open abstract](#)

 [View article](#)

 [PDF](#)

---

**OPEN ACCESS**

012057

Microcontroller-based supporting tool for socializing in physical distancing during Covid-19 pandemic

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.

Z N Sanjaya and A B Utomo



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

---

**OPEN ACCESS**

012058

Simulation and design of smart clothesline using fuzzy for weather forecast

T Andrasto, Musaropah, Haryono, T Joko and Kardoyo

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

---

**OPEN ACCESS**

012059

Design and development of temporary immersion bioreactor system controlled by microcontroller

A Woowong and N Piladaeng

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

---

**OPEN ACCESS**

012060

Microwave heating control system using genetic algorithm-based PID controller

E Apriaskar, D Prastiyanto, M A Malik, A E Ramadhan, R Destanto, H Abdullah@Idris and M K Osman

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

---

**OPEN ACCESS**

012061

Cybersecurity project implementation for resources protection: a case study of the National Narcotics Board

A C Nugraha, A N Hidayanto, H S Indriany, H Kurniati, B M A Firdaus and Bastara

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

---

**OPEN ACCESS**

012062

Spatial patterns of settlements in the Menara Kudus Mosque area

S A E Nila, A Marlina and Y Winarto

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

---

**OPEN ACCESS**

012063

Characteristics of architectural typology in colonial buildings in Loji Wetan Surakarta area

I R A Kuncoro, W Setyaningsih and K Sunoko

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

---

**OPEN ACCESS**

012064

Application of the adaptive re-use concept in historical building (case study of cigarette factory Gunung Kedu and cigarette factory Gunung Kelapa enterprises residence)

R H Perhawa, K N Hidayani and Musyawiroh

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



## Post occupancy evaluation for green building certificated (case study UGM law centre building)

D N A Nugradi

[+ Open abstract](#)

[View article](#)

[PDF](#)

## The relationship of traders' activities to the quality of city park (case study: Taman Sampangan Semarang)

I Pratiwi, D Wicaksono, A A Wibowo and A Setiyawan

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Green campus development of UNNES postgraduate program: potential identification and performance analysis

T Prihanto, P Hardati, E B Santoso and A A Wibowo

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Building design recommendation for thermal comfort in cities on the island of Java, Indonesia

M F Setiawan

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Redesign Gajah Mungkur park in Semarang City as public space and green open space with using the concept "hidden layer of Semarang"

D Wicaksono, I Pratiwi and A A Wibowo

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Behaviour analysis of building column structure with retaining wall due to explosion load in front and side a construction

E K Pangestuti and N H Kamilah

[+ Open abstract](#)

[View article](#)

[PDF](#)

## The mitigation of Covid-19 in the perspective of contractor for sustainable construction in Indonesia

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.

S Fauziyah, R Susanti and Lukman





OPEN ACCESS

012072

The spatial phenomenon of Kin's settlements in the UNNES campus area: study of activities and the meaning of spaces

T Prihanto, A Rahadini, Diharto and A A Wibowo

OPEN ACCESS

012073

The dynamics of the factory function as a production room at the house of clothing artisans in Pekalongan

A A Wibowo, B Setyohadi and D Wicaksono

OPEN ACCESS

012074

Youth social behaviour in using the city's public space (case study of Menteng Bintaro park)

A Purnomo

OPEN ACCESS

012075

The relation between historical context and structural change in Central Java and Yogyakarta

A Rahadini

OPEN ACCESS

012076

Effect of trass substitution in sand on the compressive and flexure strength of concrete

Y A Priastiwi, Muhrozi, B H Setiadji and R B K Adi

OPEN ACCESS

012077

Modelling student travel mode choice: a case study in Semarang, Indonesia

B Haryadi, A Narendra, M Purnomo and A Purnomo

OPEN ACCESS

012078

Comparison of retrofit failure to pull out single anchor of plain steel and deformed cast inplace and post installed chemical epoxy methods

H Apriatno, Sunriyono, A Sutarjo and Hanggoro



## Comparison analysis of unstandardized roundabout between MKJI 1997 and USHCM 2000 by simulation model

D Purwanto and K H Basuki

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Transportation modelling using PTV Vissim for the adjacent junction in Sampangan Semarang City

U Nugroho and K T Falah

[+ Open abstract](#)

[View article](#)

[PDF](#)

## Study of the application of the green construction concept on the integrated college building project of Teuku Umar University

D Febrianti, Samsunan and E Mawardi

[+ Open abstract](#)

[View article](#)

[PDF](#)

## The development of permeable pavement from demolished construction waste

D Ulfiana, Suripin, D A Wulandari, N N Hudaifah and N H Salsabila

[+ Open abstract](#)

[View article](#)

[PDF](#)

### JOURNAL LINKS

[Journal home](#)

[Journal scope](#)

[Information for organizers](#)

[Information for authors](#)

[Contact us](#)

[Reprint services from Curran Associates](#)



Brought to you by Universitas Diponegoro



Scopus

Search

Lists

Sources

SciVal



Create account

Sign in

2023

SciVal Topics  
[Back to results](#) | [Previous](#) 2 of 18 [Next](#)

Metrics  
[Download](#) [Print](#) [Save to PDF](#) [Add to List](#) [Create bibliography](#)

Document type

Conference Paper

Source type

Conference Proceedings

ISSN

17551307

DOI

10.1088/1755-1315/969/1/012029

[View more](#)

*IOP Conference Series: Earth and Environmental Science* • Volume 969, Issue 1 • 7 February 2022 • Article number 012029 • 10th Engineering International Conference, EIC 2021 • Semarang, Virtual • 23 September 2021 • Code 177104

# Design of a solar power plant system for micro, small, medium enterprise uses PVSyst 7.1 as a renewable energy alternative source in remote areas

Windarta J.<sup>a, b</sup> ; Handoko S.<sup>b</sup>; Sukmadi T.<sup>b</sup>; Nafadinanto K.<sup>b</sup>; Muqtasida S.<sup>b</sup>; Halim C.<sup>b</sup>

Save all to author list

<sup>a</sup> Magister of Energy, School of Postgraduate Studies, Diponegoro University, Semarang, Indonesia

<sup>b</sup> Department of Electrical Engineering, Faculty of Engineering, Diponegoro University, Semarang, Indonesia

2  
97th percentile  
Citations in Scopus

9.92  
FWCI

23  
Views count

[View all metrics](#)

## Cited by 2 documents

Heuristic Approach for Net-Zero Energy Residential Buildings in Arid Region Using Dual Renewable Energy Sources

Ismail, E.M.H., Sobaih, A.E.E. (2023) *Buildings*

Performance evaluation of an industrial solar dryer in Indian scenario: a techno-economic and environmental analysis

Srivastava, A., Anand, A., Shukla, A. (2022) *Clean Technologies and Environmental Policy*

[View all 2 citing documents](#)

Inform me when this document is cited in Scopus:

[Set citation alert](#)

## Related documents

Analysis of performance and testing of 1215 WP rooftop solar power plants with on-grid system household scale with the case study of Subharta and Hadasa Sengul Gha...