

# **2017 International Conference on Sustainable Energy Engineering and Applications (ICSEEA 2017)**

**Jakarta, Indonesia  
23-24 October 2017**



**IEEE Catalog Number: CFP17AAF-POD  
ISBN: 978-1-5386-1766-3**

**Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP17AAF-POD
ISBN (Print-On-Demand):	978-1-5386-1766-3
ISBN (Online):	978-1-5386-1765-6

**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  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# Contents

Analysis of Magnetically Coupled Resonator and Four-coil Wireless Charging Systems for EV	(1-7)
<i>Abdovakhit Junussov, Mehdi Bagheri, Maxim Lu</i>	
Ergonomic Assessment on Charging Station Touch Screen based on Task Performance Measurement	(8-13)
<i>Yukhi Mustaqim Kusuma Sya'bana, Kadek Heri Sanjaya, Aam Muharam</i>	
Thermodynamic Analysis of Series and Parallel Two-stage Organic Rankine Cycle for Electricity Generation Enhancement	(14-19)
<i>Ghalya Pikra, Nur Rohmah</i>	
Implementation of Maximum Power Point Tracker Algorithm based Proportional-Integrator Controller on Solar Cell with Boost Converter Circuit	(20-24)
<i>Muhammad Ahlanur Ramadhan, Bernadeta Wuri Harini, Nanda Avianto, Feri Yusivar</i>	
Energy Optimization and Gas Removal Selection of Geothermal Power Plant	(25-33)
<i>R. Horas Manahan Sinaga, Prihadi Setyo Darmanto, Andy Trirakhmadi</i>	
Stability Analysis of MRAS Speed Sensorless Control of Permanent Magnet Synchronous Motor	(34-40)
<i>Bernadeta Wuri Harini, Aries Subiantoro, Feri Yusivar</i>	
Biodiesel Production by Using Heterogeneous Catalyst from Fly Ash and Limestone	(41-44)
<i>Widayat, Hantoro Satriadi, Syaiful, Akhmad Khaibar, Mukhammad Mujahid Almakhi</i>	
Implementation of Maximum Power Point Tracking Algorithm on Wind Turbine Generator using Perturb and Observe Method	(45-51)
<i>Indra Nurzaman, Bernadeta Wuri Harini, Nanda Avianto Wicaksono, Feri Yusivar</i>	
Optimal Grid Connected Hybrid Energy System for Egyptian Residential Area	(52-60)
<i>Alaaeldin M. Abdelshafy, Hamdy Hassan, Abdelfatah M. Mohamed, G. El-Saady, Shinichi Ookawara</i>	
Digester Unit Performance of Biogas Power System at Baiturrahman Boarding School, West Java, Indonesia	(61-65)
<i>Arini Wresta, Henny Sudibyo, Dian Andriani</i>	
A Simulation Study on Four Different Compensation Topologies in EV Wireless Charging	(66-73)
<i>Ainur Rakhymbay, Mehdi Bagheri, Maxim Lu</i>	
Performance Estimation of Regenerative Organic Rankine Cycle Using Heat Source From Hot Spring in Masaingi, Central Sulawesi, Indonesia	(74-81)
<i>Nur Rohmah, Ghalya Pikra</i>	
Performance Optimization of Axial-flow Hydraulic Turbine Using Artificial Bee Colony (ABC) Algorithm	(82-90)
<i>Qidun Maulana Binu Soesanto, Anjar Susatyo, Puji Widiyanto</i>	

- Analysis of Magnet Shape Influence on Rotor Deflection on Axial Flux Permanent Magnet Generator (91-97)  
*Muhammad Hikmawan, Muhammad Kasim, Pudji Irasari, Puji Widiyanto*
- Feasibility Study of Energy Conversion System of Minihydro Scale in Garut Regency, West Java (98-105)  
*Henny Sudibyo, Ridwan Arief Subekti, Anjar Susatyo*
- Economic Analysis and Energy Consumption Approaches for Lighting Improvement of Government Building Facilities (106-112)  
*Teguh Tri Lusijarto, Ridwan Arief Subekti, Vita Susanti*
- Response of Two DOF Weapon System Structure Mounted on Four Wheel Vehicle (113-117)  
*Aditya Sukma Nugraha, Muhammad Fathul Hikmawan, Endro Junianto, Rakhmad Indra Pramana*
- Cooling Regimes for Electric Vehicle Battery Packs in Vehicle-to-Grid Scenarios (118-127)  
*Kenneth Darcovich, Steven Recoskie, Yacine Hazaz, Hajo Ribberink*
- Degummed Palm Oil Methanolysis Process using Choline Chloride (ChCl) and Glycerol Based Deep Eutectic Solvent (DES) as Co-Solvent at Biodiesel Production (128-132)  
*Renita Manurung, Ardian Syahputra, Muhammad Arif Alhamdi, Siti Maisarah, Debbie Aditia Ramadhani*
- Design of Power Receiving Side in Wireless Charging System for UAV Application (133-139)  
*Aam Muharam, Tarek M. Mostafa, Reiji Hattori*
- Experimental Investigation of Serial Paralel and Total-Cross-Tied Configuration Photovoltaic Under Partial Shading Conditions (140-144)  
*Rudi Darussalam, Rakhmad Indra Pramana, Ahmad Rajani*
- Thermodynamic Analysis of Transient Cycles using Simulation Techniques for Hydrogen Diesel Dual-Fuel Engine (145-150)  
*Achmad Praptijanto, Widodo Budi Santoso, Arifin Nur, Suherman*
- Passive Balancing Battery Management System using MOSFET Internal Resistance as Balancing Resistor (151-155)  
*Amin, Kristian Ismail, Asep Nugroho, Sunarto Kaleb*
- Optimization of Modular Stator Construction to Improve Permanent Magnet Generator Characteristics for Very Low Head Hydro Power Application (156-163)  
*Pudji Irasari, Muhammad Kasim, Muhammad Hikmawan, Puji Widiyanto, Ketut Wirtayasa, Qidun Maulana Binu Soesanto*
- Vertical Facade PV Installation to Optimize Microgrid System on High Rise EV Parking Lot with AC and DC Charging Station (164-171)  
*Tinton Dwi Atmaja, Rudi Darussalam, Dian Andriani*
- Design of An Axial-Flux Permanent-Magnet Generator (AFPMG) 1 kW, 220 Volt, 300 rpm, 1 Phase for Pico Hydro Power Plants (172-179)  
*Ketut Wirtayasa, Pudji Irasari, Muhammad Kasim, Puji Widiyanto, Muhammad Hikmawan*

**The Effect of Initial Growth Interface on The Grain Structure in HPMC-Si Ingot**

(180-185)

*Giri Wahyu Alam, Etienne Pihan, Benoit Marie, Nathalie Mangelinck-Noël*