

**INTERNATIONAL JOURNAL OF  
ELECTRICAL ENGINEERING AND APPLIED SCIENCES**

**Contents**

**Volume 1**

**Number 1**

**April 2018**

<i>No.</i>	<i>Title</i>	<i>Page</i>
<b>1.</b>	<b>Performance Evaluation of Overcurrent Protection Relay Based on Relay Operation Time (ROT)</b> <i>Mohd Hendra Hairi, Mohd Shahrieel Mohd Aras, Farhan Hanaffi and Marizan Sulaiman.....</i>	1
<b>2.</b>	<b>Evaluation of Transient Response for Rotary Inverted Pendulum Positioning using Fuzzy Logic Controller</b> <i>Mohd Shahrieel Mohd Aras, Marizan Sulaiman, Alias Khamis, Mohd Hendra Hairi, Mariam Md Ghazaly, Mohd Khairi Mohd Zambri, Hairol Nizam Mohd Shah .....</i>	9
<b>3.</b>	<b>Study on the Impact of a Three-Phase Grid-Connected Photovoltaic at Low Voltage Network by using PSCAD Software</b> <i>Nurul Nadia Aminuddin, Mohd Hendra Hairi, Muhammad Nizam Kamarudin, Mohd Khairi Mohd Zambri, Ahmad Sadhiqin Mohd Isira, Muhammad Herman Jamaluddin .....</i>	17
<b>4.</b>	<b>Determining Voltage Stability Margin Values by Measuring the Hypotenuse Under PV and QV Curves</b> <i>Ahmad Fateh Mohamad Nor; Marizan Sulaiman, Aida Fazliana Abdul Kadir and Rosli Omar.....</i>	25
<b>5.</b>	<b>Rule-Based Control Application on Multimode Cricket Bowling Machine</b> <i>Fernandez Dhanaraj Davaraj, Anwar Hasni Abu Hassan.....</i>	31
<b>6.</b>	<b>Development of Ground Penetrating Radar Hybrid System Using Vivaldi Antenna for Buried Object Detection</b> <i>Ariffuddin Joret, M.F. L. Abdullah, Samsul Haimi Dahlan, Aziman Madun, Muhammad Suhaimi Sulong.....</i>	39
<b>7.</b>	<b>An Exploratory Study of Teachers' Attitudes towards Integration of STEM in Malaysia</b> <i>Pau Ling Chia, Siti Mistima Maat.....</i>	45
<b>8.</b>	<b>Evaluation of Distribution Network Modelling for Electric Vehicle Charging Impact</b> <i>Muhammad Faz'zri Abdullah, Ser Lee Loh, Chin Kim Gan and Dennis Ling Chuan Ching.....</i>	51
<b>9.</b>	<b>Simple MPPT Technique for DC-DC Converter in Fuel Cell System</b> <i>Nur Hidayah Abu Khanipah, Maaspaliza Azri, Zulkiflie Ibrahim.....</i>	59
<b>10.</b>	<b>Optimization Method for Voltage Sag Monitor Placement in Power System</b> <i>R. Ismail, D. M. Said, N. Ahmad, M. P. Abdullah, M. Y. Hassan and A. O. Idris.....</i>	71

## MESSAGE FROM CHIEF EDITOR

Assalamualaikum and Greetings to all,

Welcome to the first edition of the International Journal of Electrical Engineering and Applied Sciences (IJEEAS). IJEEAS is an open access journal with the aim of publishing a variety of research articles in Electrical Engineering and Applied Sciences. The focus is mainly in the field of Sustainable Energy, Control System and Industrial Automation. Our publication will contribute towards new exploration of knowledge and state-of-the-art technology for the scholars and professionals in these fields.

IJEEAS promotes research into all aspects of speech input and output, including theoretical, experimental, testing, base technology, and applications that will provide valuable insights of current research and innovation activities. Prospective authors can submit their original contributions according to topics of interest include sustainable and renewable energy, energy storage and management in grid application and renewable energy integration, power system quality, analysis and protection, power electronics, electric machines design and drives, linear and non-linear control systems, industrial automation, mechatronics and intelligent robotics, applied sciences, mathematical modelling of storage devices, energy auditing and engineering and technical education (TVET).

On behalf of the editorial board, I would also like to thank all researchers and IJEEAS's editorial members who have contributed to the success of this edition. Also special thanks to all readers who spare their time supporting IJEEAS.

Prof. Ir. Dr. Marizan bin Sulaiman  
Chief Editor  
IJEEAS

*“Always carry a notebook. And I mean always. The short-term memory only retains information for three minutes; unless it is committed to paper you can lose an idea for ever.” – Will Self*