













# PROCEEDINGS OF THE



8<sup>th</sup> International Conference on Computer and Communication Engineering
(ICCCE 2021)

22-23 June 2021, Kuala Lumpur, Malaysia



**IEEE CATALOG NUMBERS** 

**USB PART NUMBER: CFP 2139D - USB** 

ISBN: 978 - 1 - 7281 - 1064 - 6

# **ORGANIZED BY**

Department of Electrical and Computer Engineering



© 2021 IEEE. Personal use of this material is permitted. However, permission to reprint/republish this material advertising or promotional purposes or for creating new collective works for resale or redistribution to servers or lists, or to reuse any copyrighted component of this work in other works must be obtained from the IEEE.

# **PUBLICATION CONTACT**

AHM Zahirul Alam Faculty of Engineering International Islamic University Malaysia Jalan Gombak, 53100 Kuala Lumpur Malaysia

Tel: +6 03 6421 4529

Email: zahirulalam@iium.edu.my

web: https://zahirulalam.staffat.iium.edu.my/

### **COPYRIGHT**

Copyright © 2021 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 reprint or republication permission, email to IEEE Copyrights Manager at pubspermissions@ieee.org. All rights reserved. Copyright ©2021 by IEEE.

IEEE Catalog Number

USB Part Number: CFP2139D-USB ISBN : 978-1-7281-1064-6

Additional Resources
IEEE Conference Operations
445 Hoes Lane
Pistacaway, NJ 08854-4150 USA

Fax: +1 732 981 1769 Email: ieee-mce@ieee.org

© 2021 IEEE. Personal use of this material is permitted. However, permission to reprint/republish this material advertising or promotional purposes or for creating new collective works for resale or redistribution to servers or lists, or to reuse any copyrighted component of this work in other works must be obtained from the IEEE.

IEEE catalog Number CFP2139D-USB ISBN 978-1-7281-1064-6

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc. All rights reserved.

# **TABLE OF CONTENTS**

	No
Chair message	vi
Organizing Committee	Vii
International Advisory Board	viii
List of Reviewers	ix
Real-Time Driver's Monitoring Mobile Application Through Head Pose, Drowsiness and Angry Detection  Howairach Livin Fo Min It's Mohammad Forbach Ishal Oon Khai Mun Inwandi Hining.	1
Hamimah Ujir, Ee Min Jie, Mohammad Farhaan Iqbal, Qan Khai Mun, Irwandi Hipiny  Efficiency of Parallelization of Haar Fast Transform Algorithm in Dual-Core Digital Signal	7
<b>Processors</b> Hakimjon Zaynidinov, Sanjarbek Salijanovich Ibragimov, Gayrat Tojiboyev, Javohir Nurmurodov	
Palmprint Verification System Using LBP and KAZE Features Detection Noor Aldeen Abbas Khalid, Muhammad Imran Ahmad, Thulfiqar H. Mandeel, Mohd. Nazrin Md Isa	13
A Comparative Study on Lossless Compression Mode in WebP, Better Portable Graphics (BPG), and JPEG XL Image Compression Algorithms	17
Thulfiqar H. Mandeel, Muhammad Imran Ahmad, Noor Aldeen Abbas Khalid, Mohd. Nazrin Md Isa	
Remote Sensing Image Classification for Spatial Information Extraction of Panax Notoginseng Fields	23
Shengliang Pu, PhD, Yining Song, Yingyao Chen, Yating Li, Lingxin Luo, Xiaowei Xie, Yunju Nie	
Digital Spirometer with a Mobile Application for Asthmatic Patient Arif Amiruddin, Noreha Abdul Malik, Othman Omran Khalifa	27
Continuous Non-Invasive Blood Glucose Level Measurement Using Near-Infrared LEDs Arif Amiruddin, Noreha Abdul Malik, Ahm Zahirul Alam, Siti Nur Atikah Salim	32
Implementation of Smart Traffic Light Prototype Using MQTT Protocol for Emergency Vehicles	38
Heru Nurwarsito, Hendi Nugroho	
River Phosphorus Pollution Sensory Detection & Quantification System Sharifah Nabilahwafa, Mohamed Hadi Habaebi, Siti Yusoff, Md Rafiqul Islam	44
Sungai Pusu River Emergency Vital Signs Monitoring Using LoRaWAN Sakinah Kosnin, Shihabeldin Fadl Yousif Hassan, Mohamed Hadi Habaebi, Md Rafiqul Islam	49
Wearable Based-Sensor Fall Detection System Using Machine Learning Algorithm Anis Nadia Ishak, Mohamed Hadi Habaebi, Siti Yusoff, Md Rafiqul Islam	53
<b>LoRa Channel Propagation Modelling Using Artificial Neural Network</b> Ahmad Shahmi Mohd Rofi, Mohamed Hadi Habaebi, Md Rafiqul Islam, Ahmed Basahel	58
Securing Wireless Communication Using RF Fingerprinting Nur Sabryna Aminuddin, Mohamed Hadi Habaebi, Siti Yusoff, Md Rafiqul Islam	63
LNMNT-New Mersenne Number Based Lightweight Crypto Hash Function for IoT Nubila Nabeel, Mohamed Hadi Habaebi, Md Rafiqul Islam	68
A Smart Microgrid Approach for Distributed Power Generation of Renewable Energy Farha Khushi, S. M. A. Motakabber, Amelia Wong Azman, Belal Ahmed Hamida, Amit Bhattacharjee	72

	No
Measuring the Individual Performance of a Software Development Team Susi Eva Maria Purba, Mario E. S. Simaremare	78
Modeling of the Network Reconfiguration Considering Electric Vehicle Charging Load Wan Izzat Aiman Bin Wan Abdul Manan, Azrin bin Saedi, Mohamad Heerwan Peeie, Mohd Shahrin Abu Hanifah	82
Integration of Hybrid Biomass-Solar Photovoltaic-Wind Turbine in Microgrid Application Saidatul Haneen Badruhisham, Mohd Shahrin Abu Hanifah, Siti Yusoff, Nurul Fadzlin Hasbullah, Mashkuri Yaacob	87
Case Study on Prototyping Educational Applications Using Persona-Based Approach Nurul Najihah Zanudin, Shahida Sulaiman, Mohd Razak Samingan, Hasnah Mohamed, Sh. Khayulzahri Sh. A Raof, Abd Rahman Abd Samad	93
Mathematical Design of Coil Parameter for Wireless Power Transfer Using NI Multisims Software Siti Yusoff, Nadia Nazieha Nanda, Nur Shahida Midi, Ahmed Samir Abed Badawi	99
Design of U and I Ferrite Core on Dynamic Wirelesss Charging for Electric Vehicle Amira Abdullah, Siti Yusoff, Erwan Sulaiman, Nur Shahida Midi	104
<b>Evaluation of Energy Harvesting for Smart Cane Application</b> Nur Shahida Midi, Nur Atikah Md Idris, Siti Yusoff, Nur Amira Mat Ripah	110
Wireless Power Transfer System Using Series- Series Compensation Topology Muaad Gathageth, Othman Omran Khalifa, Aisha-Hassan A. Hashim, Noreha Abdul Malik, Faridah Abd Rahman, Muhammed zaharadeen Ahmed	115
Advanced Adaptive PID Controller for BLDC Motor S. M. A. Motakabber, Md Mahmud, Ahm Zahirul Alam, Anis Nurashikin Nordin, Syed Ahmad Fawwaz Wafa Syed Ridza	121
Non-Intrusive Energy Harvesting from Vibration of Air Conditioning Condenser Unit Utilizing Piezoelectric Sensors Chuan Choong Yang, Rafiq Imran Bin Rohimi, Noor Hazrin Hany Mohamad Hanif, Siti Noorjannah Ibrahim	126
On the Evaluation of DHT22 Temperature Sensor for IoT Application Yasser Asrul Ahmad, Teddy Surya Gunawan, Hasmah Mansor, Belal Ahmed Hamida, Adam Fikri Hishamudin, Fatchul Arifin	131
Energy Storage System for Dual Energy Harvester in Wearable or Portable Devices Muhammad Aiman Zainal Abidin, Noor Hazrin Hany Mohamad Hanif, Mohamad Safiddin Mohd Tahir	135
Dynamic Position Control for Unmanned Small Vehicle (Application for Vessel) Ismah Zakirah Ismail, Nurul Arfah Che Mustapha	140
Design of Circular Patch Antennas at mmWave Siti Zainab, Norun Abdul Malek, Sarah Yasmin Mohamad, Farah Nadia Mohd Isa, Md Rafiqul Islam	144
Development of Rubber Substrate for More Robust Flexible Wearable Antenna at 2.4 GHz Application Farisha Eriena Rahmad, Sarah Yasmin Mohamad, Norun Abdul Malek, Faridah Abd Rahman, Ahmad Alhadi Ruslan, Nurfarina Zainal	150
Design and Performance Analysis of Flexible Microstrip Patch Antenna with Rubber	156
Substrate Ahmad Alhadi Ruslan, Sarah Yasmin Mohamad, Norun Abdul Malek, Siti Yusoff, Siti Normi Zabri, Farisha Eriena Rahmad	
Investigating the Effects of Metal Obstructions on Radio Propagation in 2.4 GHz ISM Band Muhammad Asim, Muhammad Aatif, Naveed Mufti	162

	No
Design of a Wearable Textile Patch Antenna Using C-Shape Etching Slot for Wi-MAX and 5G Lower Band Applications  Mahfuz Md Mahmudul Hasan, Md Rafiqul Islam, Nazmus Sakib, Mohamed Hadi Habaebi, Raad Raad, Md Abu Tayab Sakib	168
Design of UWB Patch Antenna With 5G Lower Band Notch Characteristics Using Ring	173
<b>Shape Resonator</b> Mahfuz Md Mahmudul Hasan, Md Rafiqul Islam, Mohamed Hadi Habaebi, Nazmus Sakib, Norun Abdul Malek, A. K. M. Zakir Hossain	
DDoS Attack Early Detection and Mitigation System on SDN Using Random Forest Algorithm and Ryu Framework Heru Nurwarsito, Muhammad Fahmy Nadhif	178
Extended Dijkstra Algorithm in Path Planning for Vision Based Patrol Robot Choon Kiat Teh, Wai Kit Wong, Thu Soe Min	184
Secure ACO-Based Wireless Sensor Network Routing Algorithm for IoT Afsah Sharmin, Farhat Anwar, S. M. A. Motakabber, Aisha-Hassan A. Hashim	190
A Mechanism for Controller Failover in Distributed Software-Defined Networks Poonam Dharam, Mithila Dey	196
Design of Circular Pad Coupler of Inductive Power Transfer for Electric Vehicle (EV) Syasya Azra Zaini, Siti Yusoff, Mohd Shahrin Abu Hanifah, Erwan Sulaiman, Nadia Nazieha Nanda, Saidatul Haneen Badruhisham	202
Smart Arbitration System for Multiprocessor AMBA Interface in System on Chip Mohammed Iqbalur Rahman Rokon, S. M. A. Motakabber, Ahm Zahirul Alam, Mohamed Hadi Habaebi, Mohammad A Matin	208
ECG (electrocardiogram) Digital Signal Processing for the Biomedical Applications Md. Rashed Khan Menon, Md. Moklesur Rahman, Heung-Gyoon Ryu	214
Enhancing Driver Drowsiness Detection for Data Acquisition Stage Using Electrocardiogram	224
Nur Shahirah Nor Shahrudin, Khairul Azami Sidek, Nur Aaina Nazihah Nazmi Asna, Anis Nurashikin Nordin, Muhammad Rasydan Jalaludin	
Thermopile Array Sensor for Children Detection in Automobile Application Nurulhusna Jamal Ali, Nurul Arfah Che Mustapha	229
Comparative Study of Electrocardiogram Signals Acquired from Different Smart Textile Shirts Muhammad Muizz Mohd Nawawi, Khairul Azami Sidek, Amelia Wong Azman	234
Feature Extraction of EEG Signal by Power Spectral Density for Motor Imagery Based BCI	240
Mohammad Nur Alam, Muhammad Ibn Ibrahimy, S. M. A. Motakabber	
Monitoring and Alarming Activity of Islamic Prayer (Salat) Posture Using Image Processing Md Mozasser Rahman, Rayan Abbas Ahmed Alharazi,	244
Muhammad Khairul Imran Zainal Badri	250
Classification of Quranic Topics Using Ensemble Learning Bassam Arkok, Akram Zeki	250

	No
Extending Deep Neural Categorisation Models for Recommendations by Applying Gradient Based Learning Sashank Sridhar, Sowmya Sanagavarapu	255
Automatic Breast Cancer Detection Using Inception V3 in Thermography Mohammed Abdulla Salim Al Husaini, Mohamed Hadi Habaebi, Teddy Surya Gunawan, Md Rafiqul Islam, Shihab A. Hameed	261
Sentiment Analysis from Depression-Related User-Generated Contents From Social Media Ananna Saha, Ahmed Al Marouf, Rafayet Hossain	265
Detecting Poultry Movement for Poultry Behavioral Analysis Using the Multi-Object Tracking (MOT) Algorithm Jasmine Khairunissa, Sri Wahjuni, Iman Rahayu Hidayati Soesanto, Wulandari Wulandari	271
Graphene-Oxide Coated on Fiber Bragg Grating for Temperature Sensor Norazlina Saidin, Nurul Farhana Husna Kamarozaman, Farah Sakiinah Roslan, Md Ralib Aliza Aini, Kok-Sing Lim	275
Cloud Based Inventory System for Effective Management of Under and Over-Stock Hazards	280
Rashidah Funke Olanrewaju  Design of High-Efficiency Voltage Doubler for Energy Harvesting Application  Mohd Hezri Abdullah, Arjuna Marzuki, Mohd Tafir Mustaffa	285
Design of MedRadio RF Mixer by Utilizing Subthreshold Biasing and Bleeding Circuit Techniques	289
Arjuna Marzuki, Mutanizam Abdul Mubin, Chain Hui Wong, Mohd Tafir Mustaffa	
Component Spread Minimization for Integrated Active-RC Filter Using Genetic Algorithm Optimization Technique Emad A. Abdo, Ahmad T. Younis	294
Performance Assessment for Bare Patch Antenna and Integrated Filter-Antenna Microstrip Patch Resonator Based for Partial Discharge Application in HV Equipment	300
Zul Hasrizal Bohari, Muzamir Isa, Ahmad Zaidi Abdullah, Ping Jack Soh, Mohamad Fani Sulaima, Syahrun Nizam Md Arshad Hashim	
Noise Sources Extraction for Conducted Emission Modeling of IC's Using IBIS Models Tamana Mehraj Baba, Nurul Arfah Che Mustapha, Nurul Fadzlin Hasbullah	305
Underwater Communication System Using Electronic Acoustics Amira Nasirah Mohd Fekry, Nurul Arfah Che Mustapha	310
Wavelet Modulation for Energy Efficient Wireless Sensors Networks with Simultaneous	314
Wireless Information and Power Transfer Amar Esse Ahmed, Khaizuran Abdullah, Mohamed Hadi Habaebi	
A Low Computational Complexity for 2D MUSIC Algorithm in Massive MIMO Systems Luay Tareq Aal dhaheb, Nor Muzlifah Mahyuddin	320
Design and Implementation of Chaotic Frequency Hopping Sequences Based on One Dimensional Chaotic Maps Utilizing FPGA Fadel Sahib, Ali Jaber Al-Askery	326
User Association for Multi-Tenant Heterogeneous Network Slicing Using Genetic Algorithm Swathi Subbiah Jayanthi, Ying Loong Lee, Yoong Choon Chang	332
A Computationally Efficient Least Square Channel Estimation Method for MIMO-OFDM	337
Systems	551
Ahmad Hasan, S. M. A. Motakabber, Farhat Anwar, Mohamed Hadi Habaebi, Muhammad Ibn Ibrahimy	

	No
Banana Ripeness Classification Using Computer Vision-Based Mobile Application Muhammad Farhan Mohamedon, Faridah Abd Rahman, Sarah Yasmin Mohamad, Othman Omran Khalifa	341
Stress Classification Based on Speech Analysis of MFCC Feature via Machine Learning Muhammad Syazani Hafiy Hilmy, Ani Liza Asnawi, Ahmad Zamani Jusoh, Khaizuran Abdullah, Siti Noorjannah Ibrahim, Huda Adibah Mohd Ramli, Nor Fadhillah Mohamed Azmin	345
Game-Based Learning Using Augmented Reality Li Ying Ooi, Irwandi Hipiny, Hamimah Ujir, Sarah Flora Samson Juan	350
ICS Cyber Attack Detection With Ensemble Machine Learning and DPI Using Cyber-Kit Datasets	355
Sinil Mubarak, Mohamed Hadi Habaebi, Md Rafiqul Islam, Sheroz Khan  Design of Hardware-In-The-Loop Simulation Approach for Slip-Compensated Odometry  Tracked Mobile Robot Platform  Chow Yeh Loh, Hermawan Nugroho	361
Observing Impression of User Experience for Learning Cranium Anatomy Mauludy Rakhman, Adhistya Erna Permanasari, Sunu Wibirama, Intan Sulistyaningrum Sakkinah	367
Transforming Timestamp of a CSV Database to an Event Log Yutika Amelia Effendi, Fitri Retrialisca	373
IoT Enabled Geofencing for Covid-19 Home Quarantine Md Fahad Monir, Akil Hamid Chowdhury, Rabeya Anzum, M Ashraful Amin	379
Performance Evaluation of Free Space Optical Link Using OOK Modulation Schemes Under Dust-Storm Turbulence Thaahirah Shireen Mohamed Rasied, Nur Fazeera Hani Zailani, Filzah Syafirah Mohamad Sepian, Ahmad Muhamed Almeslati, Mohamed Hadi Habaebi, Ahmed Basahel	385
Prediction of Rain Attenuation on Earth-To-Satellite Link Using Rain Rate Measurement with Various Integration Times  Mullah Momin, Md Rafiqul Islam, Md Moktarul Alam, Khairayu Badron, Mohamed Hadi Habaebi, Mahfuz Md Mahmudul Hasan	391
Performance Analysis of Free Space Optics Link Under the Effect of Rain Attenuation Siti Hajar Ab Aziz, Norhanis Aida M. Nor, Suriza Ahmad Zabidi	397
Performance Analysis of FSO Systems Using Different Modulation Techniques Under the Influence of Atmospheric Turbulence Nur Syahidah Sadzali, Norhanis Aida M. Nor, Siti Hajar Ab Aziz	403
Time Diversity Analysis Based on Predicted Rain Attenuation at Ku, Ka and V- Bands Using Synthetic Storm Technique  Mohammad Rofiqul Hassan, Md Rafiqul Islam, Mohamed Hadi Habaebi, Md Moktarul Alam, Suriza Ahmad Zabidi, Khairayu Badron, Ahmed Basahel	407
Road Sign Instance Segmentation by Using YOLACT for Semi-Autonomous Vehicle in Malaysia Siow Shi Heng, Shamsudin Abu Ubaidah	412
Author Index	417



Mohamed Hadi Habaebi Chairman

8th International Conference on Computer and Communication Engineering (ICCCE 2021)

Assalamualaikum warahmatullahi wabarakatuh,

I would like to extend my warmest welcome to the participants of the 8th International Conference on Computer and Communication Engineering 2021 (ICCCE 2021) organized by the Department of Electrical and Computer Engineering (ECE), Faculty of Engineering, International Islamic University Malaysia (IIUM). The theme of this conference is "Engineering Research for a Sustainable World". The conference provides a good platform for fellow colleagues, researchers, policy makers and students to share, discuss, and collaborate on knowledge and findings while expanding networks. The past ICCCE conferences, as well as the current one, has followed a strict regime of IEEE guidelines of blind-review process seconded by the technical committee scrutiny to update the papers based on reviewers' comments and to comply with the template guidelines. The ICCCE2021 conference received more than 120 submissions through EDAS from around 20 countries.

I would like to express my sincere gratitude to the organizing committee and everybody who have worked very hard to make this conference a reality and success. I would like to express my deepest gratitude to the distinguished keynote speakers, International Advisory Board members and sponsors. I am also grateful to all the reviewers, as without their effort the high-quality standard for the conference could not have been maintained.

Finally, due to COVID-19 restrictions on travel and social distancing, the conference venue was converted to virtual to observe the IEEE, as well as the Malaysian Government, guidelines on safety during the event. I wish all of you a pleasant virtual experience and we hope that ICCCE 2021 will be a successful and enjoyable event for all participants.

Wassalam

Prof. Dr. Mohamed Hadi Habaebi Head of Electrical and Computer Engineering Department Kulliyyah of Engineering Chairman of ICCCE 2021

### **ORGANIZING COMMITTEE**

#### **CHAIRMAN**

Mohamed Hadi Habaebi

#### VICE CHAIRMAN

Othman O Khalifa

#### SECRETARY

Nur Shahida Midi Nurul Arfah Che Mustafah

#### **TECHNICAL COMMITTEE**

Muhammad Ibn Ibrahimy (Chairperson) Md. Rafiqul Islam (Vice Chairperson) Mashkuri Yaacob Farhat Anwar Rashidah Funke Olanrewaju Amelia Wong Anis Nurashikin Nordin

#### FINANCE AND REGISTRATION

Huda Adibah Mohd Ramli (Chairperson Finance) Farah Nadia Mohd. Isa (Chairperson Registration)

#### SPONSORSHIP

Khaizuran Abdullah (Chairperson) Sr. Sharifah Junita (Engineer) Nurul Fadzlin Hasbullah Mimi Aminah

#### WEBSITE, PUBLICITY AND ONLINE LOGISTICS

Malik Arman Morshidi (Chairperson) Suriza Ahmad Zabidi (Logistics) Ir. Yasser Asrul Athaur Rahman Najeeb Mohd. Shahnan Zainal Abidin Mohd. Shahrin Abu Hanifah

#### PUBLICATION/PROGRAMME

A.H.M. Zahirul Alam (Chairperson) Noreha Abd Malik

#### INTERNATIONAL ADVISORY BOARD & KEYNOTE SPEAKERS

SMA Motakabber (Chairperson) Khairul Azami Khairayu Badron

#### **COMMITTEE MEMBERS**

Teddy Surya Gunawan Hasmah Mansor Aliza Aini Md. Ralib Aisha Hassan Abdalla Hashim

### **ORGANIZING COMMITTEE**

Rosminazuin Ab. Rahim

Nor Farahidah Za'bah

Ani Liza Asnawi

Faridah Abd. Rahman

Nadirah Abdul Rahman

Sarah Yasmin Mohamad

Norazlina Saidin

Siti Noorjannah Ibrahim

Belal Ahmed Hamida

Farah Diyana Abdul Rahman

Siti Hajar Yusof

Ahmad Fadzil Ismail

Norun Farihah Abdul Malek

Ahmad Zamani Jusoh

Nurul Fariza Zulkurnain

#### INTERNATIONAL ADVISORY BOARD

- Prof. Dr. Huseyin Arslan, Fellow IEEE, University of South Florida, USA
- Prof. Dr. Muhammad Mustafa Hussain, fellow IEEE, University of California, USA
- Prof. Dr. Emmanuel Oyekanlu, Drexel University, USA
- Prof. Dr. Zakaria Hossain, Mie University, Japan
- Prof. Dr. Shinji Tsuruoka, Mie University, Japan
- Prof. Dr. Abul Lais M S Haque, Presidency University, Bangladesh
- Prof. Dr. Mohammad Abdul Matin, North South University, Bangladesh
- Prof. Dr. Nowshad Amin, Universiti Tenaga Nasional, Malaysia
- Prof. Dr. Abiodun Musa Aibinu, Federal University of Technology, Nigeria
- Prof. Dr. Rushan Ziatdinov, Keimyung University, South Korea
- Prof. Dr. Jia Uddin, Woosong University, South Korea
- Prof. Dr. Hasan Tinmaz, Woosong University, South Korea
- Prof. Dr. Tumennast Erdenebold, Woosong University, South Korea

## LIST OF REVIEWERS

Name	Affiliation	Country
A. K. M. Zakir Hossain	Universiti Teknikal Malaysia Melaka	Malaysia
AHM Zahirul Alam	International Islamic University Malaysia	Malaysia
Ahmad Zamani Jusoh	International Islamic University Malaysia	Malaysia
Ahmed Basahel	International Islamic University Malaysia	Malaysia
Aisha-Hassan A. Hashim	International Islamic University Malaysia	Malaysia
Amelia Wong Azman	International Islamic University Malaysia	Malaysia
Ani Liza Asnawi	International Islamic University Malaysia	Malaysia
Anis Nurashikin Nordin	International Islamic University Malaysia	Malaysia
Belal Ahmed Hamida G. Allah	International Islamic University Malaysia	Malaysia
Elsheikh M A Elsheikh	Universiti Kuala Lumpur British Malaysian	Malaysia
	Institute	
Farah Abdul Rahman	International Islamic University Malaysia	Malaysia
Farhat Anwar	International Islamic University Malaysia	Malaysia
Faridah Abd Rahman	International Islamic University of Malaysia	Malaysia
Haidawati Nasir	Universiti Kuala Lumpur	Malaysia
Hasmah Mansor	International Islamic University Malaysia	Malaysia
Hassan Dao	Princess of Naradhiwas University	Thailand
Huda Adibah Mohd Ramli	International Islamic University Malaysia	Malaysia
Kesavan Ulaganathen	Politeknik Sandakan Sabah	Malaysia
Khairayu Badron	International Islamic University Malaysia	Malaysia
Khairul Azami Sidek	International Islamic University Malaysia	Malaysia
Khaizuran Abdullah	International Islamic University Malaysia	Malaysia
Layla H. Abood	University of Technology	Iraq
Malik Arman Morshidi	International Islamic University Malaysia	Malaysia
Mashkuri Yaacob	International Islamic University Malaysia	Malaysia
Md Rafiqul Islam	International Islamic University Malaysia	Malaysia
Md Mozasser Rahman	Universiti Tun Hossein Onn Malaysia	Malaysia
Md Ralib Aliza Aini	International Islamic University Malaysia	Malaysia
Md. Liakot Ali	Bangladesh University of Engineering and	Bangladesh
	Technology	
Mohamed Hadi Habaebi	International Islamic University Malaysia	Malaysia
Mohammad Tahir	Sunway University	Malaysia
Mohammed Iqbalur Rahman	International Islamic University Malaysia	Malaysia
Rokon		

### LIST OF REVIEWERS

Name	Affiliation	Country
Mohd Faizal Abdollah	Universiti Teknikal Malaysia Melaka	Malaysia
Mohd Shahnan Zainal Abidin	International Islamic University Malaysia	Malaysia
Mohd Shahrin Abu Hanifah	International Islamic University Malaysia	Malaysia
Muhammad Ibn Ibrahimy	International Islamic University Malaysia	Malaysia
Muhammad Mahbubur Rashid	International Islamic University Malaysia	Malaysia
Nadirah Abdul Rahim	International Islamic University Malaysia	Malaysia
Nor Farahidah Za'bah	International Islamic University Malaysia	Malaysia
Norazlina Saidin	International Islamic University Malaysia	Malaysia
Noreha Abdul Malik	International Islamic University Malaysia	Malaysia
Norun Abdul Malek	International Islamic University Malaysia	Malaysia
Nur Shahida Midi	International Islamic University Malaysia	Malaysia
Nurul Arfah Che Mustapha	International Islamic University Malaysia	Malaysia
Nurul Fariza Zulkurnain	International Islamic University Malaysia	Malaysia
Othman Omran Khalifa	International Islamic University Malaysia	Malaysia
Raisuddin Khan	International Islamic University Malaysia	Malaysia
Rashid Saeed	Sudan University of Science and Technology	Sudan
Rashidah Funke Olanrewaju	International Islamic University Malaysia	Malaysia
Robiah Ahmad	Universiti Teknologi Malaysia	Malaysia
Rosminazuin Ab Rahim	International Islamic University Malaysia	Malaysia
S M A Motakabber	International Islamic University Malaysia	Malaysia
Salmiah Ahmad	International Islamic University Malaysia	Malaysia
Sandhya Save	University of Mumbai	India
Sarah Yasmin Mohamad	International Islamic University Malaysia	Malaysia
Shahzad Ashraf	Hohai University Changzhou China	China
Shukor Sanim Mohd Fauzi	Universiti Teknologi Mara, Perlis Campus	Malaysia
Sigit Jarot	Telkom University	Indonesia
Siti Yusoff	International Islamic University Malaysia	Malaysia
Siti Nailah Mastura Zainarry	University of Adelaide	Australia
Teddy Surya Gunawan	International Islamic University Malaysia	Malaysia
Yasser Asroul Ahmad	International Islamic University Malaysia	Malaysia
Zahir M. Hussain	University of Kufa	Iraq