

# Publications

## Electrical Engineering

### Year 2017

#### Journals

1. A. Omar , Sh. Naser , M. I. Hussein, N. Dib, and M. Rashad, "Superformula-Based Compact UWB CPW-Fed-Patch Antenna With and Without Dual Frequency Notches." Accepted for publication, ACES Journal, Oct 2017.
2. Ayah Abu-Hani, Yaser E Greish, Saleh T Mahmoud, Falah Awwad, and Ahmad I. Ayesh, "Low-temperature and fast response H<sub>2</sub>S gas sensor using semiconducting chitosan film," *Sensors & Actuators B: Chemical - Elsevier*, 253 (2017): 677-684.
3. Ayah Faeik Abu Hani, Falah Awwad, Yaser E Greish, Ahmad I Ayesh, and Saleh Mahmoud, "Design, fabrication, and characterization of low-power gas sensors based on organic-inorganic nano-composite". *Organic Electronics - Journal - Elsevier* 42 (2017): 284-292.
4. Ebrahim Ghafar-Zadeh, Bahareh Gholamzadeh, Giancarlo Ayala-Charca, Parastoo Baghaei Raveri, Martin Matynia, Mohamad Sawan, Falah Awwad, and Sebastian Magierowski. "Toward spirometry-on-chip: design, implementation and experimental results." *Microsystem Technologies - Springer* 23, no. 10 (2017): 4591-4598. doi:10.1007/s00542-016-3200-0
5. Khadija Said, Ahmad I. Ayesh, Naser N. Qamhieha, Falah Awwad, Saleh T. Mahmoud, Soleiman Hisaindee, "Fabrication and characterization of graphite oxide - Naonparticle composite based field effect transistors for non-enzymatic glucose sensor applications". *Journal of Alloys and Compounds - Elsevier* 694 (2017): 1061-1066.
6. Ayah Abu-Hani, Saleh T Mahmoud, Falah Awwad, and Ahmad I. Ayesh, "Design, fabrication, and characterization of portable gas sensors based on spinel ferrite nanoparticles embedded in organic membranes," *Sensors & Actuators B: Chemical - Elsevier* 241 (2017): 1179-1187.
7. Uzma Mushtaq, Osman Hasan, and Falah Awwad, "NoC based Implementation of Free Form Deformations in Medical Imaging Registration". *Journal of Circuits, Systems, and Computers* 26, no. 04 (2017): 1750058.
8. M.M. Islam, H. Shareef, A. Mohamed, Improved Approach for Electric Vehicle Rapid Charging Station Placement and Sizing Using Google Maps and Binary Lightning Search Algorithm, *PLoS ONE*, 2017, 12(12): e0189170, pp. 1-20, DOI: <https://doi.org/10.1371/journal.pone.0189170>, Abs./Ind.: ISI. impact factor: 2.806, Q2 (2017 JCR). Pages:9
9. O. Saeed, A. Wahyudie, T. B. Susilo, H. Shareef, Simple Resonance Circuit to Improve Electrical Power Conversion in a Two-Sided Planar Permanent Magnet Linear Generator for Wave Energy Converters, *IEEE Access*, 2017, 7(1), pp. 18654 - 18664, DOI: 10.1109/ACCESS.2017.2752466, Abs./Ind.: ISI. impact factor: 3.244, Q2 (2017 JCR). Pages:10
10. J. H. Tang, M. T. Au, H. Shareef, A.M. Busrah, A Strategic Approach Using Representative LV Networks in the Assessment of Technical Losses on LV Network with Solar Photovoltaic, *International Journal on Advanced Science, Engineering and Information Technology*, 2017, 7(4), pp. 1220-1226, DOI: <http://dx.doi.org/10.18517/ijaseit.7.4.2286> , Abs./Ind.: Scopus Pages:6
11. H. Shareef, A. H. Mutlag, A. Mohamed, Random Forest-Based Approach for Maximum Power Point Tracking of Photovoltaic Systems Operating under Actual Environmental Conditions, *Computational Intelligence and Neuroscience* , 2017 (2017), Article ID 1673864, 1-17, DOI: <https://doi.org/10.1155/2017/1673864>, Abs./Ind.: ISI. impact factor: 1.215, Q2 (2016 JCR). Pages:17
12. N. N. Islam , M. A. Hannan, H. Shareef, A. Mohamed, An Application of Backtracking Search Algorithm in Designing Power System Stabilizers for Large Multi-machine System, *Neurocomputing*, 2017, 237 (2017), pp. 175-184, Abs./Ind.: ISI. impact factor: 2.392, Q1 (2016 JCR). Pages:10

13. S. Maytham Ahmed, A. Mohamed, T.Khatib, H. Shareef, Z. R.Homod, J.A. Ali, Real time optimal schedule controller for home energy management system using new binary backtracking search algorithm, *Energy and Buildings*,2017, 138 (2017), pp. 215–227, Abs./Ind.: ISI. impact factor: 2.973, Q1 (2016 JCR). Pages:13
14. K. R. Wagimana, S. N. Khalid, H. Shareef, Location of voltage sag source by using artificial neural network, *Jurnal Teknologi (Sciences & Engineering)*, 2017, 79(2),pp. 11–30, Abs./Ind.: Scopus Pages:20
15. K. Khalid, A. Mohamed, H. Shareef, Nonintrusive load monitoring using tt-transform and neural networks, *International Journal of Simulation Systems, Science & Technology*, 2017, 17(41):pp.1-6. Abs./Ind.: Scopus Pages:6
16. M. S. Ahmed, A. Mohamed, R.Z. Homod, H. Shareef, A home energy management algorithm in demand response events for household peak load reduction, *Electrical Review*, 2017,93(3):pp.197-200. Abs./Ind.: Scopus Pages:4
17. L.I. Wong, H. Shareef, A. Mohamed, A. A. Ibrahim, Optimal Placement and Sizing of Energy Storage System in Distribution Network with Photovoltaic Based Distributed Generation Using Improved Firefly Algorithms, *International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering*, 2017, 11(7): 230-233. Pages:4
18. I. Abubakar, S. N. Khalid, M. W. Mustafa, H. Shareef, M. Mustapha, Application of Load Monitoring in Appliances' energy Management–A review, *Renewable and Sustainable Energy Reviews*,2017, 67(2017) pp. 235–245, Abs./Ind.: ISI. impact factor: 6.798, Q1 (2015 JCR). Pages:10
19. H. Al-Tous and I. Barhumi, "Resource Allocation for AF-OFDMA System Using Combinatorial Auction", *Journal of Communications, (JCM)*, vol. 12, no. 11, pp.596-603, Nov., 2017. DOI: 10.12720/jcm.12.11.596-603.
20. H. Al-Tous; I. Barhumi; N. Al-Dhahir, "Narrow-Band Interference Mitigation Using Compressive Sensing for AF-OFDM Systems," in *IEEE Transactions on Vehicular Technology*, vol. 66, no. 7, pp. 6146-6159, July 2017.
21. Addy Wahyudie, M. A. Jama, T. B. Susilo, O. Saeed, C. S. A. Nandar and K. Harib, "Simple Bottom-up Hierarchical Control Strategy for Heaving Wave Energy Converters", *Elsevier Journal of International Journal of Electrical Power and Energy Sources*, Vol. 87, pp. 211-221, 2017.
22. Addy Wahyudie, O. Saeed, M. A. Jama, C. Nandar, H. Noura, and K. Harib, "Maximising Power Conversion in Oscillating Wave Energy Converters via a Reference-based Control Technique", *IET journal of Renewable Power Generation*, Vol. 11, Issue 3, pp. 271-280, 2017
23. Addy Wahyudie, T. B. Susilo, M. A. Jama, B. Mon, H. Noura, and H. Shareef, "Design and Testing of a Laboratory Scale Test-rig for Wave Energy Converters using a Double-sided Permanent Magnet Linear Generator", *IET journal of Renewable Power Generation*, Vol. 11, Issue 7, pp. 922-930, 2017.
24. O. Saeed, Addy Wahyudie, T. B. Susilo, H. Shareef, "Simple Resonance Circuit to Improve Electrical Power Conversion in a Two-sided Planar Permanent Magnet Linear Generator for Wave Energy Converters", *IEEE Access*, Vol. 5, pp. 18654-18664, 2017.
25. M. Islam, H. Shareef, Addy Wahyudie, and A. Mohammed, "A Binary Variant of Lighting Search Algorithm", *Springer Journal of Soft Computing*, Vol. 21, Issue 11, pp. 2971-2990, 2017.
26. M. Jama and Addy Wahyudie, "Online Damping Strategy for Controlling Heaving Wave Energy Converters using Three-phase Bridge Boost Converters", *IEEE Access*, Vol. 5, pp. 7682-7691, 2017.
27. Addy Wahyudie and M. Jama, "Perspective on Damping Strategy for Heaving Wave Energy Converters", *IEEE Access*, Vo. 5, pp. 22224-22233, 2017.
28. Addy Wahyudie, "Assessment Result and Analysis on Teaching Control Systems Course (ELEC 431) in Electrical Engineering Department (United Arab Emirates University)", *International Journal of Engineering and Applied Sciences*, Vol. 4, Issue 7. pp. 30-34, 2017.
29. Zidan, Mutaz Khairalla, A. M. Abdrabou, T. Khalifa, K. Shaban, A. Abdrabou, R. El Shatshat and A. M. Gaouda. "Fault Detection, Isolation and Service Restoration in Distribution Systems: State-of-the-art and Future Trends", *IEEE Transaction on Smart Grids*, vol. 8, no. 5, 2017.

30. T. Khalifa, K. Shaban, A. Abdrabou, A. Bilh, K. Naik, "Modelling and Performance Analysis of TCP Variants for Data Collection in Smart Power Grids", Elsevier Computer Communications, vol. 103, May 2017, pp. 39 – 48.
31. Visualization and quantification of oil in single microalgal cells: M Al Ahmad, S Al-Zuhair, A Hilal-Alnaqbi, F Mustafa , Journal of applied phycology 29 (3), 1195-1202,2017
32. Qurban Memon, "Neural Network Based Double Encryption for JPEG2000 Images," Journal of Information and Communication Technology, Vol. 16, No. 1, June 2017, pp: 137-155
33. Zeenat AlKassim, Qurban Memon, "Designing a Low-Cost Eyeball Tracking Keyboard for Paralyzed People," Computers and Electrical Engineering, Vol. 58, pp. 20-29, 2017.
34. Khaled Shuaib, Ezedin Barka, Juhar Ahmed Abdella, Farag Sallabi, Mohammed Abdel-Hafez and Ala Al-Fuqaha, "Secure Plug-in Electric Vehicle PEV Charging in a Smart Grid Network", Energies 2017, 10, 1024.
35. Ghazal Fazelnia, Ramtin Madani, Abdulrahman Kalbat, and Javad Lavaei, "Convex Relaxation for Optimal Distributed Control Problems," IEEE Transactions on Automatic Control, vol. 62, no. 1, pp. 206–221, Jan 2017.

### *Conferences*

1. M I Hussein, and Elham Serria, "Metamaterial Effect on UWB Circular Microstrip Antenna." 2017 International Conference on Electrical and Computing Technologies and Applications (ICECTA), AURAK, UAE, 21-23 November 2017.
2. Mousa Hussein, Othman Al Aidaros, Raahim Beg., Mohammed Al Dhahri, Sultan Al Neyadi, and Musab Asad, "Development of Autonomous Drone for Gas Sensing Application," 2017 International Conference on Electrical and Computing Technologies and Applications (ICECTA), AURAK, UAE, 21-23 November 2017.
3. Indu Jiji Rajmohan, and M I Hussein, "A multiband circular-annular ring patch antenna for wireless applications," 2017 International Conference on Electrical and Computing Technologies and Applications (ICECTA), AURAK, UAE, 21-23 November 2017.
4. M I Hussein, and Nadin M. Alrayes, "Design and Analysis of Stacked CNT Loaded Polyurethane Composite DRA Antenna." 2017 International Conference on Electrical and Computing Technologies and Applications (ICECTA), AURAK, UAE, 21-23 November 2017.
5. H. Shareef, Z. M. Omer, Z. M. Zareer, In-situ fast thermal detection method for large-scale photovoltaic field under shading conditions, 2017 IEEE Conference on Energy Conversion (CENCON) 2017), 30-31 Oct 2017, Kuala Lumpur, Malaysia: IEEE. 2017. pp. 224-229. Pages:6
6. Mousa I. Hussein, Indu Jiji Rajmohan, Q. Clément, N. Vukadinovic, and Y. Haik. " Synthesis and Analysis of Iron-doped CNT/PU Composites for Microwave Applications." 8th International Conference on Nanomaterials: Application & Properties, 9-14 September, 2017, Ukrain.
7. I. J. Rajmohan, M. I. Hussein, Q. Clément, N. Vukadinovic, "Polyurethane-MWCNT nanocomposite for RAM applications," Nanotech France 2017 International Conference and Exhibition, 28 Jun - 30 Jun 2017, Paris – France.
8. M. I. Hussein, Elham Serria, Ali Hakam and Indu Jiji Rajmohan, "Split Ring Resonator with Rotated Inner Ring for Microstrip Circular UWB Antenna," The 11th European Conference on Antennas and Propagation, EuCap2017, Paris, France, on 19-24 March 2017.
9. Adnan Yaqoob Salik, Muhammad Usama Sardar, Osman Hasan, Syed Rafay Hasan, and Falah Awwad. "Formal Verification of Demand Response Based Home Energy Management Systems in Smart Grids". The IEEE 7th Innovative Smart Grid Technologies (IEEE ISGT Asia 2017), Dec.4-7, 2017, Auckland, New Zealand.
10. Faiq Khalid, Syed Rafay Hasan, Osman Hasan, and Falah Awwad, "Behavior profiling of power distribution networks for runtime hardware trojan detection." IEEE 60th International Midwest

Symposium on Circuits and Systems (MWSCAS-2017), IEEE Circuit and System Society (CAS), Pages: 1316-1319, 6-9 Aug. 2017, Boston, MA, USA.

11. F. K. Lodhi, Syed Rafay Hasan, Osman Hasan, and Falah Awwad, "Power Profiling of Microcontroller's Instruction Set for Runtime Hardware Trojans Detection without Golden Circuit Models," Design, Automation And Test in Europe Conference (IEEE DATE 2017), Lausanne, Switzerland, March 27-31, 2017.
12. Rawan Younis, N. Basaki., "Accelerated Fog Removal from Real Images for Car Detection", The 9th IEEE-GCC conference, 8-11 May 2017
13. R. Ramadan, A. Al-Abbadi, H. Al-Tous and I. Barhumi, "Compressive Sensing with Weighted Coefficient Approach for Indoor Source Localization", Proc. The 40th International Conference on Telecommunications and Signal Processing, (TSP 2017), Barcelona, Spain, pp. 243-246, 5-7 July, 2017, DOI: 10.1109/TSP.2017.8075978.
14. H. Al-Tous and I. Barhumi, "A Low Complexity Algorithm for Mode-Selection of OFDM Relaying Systems", Proc. The 10th Jordanian International Electrical & Electronics Engineering Conference (JIEEEEC2017), Amman, Jordan, pp. 1-6, 16-17 May, 2017, DOI: 10.1109/JIEEEEC.2017.8051418
15. H. Al-Tous, I. Barhumi, A. Kalbat and N. Al-Dhahir, "CS-PSO Algorithm for Off-Grid Narrow-Band Interference Mitigation in OFDM Systems", in the IEEE Wireless Communications and Networking Conference, San Francisco, CA, 19-22 March 2017.
16. Addy Wahyudie, T. B. Susilo, M. Jama, B. Mon, and H. Shareef, "Design of a Double-sided Permanent Magnet Linear Generator for Laboratory Scale Ocean Wave Energy Converter", in the proceeding of the OCEANS 2017.
17. A. Wahyudie, O. Saeed, and M. Jama, "Hierarchical Control Startegy for Maximizing Power Conversion in Heaving Wave Energy Converters", in the Proceeding of IFAC-PapersOnline Vol. 50, Issue, 1, pp. 14711-14716, 2017.
18. A. Wahyudie, T. Susilo, M. Jama, B. Mon, H. Shareef, "Design of a Double Permanent Magnet Linear Generator for Laboratory Scale Ocean Wave Energy Converter", in the proceeding of the OCEANS 2017.
19. A. Wahyudie, M. Jama, T. Susilo, O. Saeed, "Compensator Design with Control Force Limitation for Heaving Wave Energy Converters", in the proceeding of the OCEANS 2017.
20. A. Wahyudie, T. Susilo, F. Aryani, C. Nandar, M. Jama, and A. Daher, "Ocean Wave Power Potential Assessment Along the South Cost of Central Java Island Indonesia", in the proceeding of the OCEANS 2017.
21. Assessment Result and Analysis on Teaching for Control Systems Course (ELEC 431) in the Perspective of Gender, in the proceeding of the IAFOR International Conference on Education, 2017.
22. A. Abdrabou and S. Naik, "Delay analysis of a reliable message delivery for I2V/V2I Communications", Proc. of IEEE VTC 2017. (Invited paper).
23. M. Al-tekreeti, S. Naik, A. Abdrabou, M. Zaman, and P. Srivastava, "Evaluation of Performance Robustness of Mobile Networked Applications," Proc. International Conference on Computational Science and Computational Intelligence CSCI-ISSE, 2017.
24. T. Jyo, H. Hamada, D. Kitayama, M. Yaita, A. El Moutaouakil, H. Matsuzaki, H. Nosaka "A High-Speed THz Permittivity Measurement System Featuring a Simple 2-tone Generation Method using LO Leakage," 2017 IEEE MTT-S International Microwave Symposium (IMS), Honolulu, HI, USA, 4-9 June 2017.
25. H. Sugiyama, T. Hoshi, A. El Moutaouakil, H. Matsuzaki, "Metal-Organic Vapor-Phase Epitaxy of InP-based HEMT structures with InAs/In<sub>0.8</sub>Ga<sub>0.2</sub>As/In<sub>0.53</sub>Ga<sub>0.47</sub>As composite channel," IPRM 2017, Berlin, Germany, May 14-18, 2017.
26. Heart-rate and Pressure-rate Determination using Piezoelectric Sensor from the Neck, M. Al Ahmad, S. Ahmed, ICETAS conference, Bahrain 2017.
27. Physiological Signal-based Emotion Recognition System, M. Al Ahmad, S. Ahmed, S. Hassani, I. Bafadel, A. Bekhatro, E. Al Blooshi, ICETAS conference, Bahrain 2017.
28. Scalable Model Generation for Supercapacitors Applications by Using Prony's Method, M. Al Ahmad, Sh. Hasan, ICETAS conference, Bahrain 2017.

29. Synthesizing Equivalent Electric Circuit for Respiration and Cardiac Signals, A. Allataifeh, M. Al Ahmad, ICETAS conference, Bahrain 2017.
30. Measuring Transmittance of Human Female Breast Cells through Spectrophometry and Generating its Equivalent Circuit by Prony Modeling, N. Nasir, M. Al Ahmad, ICETAS conference, Bahrain 2017.
31. Analysis and Synthesis of Electrical Equivalent Circuit of a Microfluidic Channel for Cell Characterization, A. Abdul Ghani, M. Al Ahmad, ICETAS conference, Bahrain 2017.
32. Investigation of DNA Sequences Utilizing Frequency-Selective Nanopore Structures: A Hilal-Alnaqbi, M Al Ahmad, T A Rizvi and F Mustafa, International Conference on Bioinformatics and Biomedical Engineering,3-11, 2017.
33. Heart-rate and Pressure-rate Determination using Piezoelectric Sensor from the Neck, M. Al Ahmad, S. Ahmed, ICETAS conference, Bahrain 2017.
34. Physiological Signal-based Emotion Recognition System, M. Al Ahmad, S. Ahmed, S. Hassani, I. Bafadel, A. Bekhatro, E. Al Blooshi, ICETAS conference, Bahrain 2017.
35. Scalable Model Generation for Supercapacitors Applications by Using Prony's Method, M. Al Ahmad, Sh. Hasan, ICETAS conference, Bahrain 2017.
36. Synthesizing Equivalent Electric Circuit for Respiration and Cardiac Signals, A. Allataifeh, M. Al Ahmad, ICETAS conference, Bahrain 2017.
37. Measuring Transmittance of Human Female Breast Cells through Spectrophometry and Generating its Equivalent Circuit by Prony Modeling, N. Nasir, M. Al Ahmad, ICETAS conference, Bahrain 2017.
38. Analysis and Synthesis of Electrical Equivalent Circuit of a Microfluidic Channel for Cell Characterization, A. Abdul Ghani, M. Al Ahmad, ICETAS conference, Bahrain 2017.
39. Investigation of DNA Sequences Utilizing Frequency-Selective Nanopore Structures: A Hilal-Alnaqbi, M Al Ahmad, T A Rizvi and F Mustafa, International Conference on Bioinformatics and Biomedical Engineering,3-11, 2017.
40. Qurban Memon, Zeenat Al-Kassim, Eslam AlHassan, M. Omer, M. AlSiddig, "Audio-Visual Biometric Authentication for Secured Access into Personal Devices," Proceedings of ICBBS, June 22-24, 2017, Singapore
41. Subhaditya Shom, Fares Al Juheshi, Ala'a Rayyan, Mohammed Abdel-hafez, Khalid Shuaib and Mahmoud Alahmad, " Characterization of a Search Algorithm to Determine Number of Electric Vehicle Charging Stations between Two Points on an Interstate or US- Highway", The 16th International Conference on Electro Information Technology (eit-2017).
42. Hanan Al-Tous, Imad Barhumi, Abdulrahman Kalbat, and Naofal Al-Dhahir, "CS-PSO Algorithm for Off-Grid Narrow-Band Interference Mitigation in OFDM Systems," in IEEE Wireless Communications and Networking Conference (WCNC), San Francisco, California, Mar. 19-22, 2017, pp. 1-6.

#### *Book Chapters*

1. The Study of Multi-temporal Analysis of Urban Development and Environmental Changes of the City of Abu Dhabi, Chapter 2, in the Book: Global Changes and Natural Disaster Management: Geo-information Technologies, 2017.  
DOI 10.1007/978-3-319-51844-2, ISBN 978-3-319-51843-5, ISBN 978-3-319-51844-2 (eBook) Dr. Mousa Hussein.

2. Mohammad I. Daoud, Abdel-Latif Alshalalfah, Falah Awwad, Mahasen Al-Najar, A Freehand 3D Ultrasound Imaging System Using Open-Source Software Tools with Improved Edge-Preserving Interpolation, In: Medical Imaging: Concepts, Methodologies, Tools, and Applications, Medical Information Science Reference (an imprint of IGI Global), Chapter 44 (Page 1079), Information Resources Management Association, USA. Copyright © 2017 by IGI Global.
3. Qurban Memon, "JPEG2000 Compatible Layered Block Cipher," Multimedia Forensics and Security: Foundations, Innovations, and Applications, Edited by Hassanien, A.E, et al., pp. 253-275, Springer, 2017.

#### *Patents*

1. E. Gafar-Zadeh and Falah Awwad, "Functionalized Optical Lens and Method of Manufacturing" US- Patent Application No 15/615,138 - Filing Date: 6 June 2017.
2. Mahmoud F. Y. Al Ahmad, Nabil Bastaki, Bisni Fahad Mon. "Apparatus and Method for Physiological Mechanical and Electrical Activity Monitoring, "US 20170127951 A1, US Patent. May. 11, 2017.
3. Walid Omar Ahmad Shakhatreh, ZINAB AHMED AL HADDAD,MAITHA AL KAABI,RAZAN YOUSSEF KHAROUF,HAMDA AL DEREI,(Electrical Power Generating Carpet)Patent Application ref. no.15/727,060,Patent Application filing date 6/10/2017.
4. A. M. Gaouda, K. Shaban, M. Salama, A. Abdrabou, R. Elshatshat, M.K. Alla, A. M. Abdrabou, Smart fault detection device, US Patent App. 15/137,721, 2017.
5. Apparatus and method for virus detection. M Al Ahmad. US Patent 9,523,669  
Vibrational energy harvesting system. M Al Ahmad, B Mohammad. US Patent 9,748,872