AMMAR AHMED NASSER AL-KAHTANI, PH.D.

Assistant Professor, Renewable Energy Department, College of Engineering, FBSU, KSA.
Tel: +966-14-4252500 (Ext. 1153)
E-mail: aalkahtani@fbsu.edu.my
Google Scholar (h-index 12, 634 citations), ResearchGate (h-index, 12), ORCID, and Publon (h-index 11, WoS ID: ABF-3702-2020)
Marital State: Married
Nationality: Yemen

KEY SKILLS

Renewable Energy, Artificial Intelligence, Wind Energy, Signal Processing.

EMPLOYMENT HISTORY

January 2023-Present

Assistant Professor, Fahad Bin Sultan University, KSA
Responsible for teaching various engineering and renewable energy related subjects.

June 2018 – Dec 2022

Head of Unit | Senior Lecturer, the Institute of Sustainable Energy (ISE), Universiti Tenaga Nasional (UNITEN)l, Malaysia
As the head of the unit, I am responsible for leading research activities in renewable energy, particularly, wind energy. I lead a team of five researchers and seven postgraduate students in carrying out research related to wind energy including a techno-economic evaluation of wind energy projects in Malaysia. Currently, I am working on a small-scale wind energy project with the aim to improve the performance of the wind turbine for low-speed wind energy harvesting. I am looking into the improvement of the blade design and enhancement of the maximum power point tracking (MPPT) of the turbine using AI-based optimization techniques. I also use my experience in signal processing to involve in various multidisciplinary research activities such as lightning signal analysis and other fields. Besides research, I also contribute to the department of electrical and electronics through teaching digital signal processing, advanced digital signal processing, and image processing.

June 2016 – May 2018

Senior Lecturer, Department of Electrical and Electronics, Universiti Tenaga Nasional, Malaysia.
As an assistant professor, I was responsible for teaching and supervising undergraduate and graduate students, as well as conducting research. I was responsible for the coordination of several subjects within the department of electrical and electronics. I was also in charge of coordinating the final year projects of the departments of electronics and communication engineering as well as computer and communication engineering. In addition, I was a member of several task forces responsible for the revision and improvement of the syllabus, including digital signal processing, advanced digital signal processing, and image processing. In addition, I participate in the final year project competition held each semester

as a committee organizer, a judge, or, on many occasions, a representative of the IEEE signal processing society**.**

November 2015 – May 2016

Lecturer, Lincoln University College, Malaysia.
Subjects taught:
At Lincoln university college, I was responsible for teaching both graduate and undergraduate students. I also was a part of a team preparing for the accreditation programs of selected courses in engineering. In addition, I was appointed as an internal examiner of several postgraduate students' theses.

June 2015-October 2015 (*Part-time*)

Network Engineer Supervisor, SAS Global Trading, and Services SDN. BHD. Malaysia.

November 2011-May 2015

Teaching & Research Assistant, Universiti Tenaga Nasional, Malaysia.

As a research assistant, I was responsible for conducting research and carrying out experimental work in the areas of failure analysis and fault identification. In addition, I was in charge of teaching tutorial classes on a variety of subjects at the undergraduate level, including digital signal processing. In addition, I was in charge of supervising students as they performed electrical and electronics measurement labs and digital signal processing labs. I provided free consultation hours to final-year project students and assisted them in refining their ideas to produce measurable results. I was also in charge of writing papers and exhibiting my research findings at international venues.

ACADEMIC QUALIFICATION

Nov. 2011 - Aug. 2015

Ph.D. In Engineering, 2015, Universiti Tenaga Nasional, Malaysia (UNITEN), Putrajaya Campus, *Jalan Ikram-UNITEN, 43000, Kajang, Selangor, Malaysia.* Thesis: Incipient Fault Identification Using Support Vector Machines and Genetic Algorithm through the radiofrequency Emission of Air-Conditioners.

Keywords: Doctoral Research, Modeling, System Identification, Condition Monitoring, Electrical Equipment, radiofrequency Emissions, Radiated emissions, EMF Exposure limits, Artificial Intelligence, Fault Classification, Support Vector Machines, Neural Networks, Naïve Bayes, Genetic Algorithm, Feature Extraction, Feature Selection.

Jul. 2010 - Oct. 2011

Master of Electronics Engineering (Telecommunication System), 2011, Universiti Teknikal Malaysia Melaka (UTeM), *Hang Tuah Jaya, 76100 Durian Tunggal, Melaka, Malaysia.* Thesis: Indoor Propagation Modeling at 2.4 GHz.

Keywords: Satellite Communication, Advanced Electronics, TCP IP, Wireless Communication, Modeling, Path loss, System Identification, Wave Propagation, Indoor Propagation, Signal Processing.

May 2006- Jun. 2010

Bachelor of Electronics (Hons) Majoring in Telecommunications, 2010, Multimedia University (MMU), *Jalan Ayer Keroh Lama, 75450, Melaka Malaysia.*

SUPPLEMENTARY EDUCATION

- **Principles of Written English II,** Nov 2013-Dec 2015**,** A course of study offered by Berkeley, An online learning initiative of the University of California, Berkeley through **edX**.
- **Principles of Written English I,** Feb-Mar 2014**,** A course of study offered by Berkeley, an online learning initiative of the University of California, Berkeley through **edX**.
- **Public Privacy: Cyber Security and Human Rights**, Dec 2013-Feb 2014, An online learning initiative of the Hague Institute for Global Justice through **iversity**.

RESEARCH PROJECTS

Grant Title	Funder	Project code	Year	Amount (RM)	Role
1. Real-Time Lightning 3D Imaging and Forecasting Project for Sustainable Energy Supply and Storm Disaster Early Warning	MOHE, Malaysia, JICA, Japan	TBA	2023-2028	RM20,000,000	Co-leader
2. Design and Implementation of small-scale Wind Turbine with Optimal Site Selection,	Tenaga Nasional Berhad (TNB), Malaysia	U-TV-RD-21-17	2022	RM 650,000 (~$ 154,376)	Leader
3. Large-Scale Solar Energy Generation Forecasting Using Graph Neural Networks (GNNs) Method	Tenaga Nasional Berhad (TNB), Malaysia	U-TV-RD-21-18	2022	RM338,000 (~$ 80,275)	Co-Leader
4. Techno-Economic Assessment of Small-Scale Wind Energy Generator	Tenaga Nasional Berhad (TNB), Malaysia	U-TE-RD-21-11	2022	RM350,000 (~$83,125)	Co-Leader
5. Sizing and Optimization of Wind Energy Harvesting System for Electric Vehicle Charging Stations	Universiti Tenag Nasional (UNITEN), Malaysia.	J510050002/2021085	2021	RM20,000 (~$4,750)	Member
6. Forecasting of a Large-Scale Solar Energy Generation using Extreme Learning Machine	Universiti Tenag Nasional (UNITEN), Malaysia.	J510050002/2021086	2021	RM20,000 (~$4,750)	Member
7. Optimal planning of hybrid and non-hybrid small-scale renewable power generation for off-grid schools in rural areas in Sabah	Universiti Tenag Nasional (UNITEN), Malaysia.	J510050002/2021095	2021	RM20,000 (~$4,750)	Leader
8. Development of Wind Energy Forecasting and Control Algorithm for Renewable Energy Connected Grid	Universiti Tenag Nasional (UNITEN), Malaysia.	J510050002/2020112	2020	RM20,000 (~$4,750)	Member
9. Assessing the 5G Cognitive Network Slicing for Hospital of the Future (HoF)	Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education, Malaysia (MOHE)	FRGS/1/2020/TK0/UNITEN/02/14	2020	RM78200 (~$18,572)	Member

10.	Techno-Economic Evaluation of Small-scale Wind Farm in Malaysia	Universiti Tenag Nasional (UNITEN), Malaysia.	FRGS/1/2020/TK0/ UNITEN/02/10	2020	RM20,000 (~$4,750)	Member
11.	Detection and Mitigation of Electromagnetic Interference from Photovoltaic and Wind Hybrid System	Universiti Tenag Nasional (UNITEN), Malaysia.	10289288/ISE/SH/2 019002	2020	RM20,000 (~$8,550)	Member
12.	Development of Smart MPPT Charge Controller with Data-logging and Cloud-connectivity for Cooperative Off-grid Usage	Long Term Research Grant Scheme (LRGS), Ministry of Higher Education, Malaysia (MOHE)	LRGS/1/2019/UKM /01/6/2	2019	RM459,200 (~$ 109,060)	Member
13.	Exploring Electromigration and Delamination Related Failures in Solar Panels under Long-Term Exposure	Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education, Malaysia (MOHE)	FRGS/1/2019/TK07 /UNITEN/02/7	2019	RM106,200 (~$ 25,222)	Leader
14.	Implementation of a Smart Energy Management System using Big Data Analytics Solution	Universiti Tenag Nasional (UNITEN), Malaysia.	2019001TNBEC	2019	RM60,000 (~$14,250)	Member
15.	Investigation on Enhanced Hole Transport Property Mechanism of Copper Oxide (Cu2O) in Achieving Higher Stabilized Efficiency of Lead Halide Perovskite (CH3NH3PbI3) Solar Cells	Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education, Malaysia (MOHE)	FRGS/1/2018/TK05 /UNITEN/02/1	2018	RM93000.00 (~$ 22,087)	Member
16.	An adaptive linear prediction for optimal control of small-scale wind turbines	Universiti Tenag Nasional (UNITEN), Malaysia.	J510050823	2018	RM20,000 (~$8,550)	Leader
17.	Research on Radio Frequency Energy System for Powering Low Power Devices in a Locality	Tenaga Nasional Berhad (TNB), Malaysia	U-TS-RD-17-07	2017	RM950,000 (~$ 225,626)	Member
18.	Iron Lady' Handheld Body Iron Store Reader, Funded by Universiti Tenaga Nasional	Universiti Tenag Nasional (UNITEN), Malaysia.	RJO10289176/B/1/2 017/15	2017	RM20,000 (~$8,550)	Member
19.	Privacy-Aware Smart Metering using the Concept of Software Defined Networking	Universiti Tenag Nasional (UNITEN), Malaysia.	RJO10289176 /B /1/2017/14	2017	RM20,000 (~$8,550)	Member

AWARDS

- Teaching Excellence Award & Blended Learning Best Practices Award for Semester 2, Academic Year 2020/2021.
- Best Paper Award, the 8th international conference on information technology and multimedia (ICIMU 2020).

- Best Paper Award, 5th International Conference on Energy and Environment, 2019 (ICEE 2019).
- Competition of Invention and Innovation of Private Higher Education Institutions (PERINTIS), Malaysia, Dewan Seri Sarjana, Universiti Tenaga Nasional, 2016, Project title: **'IRON LADY' Handheld Body Iron Store Reader**.
- Competition of Invention and Innovation of Private Higher Education Institutions (PERINTIS), Malaysia, Dewan Seri Sarjana, Universiti Tenaga Nasional, 2016, Project title**: Incipient Fault Identification System**.
- Third prize winner, 3 Minute Thesis Presentation, 2015, Universiti Tenaga Nasional.
- Bronze medal, Malaysian Technology Expo (2015), project title: **Incipient Fault Identification System (MATLAB GUI).**
- Silver medal, Competition of Invention and Innovation of Private Higher Education Institutions (PERINTIS), Malaysia, Dewan Seri Sarjana, Universiti Tenaga Nasional, 2016, project title: Incipient Fault Identification System (MATLAB GUI)

PROFESSIONAL MEMBERSHIP

- Professional Technologist, Malaysia Board of Technologists (MBOT).
- Board of Engineers Malaysia (BEM: 2018-present)
- IEEE **Senior Member** (2016-PRESENT)
- IEEE Power Electronics Society (2019-present).
- IEEE Signal Processing Society (Member) 2016-Present)
- IET (2019-present)

PUBLICATIONS

2023

1. Hasan, Abdulwahab AQ, Ammar Ahmed Alkahtani, and Nowshad Amin. "Modeling and Performance Evaluation of Solar Cells Using IV curve Analysis." Proceedings of the 2nd International Conference on Emerging Technologies and Intelligent Systems: ICETIS 2022 Volume 1. Cham: Springer International Publishing, 2023.
2. Ismail, F. B., Randhawa, G. S., Al-Bazi, A., & Alkahtani, A. A. (2023). Intelligent Optimization Systems for Maintenance Scheduling of Power Plant Generators.
3. Baharin, Shamsul Ammar Shamsul, et al. "Microwave radiation associated with positive narrow bipolar events." Journal of Atmospheric and Solar-Terrestrial Physics 242 (2023): 105998.
4. Abdelrahim, Misbah, et al. "Development of a Mobile Application for Scheduling Electric Vehicle Charging in Wind Energy Powered Facility." Proceedings of the 2nd International Conference on Emerging Technologies and Intelligent Systems: ICETIS 2022, Volume 2. Cham: Springer International Publishing, 2022.
5. Sabri, M. H. M., Ahmad, M. R., Al-Kahtani, A. A. N., Ab Kadir, M. Z. A., Baharin, S. A. S., Lu, G., ... & Nordin, F. H. (2022). A study of cloud-to-ground lightning flashes initiated by fast positive breakdown. Atmospheric Research, 276, 106260.

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6. Hajar, M. A., Alkahtani, A. A., Ibrahim, D. N., Al-Sharafi, M. A., Alkawsi, G., Iahad, N. A., ... & Tiong, S. K. (2022). The Effect of Value Innovation in the Superior Performance and Sustainable Growth of Telecommunications Sector: Mediation Effect of Customer Satisfaction and Loyalty. Sustainability, 14(10), 6342.
7. Alsariera, Y. A., Baashar, Y., Alkawsi, G., Mustafa, A., Alkahtani, A. A., & Ali, N. A. (2022). Assessment and Evaluation of Different Machine Learning Algorithms for Predicting Student Performance. Computational Intelligence and Neuroscience, 2022.
8. Baashar, Y., Alkawsi, G., Alhussian, H., Capretz, L. F., Alwadain, A., Alkahtani, A. A., & Almomani, M.

(2022). Effectiveness of artificial intelligence models for cardiovascular disease prediction: network meta-analysis. Computational intelligence and neuroscience, 2022.

9. Baashar, Y., Alkawsi, G., Mustafa, A., Alkahtani, A. A., Alsariera, Y. A., Ali, A. Q., ... & Tiong, S. K. (2022). Toward predicting student's academic performance using artificial neural networks (ANNs). Applied Sciences, 12(3), 1289.
10. Umar, D. A., Yaw, C. T., Koh, S. P., Tiong, S. K., Alkahtani, A. A., & Yusaf, T. (2022). Design and Optimization of a Small-Scale Horizontal Axis Wind Turbine Blade for Energy Harvesting at Low Wind Profile Areas. Energies, 15(9), 3033.
11. Rahman, M., Shakeri, M., Khatun, F., Tiong, S. K., Alkahtani, A. A., Samsudin, N. A., ... & Hasan, M. K. (2022). A comprehensive study and performance analysis of deep neural network-based approaches in wind time-series forecasting. Journal of Reliable Intelligent Environments, 1-18.
12. Alkharasani, W. M., Amin, N., Shahahmadi, S. A., Alkahtani, A. A., Mohamad, I. S., Chelvanathan, P., & Sieh Kiong, T. (2022). A Comparative Study on p-and n-Type Silicon Heterojunction Solar Cells by AFORS-HET. Materials, 15(10), 3508.
13. Sabri, M. H. M., Ahmad, M. R., Al-Kahtani, A. A. N., Ab Kadir, M. Z. A., Baharin, S. A. S., Lu, G., ... & Nordin, F. H. (2022). A study of cloud-to-ground lightning flashes initiated by fast positive breakdown. Atmospheric Research, 106260.
14. Baharin SA, Ahmad MR, Al-Shaikhli TR, Sidik MA, Sabri MH, Al-Kahtani AA, Mohammad SA, Lu G, Zhang H, Cooray V. Microwave radiation associated with stepped leaders of negative cloud-to-ground flashes. Atmospheric Research. 2022 Jun 1;270:106091.
15. Al_Barazanchi, I., Niu, Y., Abdulshaheed, H. R., Hashim, W., Alkahtani, A. A., Daghighi, E., ... & Rauf, H. T. (2022). Proposed a New Framework Scheme for the PATH LOSS in Wireless Body Area Network. Iraqi Journal For Computer Science and Mathematics, 3(1), 11-21.
16. Haroun, Fathi Mahdi Elsiddig, Siti Noratiqah Mohamad Deros, Ammar Ahmed Alkahtani, and Norashidah Md Din. "Towards Self-Powered WSN: The Design of Ultra-Low-Power Wireless Sensor Transmission Unit Based on Indoor Solar Energy Harvester." (2022).
17. Rahman, M., Shakeri, M., Khatun, F., Tiong, S. K., Alkahtani, A. A., Samsudin, N. A., ... & Hasan, M. K. (2022). A comprehensive study and performance analysis of deep neural network-based approaches in wind time-series forecasting. Journal of Reliable Intelligent Environments, 1-18.

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18. Al_Barazanchi, I., Abdulshaheed, H. R., Hashim, W., Alkahtani, A. A., Razali, R. A., Jaaz, Z. A., & Shawkat, S. A. (2021). Research Methodology Design for WBAN Smart System Connection to Control Covide19 Patients Remotely. Journal of Telecommunication Control and Intelligent System, 1(3).
19. Che Siti Amira Md Azmi, Ammar Ahmed Alkahtani, Chong Kok Hen, Fuad Noman, Johnny Koh Siaw Paw, aw Chong Tak, Ali Q. Alshetwi, Gamal Alkawsi, Tiong Sieh Kiong, Univariate and Multivariate regression models for short term wind energy forecasting , Information Science Letters 2022 Vol 11, 2 , PP: 465- 473
20. Hashim, W.; Eng, L.S.; Alkawsi, G.; Ismail, R.; Alkahtani, A.A.; Dzulkifly, S.; Baashar, Y.; Hussain, A. A Hybrid Vegetation Detection Framework: Integrating Vegetation Indices and Convolutional Neural Network. Symmetry 2021, 13, 2190. https://doi.org/10.3390/sym13112190
21. Y. Baashar et al., "Effectiveness of Artificial Intelligence Models for Cardiovascular Disease Prediction: Network Meta-Analysis," Comput. Intell. Neurosci., vol. 2022, p. 5849995, 2022.
22. Baashar, Y.; Alkawsi, G.; Mustafa, A.; Alkahtani, A.A.; Alsariera, Y.A.; Ali, A.Q.; Hashim, W.; Tiong, S.K. Toward Predicting Student's Academic Performance Using Artificial Neural Networks (ANNs). Appl. Sci. 2022, 12, 1289. https://doi.org/10.3390/app12031289.
23. Al_Barazanchi, I., Niu, Y., Abdulshaheed, H. R., Hashim, W., Alkahtani, A. A., Daghighi, E., ... & Rauf, H. T. (2022). Proposed a New Framework Scheme for the PATH LOSS in Wireless Body Area Network. Iraqi Journal For Computer Science and Mathematics, 3(1).
24. Habeeb, D., Noman, F., Alkahtani, A. A., Alsariera, Y. A., Alkawsi, G., Fazea, Y., & Al-Jubari, A. M. (2021). Deep-Learning-Based Approach for Iraqi and Malaysian Vehicle License Plate Recognition. Computational Intelligence and Neuroscience, 2021.
25. Hashim, W., Eng, L. S., Alkawsi, G., Ismail, R., Alkahtani, A. A., Dzulkifly, S., ... & Hussain, A. (2021). A Hybrid Vegetation Detection Framework: Integrating Vegetation Indices and Convolutional Neural Network. Symmetry, 13(11), 2190.

26. Zainuddin, N. N., Azhari, M. S. N. B. N., Hashim, W., Alkahtani, A. A., Mustafa, A. S., Alkawsi, G., & Noman, F. (2021, September). Malaysian Coins Recognition Using Machine Learning Methods. In 2021 2nd International Conference on Artificial Intelligence and Data Sciences (AiDAS) (pp. 1-5). IEEE.
27. Alkawsi, G., Baashar, Y., Alkahtani, A. A., Kiong, T. S., Habeeb, D., & Aliubari, A. (2021, August). Arabic vehicle licence plate recognition using deep learning methods. In 2021 11th IEEE International Conference on Control System, Computing and Engineering (ICCSCE) (pp. 75-79). IEEE.
28. Al-Mashhadani, R., Alkawsi, G., Baashar, Y., Alkahtani, A. A., Hani Nordin, F., & Hashim, W. (2021). Deep Learning Methods for Solar Fault Detection and Classification: A Review. Information Sciences Letters, 10(2), 13.
29. Babiker, A., Baashar, Y., Alkahtani, A. A., Faye, I., & Alkawsi, G. (2021). Towards Detection of Interest Using Physiological Sensors. Applied Sciences, 11(3), 1318.
30. Khairullah, M. K., Alkahtani, A. A., Bin Baharuddin, M. Z., & Al-Jubari, A. M. (2021). Designing 1D Chaotic Maps for Fast Chaotic Image Encryption. Electronics, 10(17), 2116.
31. Alkawsi, G., Baashar, Y., Abbas U, D., Alkahtani, A. A., & Tiong, S. K. (2021). Review of Renewable Energy-Based Charging Infrastructure for Electric Vehicles. Applied Sciences, 11(9), 3847.
32. Baashar, Y., Alkawsi, G., Alkahtani, A. A., Hashim, W., Razali, R. A., & Tiong, S. K. (2021). Toward Blockchain Technology in the Energy Environment. Sustainability, 13(16), 9008.
33. Alfalahi, S. T., Alkahtani, A. A., Al-Shetwi, A. Q., Al-Ogaili, A. S., Abbood, A. A., Mansor, M. B., & Fazea, Y. (2021). Supraharmonics in Power Grid: Identification, Standards, and Measurement Techniques. IEEE Access.
34. Alkawsi, G., Baashar, Y., Alkahtani, A. A., Lim, C. W., Tiong, S. K., & Khudari, M. (2021). Viability Assessment of Small-Scale On-Grid Wind Energy Generator for Households in Malaysia. Energies, 14(12), 3391.
35. Al-amri, R., Murugesan, R. K., Man, M., Abdulateef, A. F., Al-Sharafi, M. A., & Alkahtani, A. A. (2021). A Review of Machine Learning and Deep Learning Techniques for Anomaly Detection in IoT Data. Applied Sciences, 11(12), 5320.
36. Boopalan, Navaamsini, Agileswari K. Ramasamy, Farrukh Nagi, and Ammar Ahmed Alkahtani. "Planar Array Failed Element (s) Radiation Pattern Correction: A Comparison." *Applied Sciences* 11, no. 19 (2021): 9234.
37. Alammari, Ammar, Ammar Ahmed Alkahtani, Mohd Riduan Ahmad, Ahmed Aljanad, Fuad Noman, and Zen Kawasaki. "Cross-Correlation Wavelet-Domain-Based Particle Swarm Optimization for Lightning Mapping." *Applied Sciences* 11, no. 18 (2021): 8634.
38. Hajar, Mohammed A., Ammar Ahmed Alkahtani, Daing Nasir Ibrahim, Mohd Ridzuan Darun, Mohammed A. Al-Sharafi, and Sieh Kiong Tiong. "The Approach of Value Innovation towards Superior Performance, Competitive Advantage, and Sustainable Growth: A Systematic Literature Review." *Sustainability* 13, no. 18 (2021): 10131.
39. Al-Shetwi, A. Q., Hannan, M. A., Abdullah, M. A., Rahman, M. S. A., Ker, P. J., Alkahtani, A. A., ... & Muttaqi, K. M. (2021). Utilization of Renewable Energy for Power Sector in Yemen: Current Status and Potential Capabilities. IEEE Access.
40. Hasan, A. A., Ahmed Alkahtani, A., Shahahmadi, S. A., Alam, N. E., Islam, M. A., & Amin, N. (2021). Delamination-and Electromigration-Related Failures in Solar Panels—A Review. Sustainability, 13(12), 6882.
41. Islam, S., Sobayel, K., Al-Kahtani, A., Islam, M. A., Muhammad, G., Amin, N., ... & Akhtaruzzaman, M. (2021). Defect Study and Modelling of SnX3-Based Perovskite Solar Cells with SCAPS-1D. Nanomaterials, 11(5), 1218.
42. Fazea, Y., Mohammed, F., Madi, M., & Alkahtani, A. A. (2021, March). Review on Network Function Virtualization in Information-Centric Networking. In 2021 International Conference of Technology, Science and Administration (ICTSA) (pp. 1-6). IEEE.
43. Selvanathan, V., Ruslan, M. H., Alkahtani, A. A. N., Amin, N., Sopian, K., Muhammad, G., & Akhtaruzzaman, M. (2021). Organosoluble, esterified starch as quasi-solid biopolymer electrolyte in dye-sensitized solar cell. Journal of Materials Research and Technology, 12, 1638-1648.
44. Islam, M. A., Kassim, N. M., Alkahtani, A. A., & Amin, N. (2021). Assessing the Impact of Spectral Irradiance on the Performance of Different Photovoltaic Technologies.

45. Yaacob, N. L., Alkahtani, A. A., Noman, F. M., Zuhdi, A. W. M., & Habeeb, D. (2021). License plate recognition for campus auto-gate system. Indonesian Journal of Electrical Engineering and Computer Science, 21(1), 128-136. doi:10.11591/ijeecs.v21.i1.pp128-136.
46. Dallatu Abbas, U., Tiong, S. K., Alkahtani, A. A., Chen, C. P., Alkawsi, G., & Ekanayake, J. (2021). Power Curve Evaluation of Micro-Scale Turbines for Harvesting Wind Energy in Malaysia. Appl. Math. Inf. Sci, 15, 59-71.

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48. Kothandapani, Z., Islam, M. A., Reza, Y., Hasan, A. A. Q., Alkahtani, A. A., & Amin, N. (2020). Optimization of cu2o and cuscn as htl of planar perovskite solar cells via numerical simulation. Journal of Ovonic Research, 16(6), 369-377.
49. Chen, Chai Phing, Sieh Kiong Tiong, Siaw Paw Koh, Ammar Ahmed Nasser, Dallatu Abbas, and Fong Yu Chooi. "Application of Extreme Learning Machine in Predicting Short-Term Wind Speed." In *2020 8th International Conference on Information Technology and Multimedia (ICIMU)*, pp. 194-199. IEEE, 2020.
50. Elixie, A. E., Alkahtani, A. A., Alkawsi, G., Salle, S. F., Fazea, Y., & Ekanayake, J. (2020). Non-intrusive electrical load monitoring and identification: Approaches, tools and a case study. Applied Mathematics and Information Sciences, 14(6), 1017-1027. doi:10.18576/amis/140609
51. Fuad Noman, Gamal Alkawsi, Ammar Ahmed Alkahtani, Ali Q. Al-Shetwi, Sieh Kiong Tiong, Nasser Alalwan, Janaka Ekanayake, Ahmed Ibrahim Alzahrani, Multistep short-term wind speed prediction using nonlinear auto-regressive neural network with exogenous variable selection, Alexandria Engineering Journal,2020,,ISSN 1110-0168, https://doi.org/10.1016/j.aej.2020.10.045.
52. Alammari, A., Alkahtani, A. A., Ahmad, M. R., Noman, F. M., Esa, M. R. M., Kawasaki, Z., & Tiong, S. K., "Lightning Mapping: Techniques, Challenges, and Opportunities," in IEEE Access, vol. 8, pp. 190064-190082, 2020, doi: 10.1109/ACCESS.2020.3031810.
53. Maache, Mouhssin, Yousef Fazea, Ismail Bile Hassan, Ammar Ahmed Alkahtani, and Ikram Ud Din. "High-Sensitivity Capsule-Shaped Sensor Based on 2D Photonic Crystals." Symmetry 12, no. 9 (2020): 1480.
54. Noman, Fuad, Ammar Al-Kahtani, Vassilios Agelidis, and Sieh Kiong Tiong. "Wind Data Analysis for Assessing the Potential of Off-Grid Direct EV Charging Stations." *arXiv preprint arXiv:2004.12140* (2020).
55. Noman, Fuad, Ammar Ahmed Alkahtani, Vassilios Agelidis, Kiong Sieh Tiong, Gamal Alkawsi, and Janaka Ekanayake. "Wind-energy-powered electric vehicle charging stations: Resource availability data analysis." Applied Sciences 10, no. 16 (2020): 5654.
56. Alkawsi, Gamal Abdulnaser, Norashikin Ali, Abdulsalam Salihu Mustafa, Yahia Baashar, Hitham Alhussian, Ammar Alkahtani, Sieh Kiong Tiong, and Janaka Ekanayake. "A hybrid SEM-neural network method for identifying acceptance factors of the smart meters in Malaysia: Challenges perspective." Alexandria Engineering Journal (2020).
57. Alammari, Ammar, Ammar A. Alkahtani, Mohd Riduan Ahmad, Fuad Noman, Mona Riza Mohd Esa, Muhammad Haziq Mohammad Sabri, Sulaiman Ali Mohammad, Ahmed Salih Al-Khaleefa, Zen Kawasaki, and Vassilios Agelidis. "Kalman filter and wavelet cross-correlation for VHF broadband interferometer lightning mapping." *Applied Sciences* 10, no. 12 (2020): 4238.
58. A. Alkahtani *et al*., "Power Quality in Microgrids Including Supraharmonics: Issues, Standards, and Mitigations," in *IEEE Access*. doi: 10.1109/ACCESS.2020.3008042
59. F. M. Noman, G. A. Alkawsi, D. Abbas, A. A. Alkahtani, S. K. Tiong and J. Ekanayake, "Comprehensive Review of Wind Energy in Malaysia: Past, Present, and Future Research Trends," in IEEE Access, vol. 8, pp. 124526-124543, 2020, doi: 10.1109/ACCESS.2020.3006134.
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Al-Kahtani, Ahmed Mubarak Ahmed Al-Haiqi, and I. Lai Mei. "A review on methods and devices to determine body iron status." Research Journal of Biotechnology 13, no. 4 (2018): 72-77.

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EDITORIAL BOARD

I am currently an editorial member of the Southeast Europe Journal of Soft Computing.

Reviewing Experience

I am active in reviewing scientific research output to a number of international journals and conferences including:

Journal	# Reviews
Applied Energy, Elsevier (IF: 9.746)	3
IEEE Access	5
Applied Energy Journal	4
Clean Energy	1
Alexandria Engineering	2
Journal of Selected Topics in Applied Earth Observations and Remote Sensing	2
CMC-Computers, Materials & Continua (Q1)	2

Energies, MDPI	3
Clean Energy	1
IEEE Systems Journal	1
Applied Computing and Informatics	1
EEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing	2
Computation neuroscience, Hindawi	2
Bulletin of Electrical Engineering and Informatics (BEEI)	1
5th International Conference on Energy and Environment	4
IEEE Region Ten Conference | 5-8 Nov 2017	5
IEEE International Conference on Signal and Image Processing Applications (ICSIPA), 2017.	1
EEE International Conference on Signal and Image Processing Applications (ICSIPA), 2015	3
International Conference of Technology, Science and Administration	1
International Graduate Conference on Energy, Engineering, Technology & Business Management (iGRAD2019)	1
International Graduate Conference on Energy, Engineering, Technology & Business Management (iGRAD2018)	2

ADDITIONAL ACADEMIC ACTIVITIES

1. Panel for Post-Doctoral Researcher Monitoring Workshop. June 10th – 12th, 2020.
2. Postdoctoral Competition Panel Judge, UNIVERSITI TENAGA NASIONAL, September 30th, 2019.
3. External Judge: Final Year Project Awards, College of Engineering, Universiti Tenaga Nasional, representative of IEEE signal processing society, Malaysia (February 19th, 2019)
4. Professional Judge: UNITEN Green Millennial Exhibition 2019, Dewan Sri Sarjana Universiti Tenaga Nasional, Putrajaya Campus, March 23rd, 2019.
5. A panel of Judges: Final Year Project Awards, Universiti Tenaga Nasional, October 6th, 2018.
6. IEEE Signal Processing Society representative and external judge, Final Year Project Awards, Universiti Tenaga Nasional, February 6th, 2018.
7. A panel of Judges: Final Year Project Awards, Universiti Tenaga Nasional. February 24th, 2017.
8. A panel of Judges: Final Year Project Awards, Universiti Tenaga Nasional, October 7th, 2016.
9. Committee member, Final Year Project Awards, Universiti Tenaga Nasional, September 25th, 2018.
10. Session chair, 2012 IEEE International Conference on Control System, Computing and Engineering (ICCSCE 2012), November 23rd, 2012.

EXAMINATION OF THESES

Date	Student's Name	ID	Course	Thesis title
25 August 2021	Fathi Mahdi Elsiddig Haroun	SE23072	Master of Electrical Engineering (By Cousework & Research)	Power Line Corridor Vegetation Encroachment Detection from Satellite Image Using Retinanet and Support Vector Machine.
21 February 2022	Khaled Ehab Abdullah Mohamed	(SP23164	Master of Engineering Management (Structure C)	Eliminate Big Losses by Implementing TPM Initiative in Factory at Malaysia
14 November 2019	Thiviya Barathi A/P Raja Segaran	SE22341	Master of Electrical Engineering (Structure B)	Master of Electrical Engineering (By Coursework & Research) Phased Array Beamforming for Ultrasonic Bird Deterrent
3 July 2017	Najlan Bin Ismail	SE22114	Master of Electrical Engineering (Structure A)	Detection of the Source of the Incipient Faults Produced by Single Phase Inverter using Feed forward Backpropagation Neural Network

10 November 2017	Norfahani Miskun	SE21608	Master of Electrical Engineering (Structure B)	Development of Image Processing Based Solution for Vegetation Classification using GLCM & Neural Network
3 August 2018	Sing Chee Wai	SQ22432	Master of Communication System Engineering (MCSE)	Microphone Signal Detection Method for Motorized Racking Machine

TAUGHT COURSES

1. Digital signal processing (UNITEN, undergraduate, 2016-present)
2. Digital signal processing Lab (UNITEN, undergraduate level, 2016-present)
3. Image processing (UNITEN, undergraduate level, 2016-present)
4. Advanced digital signal processing (UNITEN, graduate-level, 2017-present)
5. Electrical and electronics measurement lab (UNITEN, undergraduate level, 2016-2018)
6. Engineering diagnostic tools (UNITEN, graduate-level)
7. Final year project, Electronics and Communication Engineering (Course Coordinator, UNITEN, undergraduate level, 2017/2018)
8. Final year project, Computer and Communication Engineering (Course Coordinator, UNITEN, undergraduate level, 2017/2018)

TRAINING *&* COMMUNITY SERVICES

1. Workshop Committee member: Optimization using MATLAB, September 12-13, 2019, IEEE signal processing society.
2. Workshop Committee member: Signal Processing using MATLAB and Working with the DSP F28335 Experimental Board September 23-24, 2019, IEEE signal processing society
3. Invited Speaker: Workshop on Electromagnetic research, Universiti Teknikal Malaysia, Melaka (UTeM), November 25th, 2016.
4. Postdoctoral Project Competition Panel Judge, Universiti Tenaga Nasional, September 30th, 2019
5. Final Year Project Awards, organizing committee member (registration), College of Engineerng, 2018/2019.
6. A panel of Judges: Final Year Project Awards, Universiti Tenaga Nasional, October 6th, 2018
7. Session Chair: IEEE International Conference on Control System and Computing and Engineering (ICCSCE 2012), November 23-25, 2012.

CONFERENCE ORGANIZATION

1. Technical Program Chair, 5th International Conference on Energy and Environment 2019, Universiti Tenaga Nasional, (1st – 3rd July 2019, 401 submissions).
2. Chair, the 4th International Symposium on Lightning Research (ISLR2019), Universiti Tenaga Nasional, Nasional, (29-30 August 2019, 125 submissions).

3. 3rd Workshop on Lightning Physics and Measurements & 1st Workgroup Meeting on Lightning Physics, Chemistry & Meteorology, Universiti Teknikal Malaysia Melaka (UTeM)
4. Technical Program Committee, 8th International Conference on Green Computing and Engineering Technologies (ICGCET'18)
5. Technical Program Committee, 8th International Conference on Recent Trends in Computer Science and Electronics (RTCSE-2018)

SKILLS

- MS OFFICE 365 SUITE
- MATLAB (Toolboxes: Image Processing, Signal Processing, Statistics, Control, Optimization, Signal Analyzer, Classification Learner, Neural Net Clustering, Regression Leaner)
- Programming (Python, C, and Java)
- HOMER

LANGUAGES

- Arabic (Native speaker)
- English (Speak fluently and read/write with high proficiency)
- Malay (Speak fluently and read/write moderately)

REFERENCES

References can be furnished upon request.

PROFESSIONAL NETWORKING

Research gate:
https://www.researchgate.net/profile/Ammar_Alkahtani
LinkedIn:
https://www.linkedin.com/in/ammarahmedalkahtani/
GoogleScholar
Publon
IEEE
ORCID