

Professor Ts Dr Muhammad Hisyam Lee FASc FAPM

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Profile

Dr Hisyam is an academic and consultant with extensive expertise in statistical quality control, forecasting models, environmental statistics, and applying statistical methods in engineering and technology. With a PhD in Mathematics from Universiti Teknologi Malaysia, he has made significant contributions to academia and industry over the past three decades.

His leadership roles include serving as Director of Data Management and Analytics and Deputy Director of Analytics and Institutional Research at UTM, where he led the development of data-driven strategies and enhanced university-wide research management processes. He also played a pivotal role in IT management, overseeing critical projects such as developing RADIS and a Power BI data visualisation platform.

Dr Hisyam is a recognised figure in academic governance. He has contributed to strategic decision-making as a long-standing member of the UTM University Senate and its Standing Committees. His educational leadership extends to his roles as an adjunct and visiting professor at prestigious institutions, his involvement in external examinations, and his board memberships.

He has been a key player in Malaysia's academic quality assurance. He serves as Chair and Panel Assessor for numerous MQA accreditation audits and MyRA research assessments across leading Malaysian universities. Various national organisations have sought his consulting expertise, including Tenaga Nasional Berhad, the Economic Planning Unit, and the Ministry of Science, Technology, and Innovation.

Beyond his academic and professional achievements, Dr Hisyam is deeply committed to community engagement. He has served in various leadership roles within Parent-Teacher Associations at primary and secondary schools in Johor. His education and community service contributions further highlight his dedication to nurturing future generations.

He has been honoured as a Fellow of the Academy of Sciences Malaysia (FASc) and the Academy of Professors Malaysia (FAPM), among other awards. His research profiles are well-documented on Scopus and Web of Science, where his work continues to influence the field of statistics and beyond.

Education

- **PhD in Mathematics**, Universiti Teknologi Malaysia, 2003
- **Master of Science in Statistics**, Universiti Kebangsaan Malaysia, 1994
- **Bachelor of Science (Honours) in Statistics**, Universiti Kebangsaan Malaysia, 1991

Professional Honours

- **Fellow (FASc title)**, Academy of Sciences Malaysia (ASM), 2024
- **Fellow (FAPM title)**, Academy of Professors Malaysia (APM), 2021

Professional Recognition

- **Professional Technologist (Ts. title)**, Malaysia Board of Technologists (MBOT), 2020

Academic Leadership and Governance

- **Jawatankuasa Akreditasi Universiti (JKAU)**, Universiti Teknologi Malaysia
 - University gatekeeper for programme accreditation and quality; ensures compliance with MQF/COPPA and relevant professional-body standards, and drives continuous improvement.
 - Deputy Chairman. Jun 2025–Apr 2026. Committee member. Dec 2017–May 2025.
- **University Senate**, Universiti Teknologi Malaysia, since 2014

- Contributed to strategic decision-making, policy development, and overall governance.
- **Standing Committees of University Senate (JKTS)**, Universiti Teknologi Malaysia, since 2014
 - Jawatankuasa Tetap Senat (JKTS) Dasar dan Entiti Akademik (JKDEU) / Jawatankuasa Governan dan Dasar Universiti (JKGDU) (2019–2026).
 - Jawatankuasa Tetap Senat (JKTS) Kurikulum dan Kualiti Akademik (KKA) (2017–2026).
 - Jawatankuasa Tetap Senat (JKTS) Perpustakaan dan Sumber Pendidikan (P&SP) (2014–2020).
 - Jawatankuasa Tetap Senat (JKTS) Peperiksaan dan Pengijazahan (PnP). (2014–2017)
 - Jawatankuasa Tetap Senat (JKTS) Penyelidikan dan Inovasi (PnI) (2014–2023).
 - Jawatankuasa Tetap Senat (JKTS) Jaringan Industri dan Masyarakat (JIM) (2014–2017).
- Led the Pre-Audit Evaluation Panel for the Maintenance of Self-Accreditation Status, UTM. 2023.
- Led the Monitoring Performance Assessment and Career Advancement of the Academic Staff Committee, UTM. 2020–2022.
- Led the Graduate Employability Analysis Task Force, Ministry of Higher Education (MoHE). 2020.
- The Impact Study of the Graduate Tracer Study System and MyMoheS, Ministry of Higher Education (MoHE). 2017.
- Led the Differentiated Career Pathways (DCP) system development for Academic Staff, UTM. 2017–2019.
- Led the Committee for the Development of the University Academic Administration System, UTM. 2016–2018.
- Led the Quotation Evaluation Technical Committee, RMC, UTM. 2011–2013.
- Led the Technical Evaluation Committee, RMC, UTM. 2010–2011.

Administrative and Leadership Roles

- **Director**, Data Management and Analytics, UTM (2021–2023)
 - Led the development of data-driven strategies for academic and institutional research.
 - Managed university-wide data analytics for strategic decision-making.
- **Deputy Director**, Analytics and Institutional Research, UTM (2018–2021)
 - Oversaw institutional research initiatives, contributing to policy development.
- **Manager (IT)**, Deputy Vice-Chancellor (Academic & International) Office, UTM (2014–2018)
 - Led a team to develop and implement a Power BI data visualisation platform, enabling comprehensive analysis and reporting of academic-related data for enhanced decision-making.
 - Developed and managed the implementation of a meeting management system for the JKTNCA to streamline and optimise meeting coordination and documentation processes.
- **Manager (IT)**, Research Management Centre, UTM (2008–2012)
 - Oversaw the implementation of IT solutions that enhanced research management processes, contributing to the overall efficiency of the Research Management Centre.
 - Led IT teams and spearheaded projects such as developing the RADIS system, which streamlined online research project management.

Academic Appointments

- **Adjunct Professor**, Institut Teknologi Sepuluh Nopember (ITS), Surabaya (2021–2025)
- **Board of Studies (BoS)**, Centre for Mathematical Sciences, Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA) (2022–2024)
- **External Examiner of Academic Programme**
 - School of Quantitative Sciences, Universiti Utara Malaysia (UUM) (2023–2025)
 - Faculty of Science and Technology, Universiti Kebangsaan Malaysia (UKM) (2021–2023)
 - Faculty of Applied and Human Sciences, Universiti Malaysia Perlis (UniMAP) (2021–2023)
 - Faculty of Applied Sciences and Technology, Universiti Tun Hussein Onn Malaysia (UTHM) (2024–2026)
 - College of Computing, Informatics, and Mathematics, Campus Kuala Terengganu, Universiti Teknologi MARA (UiTM) (2024–2025)
- **Visiting Professor**
 - Department of Statistics, Institut Teknologi Sepuluh Nopember (ITS) (2018, 2020, 2024, 2025)
 - Faculty of Engineering, Universitas Diponegoro (UNDIP) (2024)
 - Faculty of Applied Sciences and Technology, Universiti Tun Hussein Onn Malaysia (UTHM) (2021–2023)

Awards and Recognitions

- **Lecturer Excellence Award**, SAS Malaysia (2008)
- **World Class Professor Award**, Institut Teknologi Nopember, Indonesia (2018, 2020)
- **Mitra International Partner Award**, Institut Teknologi Nopember, Indonesia (2023)

Teaching Experience

- **Courses Taught:** Undergraduate and postgraduate courses in statistics, including Experimental Design, Statistical Process Control, Multivariate Statistical Analysis, and Research Methodology.

Supervision

- **PhD Students Supervised:** Over 20 PhD candidates, including research on control charts, statistical learning, and environmental statistics.

Research Interests

Statistical quality control, forecasting models, environmental statistics, and statistical applications in engineering and technology.

Research Profiles

- **Scopus Author ID:** 56943557500
- **Web of Science ResearcherID:** C-9063-2011

List of Journal Articles

1. Ahsan M., Indarsanto R.W., Rifki K.A.F., Lee M.H. (2025). Residual-based multivariate exponentially weighted moving average control chart for statistical process control of water quality in Surabaya city utilizing generative adversarial network. *MethodsX*, 15, Art. No. 103504. DOI: 10.1016/j.mex.2025.103504. *International Journal of Advanced Manufacturing Technology*, 139 (9-10), pp. 4441–4455.
2. Ahsan M., Rifki K.A.F., Mashuri M., Wibawati, Lee M.H. (2025). Enhanced monitoring of process anomalies: exponentially weighted moving average max multivariate (EWMA Max-M) control chart. DOI: 10.1007/s00170-025-16113-6.
3. Alfasanah Z., Niam M.Z.H., Wardiani S., Ahsan M., Lee M.H. (2025). Monitoring air quality index with EWMA and individual charts using XGBoost and SVR residuals. *MethodsX*, 14, Art. No. 103107. DOI: 10.1016/j.mex.2024.103107.
4. Darmanto, Darti I., Astutik S., Nurjannah, Lee M.H., Damayanti R.H.P.Y., Irsandy D. (2025). Strengthening Syariah Financial Markets With Garch-Based Stock Price Forecasting And Var-Risk Assessment. *Barekeng*, 19 (2), pp. 1217–1236. DOI: 10.30598/barekengvol19iss2pp1217-1236.
5. Kurniasari L., Kumoro A.C., Lee M.H., Djaeni M. (2025). Microencapsulation of Sappan Wood (*Caesalpinia sappan* L.) Extract Using Spray Drying and Different Wall Materials. *Journal of the Korean Wood Science and Technology*, 53 (1), pp. 49–65. DOI: 10.5658/WOOD.2025.53.1.49.
6. Sulandari W., Yudhanto Y., Zukhronah E., Slamet I., Pardede H.F., Rodrigues P.C., Lee M.H. (2025). Hybrid Prophet-NAR Model for Short-Term Electricity Load Forecasting. *IEEE Access*, 13, pp. 7637–7649. DOI: 10.1109/ACCESS.2025.3526735.
7. Ahsan M., Mashuri M., Prastyo D.D., Lee M.H. (2024). Performance of T2-based PCA mix control chart with KDE control limit for monitoring variable and attribute characteristics. *Scientific Reports*, 14 (1), Art. No. 7372. DOI: 10.1038/s41598-024-58052-4.
8. Prasetya I.K., Ahsan M., Mashuri M., Lee M.H. (2024). Bootstrap and MRCD Estimators in Hotelling's T2 Control Charts for Precise Intrusion Detection. *Applied Sciences (Switzerland)*, 14 (17), Art. No. 7948. DOI: 10.3390/app14177948.
9. Pontiselly, Ahsan M., Lee M.H. (2024). Deep Learning and Statistical Process Control Approach to Improve Quality in Immigration Services. *International Journal on Advanced Science, Engineering and Information Technology*, 14 (5), pp. 1564–1573. DOI: 10.18517/ijaseit.14.5.19978.
10. Ahsan M., Khusna H., Wibawati, Lee M.H. (2023). Support vector data description with kernel density estimation (SVDD-KDE) control chart for network intrusion monitoring. *Scientific Reports*, 13(1), 19149. DOI: 10.1038/s41598-023-46719-3.
11. Monitoring the Quality of PeduliLindungi Application based on Customer Reviews on Google Play Using Hybrid Naive Bayes -Laney p' Attribute Control Chart. *International Journal on Advanced Science. (2023). Engineering and Information Technology*, 13(5), pp. 1654–1662. DOI:10.18517/ijaseit.13.5.18247. Scopus.
12. Winita Sulandari, Yudho Yudhanto, Sri Subanti, Etik Zukhronah, Subanar, Muhammad Hisyam Lee. (2022). Forecasting Tourist Arrivals to Sangiran using Fuzzy with Calendar Variations. *Advances in Hospitality and Tourism Research (AHTR)*. DOI: 10.30519/ahtr.990903. ISSN: 2147-9100. Scopus.
13. Rashid Mehmood, Muhammad Riaz, Muhammad Hisyam Lee, Iftikhar Ali. (2022). Exact computational methods for univariate and multivariate control charts under runs rules. *Computer & Industrial Engineering*, Volume 163, Article number 107821. ISSN: 0360-8352. DOI: 10.1016/j.cie.2021.107821. 2021 JCR Impact Factor: 7.180. Journal Ranking in JCR: Q1.
14. Ishaq Adeyanju Raji, Muhammad Riaz, Mu'azu Ramat Abujiya, Nasir Abbas, and Muhammad Hisyam Lee. (2022). Outliers' detection with a sensitive exponentially weighted moving average control chart. *Quality and Reliability Engineering International*, 38(4): 1790-1813. DOI: 10.1002/qre.3043. ISSN: 0748-8017. 2021 JCR Impact Factor: 2.621. Journal Ranking in JCR: Q2.

15. Rashid Mehmood, Muhammad Hisyam Lee, Muhammad Rizwan Iqbal, Sajdah Hassan. (2022). New robust location control charts for unknown process distribution with practical significance. *Soft Computing*, 26(1): 137-153. ISSN: 1432-7643. DOI: 10.1007/s00500-021-06497-4. 2021 JCR Impact Factor: 3.732. Journal Ranking in JCR: Q2.
16. Babar Zaman, Muhammad Riaz, Mu'azu Ramat Abujiya, Muhammad Hisyam Lee. (2022). Adaptive CUSUM location control charts based on score functions: An application in semiconductor wafer field. *Arabian Journal for Science and Engineering*, 47(3): 3725-3749. ISSN: 2193-567X. DOI: 10.1007/s13369-021-05878-z. 2021 JCR Impact Factor: 2.807. Journal Ranking in JCR: Q2.
17. Babar Zaman, Muhammad Hisyam Lee, Muhammad Riaz, Mu'azu Ramat Abujiya, Rashid Mehmood, Nasir Abbas. (2022). Adaptive memory control charts constructed on generalized likelihood ratio test to monitor process location. *Arabian Journal for Science and Engineering*, 47(11): 15049-15081. ISSN: 2193-567X. DOI: 10.1007/s13369-022-06803-8. 2021 JCR Impact Factor: 2.807. Journal Ranking in JCR: Q2.
18. Rashid Mehmood, Muhammad Hisyam Lee, Muhammad Riaz, Babar Zaman, Iftikhar Ali. (2022). Hotelling T-2 control chart based on bivariate ranked set schemes. *Communications in Statistics–Simulation and Computation*, 51(1): 1-28. DOI: 10.1080/03610918.2019.1643885. ISSN: 1532-4141. 2021 JCR Impact Factor: 1.162. Journal Ranking in JCR: Q3.
19. Aiedh Mrisi Alharthi, Muhammad Hisyam Lee, and Zakariya Yahya Algamal. (2022). Improving penalized logistic regression model with missing values in high-dimensional data. *International Journal of Online and Biomedical Engineering (iJOE)*. 18(2), pp. 40- 54. ISSN 2626-8493. DOI: 10.3991/ijoe.v18i02.25047. Scopus.
20. Mohammad Syazwan Mohd Sanusi, Ahmad Termizi Ramli, Suhairul Hashim, Muhammad Hisyam Lee. (2021). Radiological hazard associated with amang processing industry in Peninsular Malaysia and its environmental impacts. *Ecotoxicology and Environmental Safety*, Vol. 208. Article 111727. ISSN: 0147-6513. DOI: 10.1016/j.ecoenv.2020.111727. 2020 JCR Impact Factor: 6.291. Journal Ranking in JCR: Q1.
21. Zakariya Yahya Algamal, Maimoonah Khalid Qasim, Muhammad Hisyam Lee, Haithem Taha Mohammad Ali. (2021). Improving grasshopper optimization algorithm for hyperparameters estimation and feature selection in support vector regression. *Chemometrics and Intelligent Laboratory Systems*. ISSN: 0169-7439. DOI: 10.1016/j.chemolab.2020.104196. 2020 JCR Impact Factor: 3.491. Journal Ranking in JCR: Q1.
22. Muhammad Mashuri, Muhammad Ahsan, Muhammad Hisyam Lee, Dedy Dwi Prastyo, Wibawati. (2021). PCA-based Hotelling's T^2 chart with fast minimum covariance determinant (FMCD) estimator and kernel density estimation (KDE) for network intrusion detection. *Computer & Industrial Engineering*, Volume 158, Article number 107447. ISSN: 0360-8352. DOI: 10.1016/j.cie.2021.107447. 2020 JCR Impact Factor: 5.431. Journal Ranking in JCR: Q1.
23. Ishaq Adeyanju Raji, Muhammad Hisyam Lee, Muhammad Riaz, Mu'azu Ramat Abujiya and Nasir Abbas. (2021). A robust multivariate Shewhart chart for contaminated normal environments. *Quality and Reliability Engineering International*, 37: 2665-2684. DOI: 10.1002/qre.2882. ISSN: 0748-8017. 2020 JCR Impact Factor: 2.885. Journal Ranking in JCR: Q2.
24. Rashid Mehmood, Muhammad Hisyam Lee, Iftikhar Ali, Muhammad Riaz. (2021). Comparative analysis between FAR and ARL based control charts with runs rules. *Haceteppe Journal of Mathematics and Statistics*, 50(1): 275-288. ISSN: 1251-477X. DOI: 10.15672/hujms.758925. 2020 JCR Impact Factor: 0.929. Journal Ranking in JCR: Q3.
25. Rashid Mehmood, Muhammad Hisyam Lee, Iftikhar Ali, Muhammad Riaz. (2021). Generalized Hotelling T-2 control chart based on bivariate ranked set techniques with runs rules. *Transactions of the Institute of Measurement and Control*, 43(10): 2180-2195. ISSN: 0142-3312. DOI: 10.1177/0142331221992670. 2020 JCR Impact Factor: 1.796. Journal Ranking in JCR: Q3.
26. Sarijan S, Azman S, Lee, M.H., Said, M.I.M. (2021). Poisson Regression Model to Determine Factors of Microplastic Ingestion by African Catfish. *Malaysian Journal of Mathematical Sciences*, 15(1): 137-146. ISSN: 1823-8343. Scopus.

27. Aiedh Mrisi Alharthi, Muhammad Hisyam Lee, Zakariya Yahya Algamal. (2021). Gene selection and classification of microarray gene expression data based on a new adaptive L1-norm elastic net penalty. *Informatics in Medicine Unlocked*, 24, Article number 100622. ISSN: 2352-9148. DOI: 10.1016/j.imu.2021.100622. Scopus.
28. Nur A.B. Kamisan, Muhammad H. Lee, Siti F. Hassan, Siti M. Norrulashikin, Maria E. Nor, Nur H.A. Rahman. (2021). Forecasting Wind Speed Data by Using a Combination of ARIMA Model with Single Exponential Smoothing. *Mathematical Modelling of Engineering Problems*, 8(2): 207-212. ISSN: 2369-0739. DOI: 10.18280/mmep.080206. Scopus.
29. Aiedh Mrisi Alharthi, Muhammad Hisyam Lee, Zakariya Yahya Algamal. (2021). Improving the diagnosis of breast cancer using regularized logistic regression with adaptive elastic net. *Universal Journal of Public Health*, 9(5): 317-323. ISSN: 2331-8880. DOI: 10.13189/ujph.2021.090514. Scopus.
30. Zakariya Yahya Algamal, Maimoonah Khalid Qasim, Muhammad Hisyam Lee, Haithem Taha Mohammad Ali. (2020). High-dimensional QSAR/QSPR classification modeling based on improving pigeon optimization algorithm. *Chemometrics and Intelligent Laboratory Systems*. ISSN: 0169-7439. DOI:10.1016/j.chemolab.2020.104170. 2019 JCR Impact Factor: 2.985. Journal Ranking in JCR: Q1.
31. Muhammad Ahsan, Muhammad Mahsuri, Muhammad Hisyam Lee, Heri Kuswanto, Dedy Dwi Prastyo. (2020). Robust Adaptive Multivariate Hotelling's T² Control Chart based on Kernel Density Estimation for Intrusion Detection System. *Expert System with Applications*, Vol. 145, Article 113105. DOI: 10.1016/j.eswa.2019.113105. ISSN: 0957-4174. 2019 JCR Impact Factor: 5.452. Journal Ranking in JCR: Q1.
32. Rashid Mehmood, Muhammad Hisyam Lee, Iftikhar Ali, Muhammad Riaz, Shahid Hussain. (2020). Multivariate cumulative sum control chart and measure of process capability based on bivariate ranked set scheme. *Computers & Industrial Engineering*, Volume, Article number 106891. ISSN: 0360-8352. DOI: 10.1016/j.cie.2020.106891. 2019 JCR Impact Factor: 4.135. Journal Ranking in JCR: Q1.
33. Ishaq Adeyanju Raji, Muhammad Hisyam Lee, Muhammad Riaz, Mu'azu Ramat Abujiya and Nasir Abbas. (2020). Outliers Detection Models in Shewhart Control Charts; An Application in Photolithography: A Semiconductor Manufacturing Industry. *Mathematics*, 8(5): Article number 857. ISSN: 2227-7390. DOI: 10.3390/MATH8050857. 2019 JCR Impact Factor: 1.747. Q1.
34. Winita Sulandari, Subanar Subanar, Muhammad Hisyam Lee, Paulo Canas Rodrigues. (2020). Indonesian electricity load forecasting using singular spectrum analysis, fuzzy systems and neural networks, *Energy*, Volume 190, Article number 116408. DOI: 10.1016/j.energy.2019.116408. ISSN: 0360-5442. 2019 JCR Impact Factor: 6.082. Journal Ranking in JCR: Q1.
35. Babar Zaman, Muhammad Hisyam Lee, Muhammad Riaz, Mu'azu Ramat Abujiya (2019). An improved process monitoring by mixed multivariate memory control charts: An application in wind turbine field. *Computer & Industrial Engineering*, Volume 142, Article number 106343. ISSN: 0360-8352. DOI: 10.1016/j.cie.2020.106343. 2019 JCR Impact Factor: 4.135. Journal Ranking in JCR: Q1.
36. Aiedh Mrisi Alharthi, Muhammad Hisyam Lee, Zakariya Yahya Algamal, Abdo M. Al-Fakih (2020). Quantitative structure-activity relationship model for classifying the diverse series of antifungal agents using ratio weighted penalized logistic regression. *SAR and QSAR in Environmental Research*, 30(6): 403-416. DOI: 10.1080/1062936X.2020.1782467. ISSN: 1062-936X. 2019 JCR Impact Factor: 2.053. Journal Ranking in JCR: Q2.
37. Zakariya Yahya Algamal, Maimoonah Khalid Qasim, Muhammad Hisyam Lee, Hafiz Tiomoko Ali. QSAR model for predicting neuraminidase inhibitors of influenza A viruses (H1N1) based on adaptive grasshopper optimization algorithm. *SAR and QSAR in Environmental Research*, 31(11): 803-814. DOI: 10.1080/1062936X.2020.1818616. ISSN: 1062-936X. 2019 JCR Impact Factor: 2.053. Journal Ranking in JCR: Q2.
38. Muhammad Ahsan, Muhammad Mashuri, Wibawati, Hidayatul Khusna, Muhammad Hisyam Lee (2020). Multivariate Control Chart based on Kernel PCA for Monitoring Mixed Variable and Attribute Quality Characteristics. *Symmetry*, 12(11), 1838. DOI: 10.3390/sym12111838. ISSN: 2073-8994. 2019 JCR Impact Factor: 2.645. Journal Ranking in JCR: Q2.

39. Rashid Mehmood, Muhammad Hisyam Lee, Ambreen Afzel, Sheraz Bashir, Muhammad Riaz. (2020). Generalized skewness correction structure of X-bar control chart for unknown process parameters and skewed probability distributions. *Journal of Statistical Computation and Simulation*, 90(8): 1349-1372 DOI: 10.1080/00949655.2020.1725812. ISSN: 1563-5163. 2019 JCR Impact Factor: 0.918. Journal Ranking in JCR: Q3.
40. Nur Haizum Abd Rahman, Muhammad Hisyam Lee. (2020). Air Pollutant Index Calendar-Based Graphics for Visualizing Trends Profiling and Analysis. *Sains Malaysiana*, 49(1): 201-209. DOI: 10.17576/jsm-2020-4901-24. ISSN: 0126-6039. 2019 JCR Impact Factor: 0.643. Journal Ranking in JCR: Q4.
41. Rashid Mehmood, Muhammad Hisyam Lee, Mujtaba Baqar, Muhammad Riaz. (2020). Application of Quality Control Charts for Early Detection of Flood Hazards. *Polish Journal of Environmental Studies*, 29(6): 4241-4248. DOI: 10.15244/pjoes/109028. ISSN: 1230-1485. 2018 JCR Impact Factor: 1.186. Journal Ranking in JCR: Q4.
42. Nur Arina Bazilah, Muhammad Hisyam Lee, Abdul Ghafor Hussin, Yong Zulina Zubairi. (2020). Imputation Techniques for Incomplete Load Data Based on Seasonality and Orientation of the Missing Values. *Sains Malaysiana*, 49(1): 201-209. DOI: 10.17576/jsm-2020-4905-22. ISSN: 0126-6039. 2019 JCR Impact Factor: 0.643. Journal Ranking in JCR: Q4.
43. Nur Haizum Abd Rahman, Muhammad Hisyam Lee. (2020). Artificial neural network forecasting performance with missing value imputations. *IAES International Journal of Artificial Intelligence*, 9(1): 33-39. DOI: 10.11591/ijai.v9.i1.pp33-39. ISSN: 2089-4872. Scopus.
44. Aiedh Mrisi Alharthi, Muhammad Hisyam Lee, Zakariya Yahya Algamal, Abdo M. Al-Fakih (2020). Weighted L1-norm logistic regression for gene selection of microarray gene expression classification. *International Journal on Advanced Science, Engineering and Information Technology*, 10 (4): 1483-1488. DOI: 10.18517/ijaseit.10.4.10907. ISSN: 2088-5334. Scopus.
45. Hossein Javedani Sadaei, Petronio Candidode Lima e Silva, Frederico Gadelha Guimaraes, Muhammad Hisyam Lee. (2019). Short-term load forecasting by using a combined method of convolutional neural networks and fuzzy time series. *Energy*, 175: 365-377. DOI: 10.1016/j.energy.2019.03.081. ISSN: 0360-5442. 2018 JCR Impact Factor: 5.537. Journal Ranking in JCR: Q1.
46. Babar Zaman, Muhammad Hisyam Lee, Muhammad Riaz, Mu'azu Ramat Abujiya (2019). An adaptive EWMA chart with CUSUM accumulate error-based shift estimator for efficient process dispersion monitoring. *Computer & Industrial Engineering*, 135: 236-253. ISSN: 0360-8352. DOI: 10.1016/j.cie.2019.06.012. 2018 JCR Impact Factor: 3.518. Journal Ranking in JCR: Q1.
47. Zakariya Yahya Algamal, Muhammad Hisyam Lee. (2019). A two-stage sparse logistic regression for optimal gene selection in high-dimensional microarray data classification. *Advances in Data Analysis and Classification*, 13(3): 753-771. DOI: 10.1007/s11634-018-0334-1. ISSN: 1862-5347. 2018 JCR Impact Factor: 2.098. Journal Ranking in JCR: Q1.
48. Abdo M. Al-Fakih, Zakariya Yahya Algamal, Muhammad Hisyam Lee, Madzlan Aziz. (2019). A QSAR model for predicting antidiabetic activity of dipeptidyl peptidase-IV inhibitors by enhanced binary gravitational search algorithm. *SAR and QSAR in Environmental Research*, 30(6): 403-416. DOI: 10.1080/1062936X.2019.1607899. ISSN: 1062-936X. 2018 JCR Impact Factor: 2.287. Journal Ranking in JCR: Q2.
49. Abdo M. Al-Fakih, Zakariya Yahya Algamal, Muhammad Hisyam Lee, Madzlan Aziz. (2019). QSAR classification model for diverse series of antifungal agents based on improved binary differential search algorithm. *SAR and QSAR in Environmental Research*, 30(2): 131-143. DOI: 10.1080/1062936X.2019.1568298. ISSN: 1062-936X. 2018 JCR Impact Factor: 2.287. Journal Ranking in JCR: Q2.
50. Babar Zaman, Muhammad Hisyam Lee, Muhammad Riaz, Mu'azu Ramat Abujiya (2019). An Adaptive Approach to EWMA Dispersion Chart Using Huber and Tukey Functions. *Quality and Reliability Engineering International*, 35: 1542-1581. DOI: 10.1002/qre.2460. ISSN: 0748-8017. 2018 JCR Impact Factor: 1.409. Journal Ranking in JCR: Q3.

51. Rashid Mehmood, Muhammad Hisyam Lee, Muhammad Riaz. (2019). On efficient construction and evaluation of runs rules-based control chart for known and unknown parameters under different distributions. *Quality and Reliability Engineering International*, 35(2): 582-599. DOI: 10.1002/qre.2423. ISSN: 0748-8017. 2018 JCR Impact Factor: 1.409. Journal Ranking in JCR: Q3.
52. Suhartono, Dimas Ewin Ashari, Dedy Dwi Prastyo, Heri Kuswanto, & Muhammad Hisyam Lee. (2019). Deep neural network for forecasting inflow and outflow in Indonesia. *Sains Malaysiana*, 48(8): 1787-1798. DOI: 10.17576/jsm-2019-4808-26. ISSN: 0126-6039. 2018 JCR Impact Factor: 0.540. Journal Ranking in JCR: Q4.
53. Shazani Sarijan, Shamila Azman, Mohd Ismid Mohd Said, Muhammad Hisyam Lee. (2019). Ingestion of Microplastics by Commercial Fish in Skudai River, Malaysia. *EnvironmentAsia*, 12(3): 75-84. DOI: 10.14456/ea.2019.47. ISSN 1906-1714. Scopus.
54. Mohd Yusof Baharuddin, Ahmad Hafiz Zulkifly, Lee Ai Choo, Siti Noor Azza Aminudin, Muhammad Hisyam Lee, Sheikh Hussain Shaikh Salleh. (2019). Fabrication of low-cost hip implant using direct metal laser sintering technique. *International Journal of Recent Technology and Engineering*, 8(4): 4544-4547. DOI: 10.35940/ijrte.D8472.118419. ISSN: 2277-3878. Scopus.
55. Nur Haizum Abd Rahman, Muhammad Hisyam Lee, Suhartono, Mohd Talib Latif. (2019). Hybrid seasonal ARIMA and artificial neural network in forecasting southeast Asia City Air Pollutant Index. *ASM Science Journal*, 12 (Special Issue 1): 215-226. ISSN: 1823-6782. Scopus.
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2. 2019: Statistics for Engineers. Zarina Mohd Khalid, Norazlina Ismail, Norhaiza Ahmad, Noraslinda Mohamed Ismail, Arifah Bahar, Ismail Mohamad, Muhammad Hisyam Lee, Muhammad Fauzee Hamdan. ISBN: 9789835215230. Penerbit UTM Press.
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3. 2008: Application of Taguchi Method in the Optimization of Cutting Parameters for Surface Roughness. Muhammad Hisyam Lee, Izman Sudin and Goh Eng Ken. Research Monograph. ISBN: 978-967-353-874-4.
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44. Muhammad Hisyam Lee. Pengurangan Kepincangan Penganggar Menerusi Tatacara Jackknife. Kolok-ium Matematik, Fakulti Sains, UTM. 15 Mac 1992.

Editorial Roles

- **Iraqi Journal of Statistical Sciences**, Editor-in-Chief, University of Mosul, since 2025
- **Al-Radidain Journal of Computer Sciences and Mathematics**, University of Mosul, since 2024
- **Inferensi**, Insitut Teknologi Sepuluh Nopember (ITS Surabaya), since 2021
- **Teknika: Jurnal Sains dan Teknologi**, Universitas Sultan Ageng Tirtayasa, since 2021
- **Data Analytics and Applied Mathematics (DAAM)**, Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA), since 2020
- **Transaction in Mathematical and Computational Sciences**, University of Sargodha, since 2020
- **Jurnal Teknologi**, Universiti Teknologi Malaysia, since 2018
- **MATEMATIKA**, Universiti Teknologi Malaysia, since 2007
- **Journal of Statistical Modeling & Analytics (JOSMA)**, Institut Statistik Malaysia (2020–2022)
- **Communication in Science & Technology** (2016–2020)

Professional Affiliations

- **Life Member**, Institute of Mathematical Statistics (ISM), since 2016
- **Life Member**, Institute of Statistics Malaysia (ISMy), since 2010.
– Vice President (2012–2014) and Council Member (2008–2012)
- **Life Member**, Islamic Countries Society of Statistical Sciences (ISOSS), since 2010
- **Life Member**, Malaysian Mathematical Sciences Society (PERSAMA), since 1999.

Contributions to MQA (Malaysian Qualifications Agency)

Institutional Academic Quality Assurance and Accreditation Audits

- **2024:** Status Certificate Audit for Self-Accreditation at UCSI University
- **2023:** Compliance Audit for Self-Accreditation at Universiti Teknologi Petronas
- **2022:** Compliance Audit for Self-Accreditation at the University of Nottingham Malaysia

Academic Programme Accreditation Audits

- **2020:** Chair for the Audit of the Doctor of Philosophy Programme (MQA/FA 14324), Universiti Malaysia Pahang (UMP); Chair for the Final Accreditation Audit of B.Sc. (Industrial Mathematics) (MQA/FA 9029), Universiti Malaysia Pahang (UMP), Jan.
- **2019:** Chair for the New Fast-Track Postgraduate Programme Audit (MQA/FA 10910), Universiti Sultan Zainal Abidin (UniSZA), Sept.; Assessment Panel for Compliance Audit of Full Accreditation Requirements for Postgraduate Programmes, Universiti Malaysia Perlis (UniMAP), Oct.; MQA-appointed Panel Assessor for Final Accreditation of Bachelor of Science (Mathematics with Computer Graphics) and Bachelor of Science (Mathematics with Economics), Nov.
- **2018:** Chair of Compliance Audit for 'Deemed Accredited' B.Sc. with Honours (Industrial Statistics), Universiti Utara Malaysia (UUM), Nov.; MQA-appointed Panel Assessor for Compliance Audit of 'Deemed Accredited' Bachelor of Science with Honours (Decision Science), Nov.; Panel Assessor for Final Accreditation of Bachelor of Science (Actuarial Science), Universiti Sains Islam Malaysia (USIM), Nov.; Panel Assessor for Final Accreditation of Bachelor of Science (Mathematics) with Education, Universiti Pendidikan Sultan Idris (UPSI), Oct.
- **2017:** Chair of Provisional Accreditation Audit of Master in Marine Statistics (MQA/PA 9120), Universiti Malaysia Terengganu (UMT), April; Chair of Provisional Accreditation Audit of B.Sc. (Statistics with Education) (MQA/PA 938), Universiti Pendidikan Sultan Idris (UPSI), June; Chair of Provisional Accreditation Audit of M.Ed. Mathematics with IT (MQA/PA 9122), Universiti Malaysia Terengganu (UMT), July; Chair of Final Accreditation Audit of B.Sc. (Industrial Statistics) (MQA/FA 0728), Universiti Tun Hussein Onn (UTHM), March; MQA-appointed Chairperson for Provisional Accreditation Audit of Master in Mathematics (MQA/PA 9121), Universiti Malaysia Terengganu (UMT), Jan.; Panel Assessor for Provisional Accreditation of Master of Science (Industrial Computing), Universiti Malaysia Pahang (UMP), March; Panel Assessor for Re-accreditation of Bachelor of Science in Statistics, Universiti Malaya (UM), March.
- **2016:** Chair of Final Accreditation Audit of Diploma in Quantitative Science (MQA/FA 1119), Universiti Selangor (UniSel), March; Chair of Final Accreditation Audit of M.Sc. (Applied Mathematics) (MQA/FA 1349), Universiti Tun Hussein Onn (UTHM), Jan.; MQA-appointed Panel Assessor for Final Accreditation of PhD in Science, Universiti Teknologi Petronas (UTP); Panel Assessor for Final Accreditation of Bachelor of Science (Technology Mathematics), Universiti Tun Hussein Onn (UTHM), Feb.; Panel Assessor for Final Accreditation of Master of Science (Industrial Statistics), Universiti Tun Hussein Onn Malaysia, Jan.
- **2015:** Chair of Final Accreditation Audit of B.Sc. (Hons) Mathematics and Economics (MQA/FA2395), College of Arts and Technology HELP, Kuala Lumpur; Chair of Final Accreditation Audit of M.Sc. (Engineering Mathematics) (MQA/FA0510), Universiti Malaysia Perlis (UniMAP), Aug.
- **2014:** Appointed by MQA as Panel Assessor for Audit and Accreditation of Postgraduate Programmes at the Faculty of Science and Technology, UKM.
- **2011:** Chair of Provisional Accreditation Audit of Diploma in Quantitative Science (MQA/PA 1119), Universiti Selangor (UNISEL), Kampus Berjuntai Bestari.

Contributions to MyRA (Malaysia Research Assessment)

Institutional Research Assessment Roles

- **2024:** Site Assessment for MyRA Year 2023 at UKM.
- **2023:** Site Assessment for MyRA Year 2022 at UM.
- **2019:** Achievement Assessment for MyRA Year 2018 at UTP, USM, UM, UKM; Assessment for MyRA 2018 IPTS (Private Institutions).
- **2018:** Site Assessment for MyRA Year 2017 at UPM, UKM, UM, and USM.
- **2017:** Assessor Panel for Triennial Site Assessment for MyRA achievements (Years 2013 & 2015) at Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM), and Universiti Malaya (UM); Site Assessment for MyRA Year 2016 at UKM, Universiti Putra Malaysia (UPM), UM, and USM; Document Assessment for MyRA Year 2016 for all public universities, including Universiti Teknologi Petronas (UTP), Universiti Tenaga Nasional (UNITEN), and Multimedia University (MMU).
- **2016:** Assessor Panel for Centralised MyRA Year 2015 achievements.
- **2015:** Assessor Panel for Star Rating Assessment of MyRA at Universiti Sains Malaysia (USM), Universiti Tun Hussein Onn Malaysia (UTHM), Universiti Sains Islam Malaysia (USIM), Universiti Teknikal Malaysia Melaka (UTeM), and Universiti Malaysia Pahang (UMP).

Consulting Expertise

- **Institute for Youth Research Malaysia, Ministry of Youth and Sports (2023):** Contributed to the development of the Malaysia Youth Index (MYI) 2023 and the Malaysian Youth Mental Health Index; facilitated the Technical Working Group (TWG) Workshop for #MYIndexBelia 7.0; involved in the development of the Malaysian Youth Indeks (IBM) Analytical Model for the Year 2024.
- **Universiti Putra Malaysia (UPM) (2020):** Participated in the reassessment session of the Institute for Mathematical Research (INSPEM), providing expert evaluation and strategic recommendations.
- **Ministry of Natural Resources and Environment (2014):** Enhanced the Environmental Performance Index (EPI) for Malaysia, aiding in the assessment and improvement of environmental sustainability practices.
- **Ministry of Science, Technology and Innovation (MOSTI) (2012):** Conducted the isotopes mapping for ionising radiation across Peninsular Malaysia, contributing to national safety and environmental monitoring.
- **Economic Planning Unit (EPU) (1996):** Led the study on the demand and supply of labour and training needs in the construction industry in Peninsular Malaysia until 2005.
- **Tenaga Nasional Berhad (1992–1994):** Conducted a study on public preferences for energy conservation technology, providing insights into customer behaviour and preferences.

Institutional Development Activities

Leadership and Committee Roles

- **Led the Graduate Employability Analysis Task Force, Ministry of Higher Education (2020)**
 - Directed a task force to analyse graduate employability trends, influencing policy development and strategic planning at the national level.
- **Impact Study Contributor, Graduate Tracer Study System and MyMoheS, MoHE (2017)**
 - Conducted impact assessments for the Graduate Tracer Study System and MyMoheS, providing actionable insights for improving graduate employability tracking.
- **Led the Pre-Audit Evaluation Panel, Maintenance of Self-Accreditation Status, UTM (2023)**

- Spearheaded the pre-audit evaluation process, ensuring that UTM met the criteria to maintain its self-accreditation status.
- **Led the Monitoring Performance Assessment and Career Advancement of Academic Staff Committee, UTM (2020–2022)**
 - Led efforts to monitor and assess academic staff’s performance and career advancement, ensuring alignment with UTM’s strategic goals.
- **Led the Development of the Differentiated Career Pathways (DCP) System, Universiti Teknologi Malaysia (2017–2019)**
 - Guided the creation of a digital platform for the DCP system, enabling tailored career progression for UTM academic staff.
- **Institutional Audit Committee Member, Self-Accreditation Status, UTM (2017–2018)**
 - Played a key role in maintaining UTM’s self-accreditation status through rigorous institutional audits and evaluations.
- **Led the Committee for the Development of the University Academic Administration System, Universiti Teknologi Malaysia (2016–2018)**
 - Oversaw the design and implementation of a comprehensive academic administration system, streamlining administrative processes within the university.
- **Committee Member, Academic Administrator Replacement Plan, UTM (2016–2018)**
 - Contributed to the development and execution of a succession plan for academic administrators, ensuring leadership continuity within UTM.
- **Implementation Committee Member, Integrated-CGPA (iCGPA), UTM (2016–2017)**
 - Assisted in implementing the Integrated-CGPA system, aligning it with UTM’s educational objectives and enhancing student evaluation methods.
- **Working Committee Member, UTM Research Computing (2016)**
 - Supported enhancing research computing capabilities at UTM, facilitating advanced computational research activities.
- **Working Committee Member, Differentiated Career Pathways (DCP), UTM (2015)**
 - Contributed to developing differentiated career pathways, offering tailored career progression opportunities for academic staff.
- **Working Committee Member, Calculation Method of Academic Staff Workload, UTM (2014–2016)**
 - Played a crucial role in developing a comprehensive workload calculation method for academic staff, ensuring fair and transparent workload distribution.
- **Led the Quotation Evaluation Technical Committee, RMC, UTM (2011–2013)**
 - Guided the assessment of quotations and bids for research projects, optimising resource allocation and procurement processes.
- **Led the Technical Evaluation Committee, Research Management Centre, UTM (2010–2011)**
 - Spearheaded the evaluation of technical bids and proposals, ensuring adherence to UTM’s research objectives and standards.
- **Led the Judges Committee, 13th Industrial Art and Technology Exhibition, UTM (2011)**
 - Directed the evaluation process for innovative projects and exhibits, contributing to promoting technological advancements within UTM.

Community and Educational Engagement

Parent-Teacher Association (PIBG) Roles

- **2002/2003:** Vice Chairman of Parent-Teacher Association (PIBG), Primary School of Senai (SKPU), Johor.
- **2003/2004, 2005/2006:** Vice Chairman of Parent-Teacher Association (PIBG), Primary School of Senai (SK Senai), Johor.
- **2006/2007, 2007/2008:** Chairman of Parent-Teacher Association (PIBG), Primary School of Senai (SK Senai), Johor.
- **2011/2012:** Committee Member of Parent-Teacher Association (PIBG) at Primary School of Putra Utama (SKPU) and Secondary School of Bandar Putra (SKMBP), Kulai, Johor.
- **2012/2013:** Vice Chairman of Parent-Teacher Association (PIBG) at Primary School of Putra Utama (SKPU); Committee Member of Parent-Teacher Association at Secondary School of Bandar Putra (SKMBP), Kulai, Johor.
- **2014/2015:** Chairman of Parent-Teacher Association (PIBG) at Primary School of Putra Utama (SKPU); Committee Member of Parent-Teacher Association (PIBG) at Secondary School of Bandar Putra (SKMBP), Kulai, Johor.
- **2015/2016:** Committee Member of Parent-Teacher Association (PIBG) at Secondary School of Bandar Putra (SKMBP), Kulai, Johor.