

MUHAMMAD HISYAM LEE, FASc

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PROFILE

Dr Hisyam is a statistician who earned his Bachelor's and Master's degrees in Statistics from Universiti Kebangsaan Malaysia (UKM) and a Doctorate in Mathematics from Universiti Teknologi Malaysia (UTM). He has been teaching for over three decades and has expertise in various statistics courses at both the undergraduate and postgraduate levels. Dr Hisyam's dedication to education has resulted in many of his students receiving prestigious awards under his mentorship.

He has held leadership roles, including Director positions at UTM from 2018 to 2023, where he managed data analytics and institutional research, showcasing his understanding of academic administration and data management. His academic governance contributions are substantial, having served on the University Senate and various committees at UTM, contributing to policy development and strategic decision-making from 2014 to 2026.

Dr. Hisyam is a researcher whose work focuses on statistical methods and their various applications. According to Scopus metrics, he has an h-index of 26 with 2,578 citations and an h-index of 25 with 1,664 citations per Web of Science metrics. His research covers statistical quality control, forecasting models, environmental statistics, and statistical applications in engineering and technology.

Dr Hisyam's excellence and leadership in research and education have been recognised through various awards and honours. He has received the World Class Professor Award from Indonesia twice, in 2018 and 2020. In addition, he has been granted the title of Fellow of the Academy of Professors Malaysia (APM), which further confirms his high standing in the academic community. Moreover, Prof. Hisyam has been awarded the Professional Technologist (Ts. title) by the Malaysia Board of Technologists (MBOT) since 2020, which recognises his professional competence and dedication to technology and statistics. He has also been honoured with several service and academic excellence awards from UTM and other institutions, which reflect his commitment to research, teaching, and service.

He has demonstrated his commitment to developing statistics, mathematics, and technology education through his involvement in academic program accreditation and consultancy. Additionally, his active participation in community and educational initiatives, notably through Parent-Teacher Associations (PIBG) between 2002 and 2016, highlights his dedication to societal development and education.

In summary, Dr Hisyam has shown a strong commitment to teaching, leadership, research in statistical methods, broad applications, and community service, all of which he has pursued with humbleness and an uncompromising pursuit of excellence.

Educational Background

- Bachelor of Science (Honours) in Statistics, Universiti Kebangsaan Malaysia (UKM), 1987 - 1991.
- Master of Science (Statistics), UKM, 1992 - 1994.
- Doctor of Philosophy (Mathematics), Universiti Teknologi Malaysia (UTM), 2000 - 2003.

Affiliations

- The Institute of Statistics Malaysia (ISMy). Vice President (2012 - 2014) and ISM Council (2008 - 2012).
- The Malaysian Mathematical Sciences Society (PERSAMA). Life Member since 1999.
- The Islamic Countries Society of Statistical Sciences (ISOSS). Life Member since 2010.
- The Institute of Mathematical Statistics (IMS). Life Member since 2016.
- The Islamic Academy of Science Malaysia (ASASI). Life Member since 2000.

Teaching Expertise

Possessing more than 30 years of teaching experience in various undergraduate and postgraduate statistics courses. His expertise covers various topics, including foundational statistics, engineering statistics, experimental design, statistical process control, multivariate statistical analysis, generalised linear models, and research methodology.

Supervision

Guiding and training local and international postgraduate students, many of them have received prestigious awards like the Pro-Chancellor and Postgraduate Best Student awards.

(a) Post-Doctoral Supervision

- Supervised Dr Suhartono (2010) and Dr Zakariya Yahya Algamal (2016 - 2017), focusing on advanced statistical methods and their applications.

(b) PhD. Students Supervision

- Supervised Rashid Mehmood's (2018 - 2022) research on extending control charts for normal and non-normal distributions, enhancing statistical quality control techniques.
- Supervised Aiedh Mrisi Alharthi (2018 - 2022) in exploring embedded feature selection methods for generalised linear models with high dimensionality, contributing to the field of statistical learning.
- Supervised Ishaq Adeyanju Raji (2017 - 2021) on developing robust designs for univariate and multivariate control charts, aiming at process improvement in industrial statistics.
- Co-supervised Nor Adhahah binti Rashid (2017 - 2021) in her work on predicting quality in palm oil refineries using multivariate statistical process control, integrating statistical methods with quality assurance practices.
- Co-supervised Alireza Firouzi (2015 - 2022) in change point estimation for multivariate quality processes, advancing the methodologies in statistical process control.
- Supervised Yusrina Andu's (2016 - 2020) project on modelling air pollution using advanced statistical methods and artificial neural networks, bridging the gap between environmental science and statistical analysis.
- Co-supervised Mohamad Syazwan Mohd Sanusi (2016 - 2017) on environmental radiology in Malaysia, employing Monte Carlo MCNP5 simulations for radiological impact assessment.
- Supervised Nur Arina Bazilah binti Kamisan (2010 - 2017) and Nur Haizum binti Abd Rahman (2010 - 2017) on forecasting models for electric load and air pollutant index, respectively, showcasing the application of statistical forecasting in energy and environmental health.
- Supervised Zakariya Yahya Algamal (2013 - 2016), Mua'zu Ramat Abujiya (2012 - 2015), Osamah Basheer Shukur (2012 - 2015), and several others through their doctoral research, focusing on a range of topics from fuzzy time series forecasting to statistical quality control, all of whom have significantly contributed to their fields and received prestigious awards for their research excellence.
- Supervised Maria Elena binti Nor (2010 - 2014) in assessing error magnitude and directional accuracy in time series forecasting, refining evaluation methods for predictive modelling.
- Supervised Ghanim Mhmood Dhaher (2011 - 2014) by researching Bayesian and fuzzy kriging techniques for spatial estimation in mining fields, advancing spatial data analysis methodologies.
- Supervised Hussein Javedani Sadaei (2010 - 2013) on enhancing fuzzy time series forecasting models, contributing to improving forecasting accuracy and methodology.

- Supervised Hazura Mohamed (2005 – 2013) in applying the Taguchi method to the performance evaluation of routing protocols in mobile ad-hoc networks, innovating in optimising network performance.

(c) Master's Students Supervision

- Co-guided Mohd Aiman bin Mohd Noor (2017 – 2019) on predicting the quality of refined bleached deodorised palm oil using advanced statistical techniques.
- Guided Tengku Salbiah binti Tengku Mohamed (2017 – 2019) on a comparative study on penalised logistic regression models.
- Co-guided Nur Atikah Rosely (2017 – 2020) in quality prediction research for palm oil using kernel partial least squares regression.
- Guided Azfar Hilmi Baharudin (2019) global panel data modelling for industrial output analysis.
- Guided Naam Saleem Fadhil (2013) on electricity load forecasting, integrating exponential smoothing models with neural networks.
- Co-guided the research of Rasidah Hussin (1998 – 1999) and Abdul Wahab Mohamed Ali Hussein (1997 – 1999), focusing on significant statistical applications.
- Guided Ahmad Taufek Abdul Rahman (2001 – 2003) and Ahmad Zia Ul-Saufie Mohd Jeperi (2006 – 2007) in pioneering radiation classification and statistical forecasting studies.
- Supervised Mazalan bin Sarahintu (2005 – 2007) in analysing dynamic source routing protocols for mobile ad hoc networks using the Taguchi approach.

Administrative and Leadership Roles

- Director (Data Management and Analytics) at Office of Strategy and Corporate Affairs UTM (Apr 2021 – Feb 2023) and Deputy Director (Analytics and Institutional Research) at Office of Strategy Management UTM (Mar 2018 – Feb 2021): These roles involved managing university data for top management and external agencies, indicating a leadership position in data management and analytics within an academic setting.
- Manager (Information Technology) at the Office of the Deputy Vice-Chancellor (Academic and International) UTM (Apr 2014 – Feb 2018) and at Research Management Centre UTM (Nov 2008 – Nov 2012): Leading IT teams and projects such as the development of an integrated online research project management system (RADIS) showcase leadership in academic IT administration.

Academic Leadership and Governance

- University Senate at Universiti Teknologi Malaysia (UTM) (2014 – 2026). Contributed to strategic decision-making, policy development, and overall governance.
- University Senate Standing Committees (JKTS) for Academic Policy and Entity, Academic Curriculum and Quality Assurance, Library and Educational Resources, Examination and Graduation, Research and Innovation, and Industry and Community Linkages between 2014 and 2026.

Institutional Development Activities

- Led the Technical Evaluation Committee, RMC, UTM. 2010 – 2011.
- Led the Quotation Evaluation Technical Committee, RMC, UTM. 2011 – 2013.
- Led the Judges Committee of the 13th Industrial Art and Technology Exhibition (INATEX), UTM. 2011
- The Working Committee for the Calculation Method of Academic Staff Workload at Universiti Teknologi Malaysia. 2014 – 2016.
- The Working Committee for Differentiated Career Pathways (DCP), UTM. 2015.

- The Implementation Committee of Integrated-CGPA (iCGPA) Universiti Teknologi Malaysia. 2016 – 2017.
- The Academic Administrator Replacement Plan, UTM. 2016 – 2018.
- The UTM Research Computing Working Committee. 2016.
- The Institutional Audit to maintain Self-Accreditation Status, UTM. 2017 – 2018.
- Led the Committee for the Development of the University Academic Administration System, UTM. 2016 – 2018.
- Led the Differentiated Career Pathways (DCP) system development for Academic Staff, UTM. 2017 – 2019.
- The Impact Study of the Graduate Tracer Study System and MyMoheS, Ministry of Higher Education (MoHE). 2017.
- Led the Graduate Employability Analysis Task Force, Ministry of Higher Education (MoHE). 2020.
- Led the Monitoring Performance Assessment and Career Advancement of the Academic Staff Committee, UTM. 2020 – 2022.
- Led the Pre-Audit Evaluation Panel for the Maintenance of Self-Accreditation Status, UTM. 2023.

Professional Recognition

- The Professional Technologist (Ts. title) from Malaysia Board of Technologists (MBOT). Since 2020.

Professional Honours

- Fellow of the Academy of Sciences Malaysia (FASc). Since 2024.
- Fellow of the Academy of Professors Malaysia (FAPM). FAPM0040. Since 2021.

Research Grant

- 2020. An Adaptive Homogeneously Weighted Moving Average Control Chart based on Variable Sample Size Approach for Processing Monitoring. UTM Encouragement Research. Q.J130000.3801.19J38. RM56,000. Project Leader.
- 2020. 10-Year Economic Impact and Investment Analysis for UTM Strategic Decision-making. Business Entity. S.J130000.5001.4Y233. RM50,000. Researcher.
- 2019. Kajian Kediaan Institusi Pendidikan bagi Mendepani Revolusi Perindustrian 4.0. R.J130000.7655.4C329. Contract Research. RM358,585. Researcher.
- 2019. Hybrid Time Series Model Applied for Forecasting and as a Missing Values Imputation Method for Long Term Load. Q.J130000.2654.17J90. RM30,000. Researcher.
- 2019. Seasonal GSTAR Model with Exogenous Variables for Forecasting Space-Time Data with Calendar Variation Effect. Industry-International Incentive Grant. Q.J130000.3001.01M30. 01/02/2019 – 31/01/2021. RM10,000. Project Leader.
- 2019. Development of Lower Extremities Motion Capture Prototype for Sports Performance and Gait Analysis. PRGS/1/2019/SSI09/UPSI/02/2. Networking Grant. S.J130000.7301.4X529. 01/08/2019 – 31/07/2021. RM89,000. Researcher.
- 2017. Spatial Modeling Of Climate Data Using Geographically Weighted Regression. Q.J130000.2526.17H95. Tier 1. RM40,000. Researcher.
- 2016. Penalized Principal Component Analysis with Application in High Dimensional Data. GUP Tier-1 2016-2. Q.J130000.2508.15H64. 01/10/2016 – 30/09/2018. RM40,000. Project Leader.
- 2016. Statistical Modelling for High-dimensional Generalized Linear Models in Computational Biology. FRGS 2016-1. Grant No: R.J130000.7808.4F822. 01/08/2016 – 31/07/2018. RM56,850. Project Leader.
- 2016. Statistical Modelling of High-Dimensional Generalized Linear Models. Professional Development Research University. Q.J130000.21A2.03E12. RM69,854. Project Leader.

- 2015. Governance for Disaster Risk Reduction: Performance Evaluation of River Basin Organizations in Controlling the Occurrence of Flood - A Case Study of Sungai Kelantan Basin. FRGS 2015. Grant No: R.J130000.7809.4F704. 01/04/2015 - 31/12/2015. RM63,000. Researcher.
- 2011. New Hybrid Model for Forecasting Short Term Electricity Load Demand. Research University Grants. Tier 1. Grant No.: Q.J130000.2513.01H11. 01/04/2011 - 31/03/2013. RM130,000. Project Leader.
- 2010. Pembangunan Modul Pengurusan Proposal dan Modul Pengurusan Rekod Penyelidikan Secara Online bagi Pengurusan Penyelidikan di UTM. Grant No.: 77030. 01/06/2010 - 31/07/2011. RM50,000. Project Leader.
- 2010. Pembangunan Modul Aktiviti Penyelidikan dan Modul Perlantikan Penyelidikan Secara Online bagi Pengurusan Penyelidikan di UTM. Grant No.: 77031. 01/06/2010 - 31/07/2011. RM30,000. Researcher.
- 2010. Pembangunan Modul Pemantauan Penyelidikan Secara Online bagi Pengurusan Penyelidikan di UTM. Grant No.: 77029. 01/06/2010 - 31/12/2011. RM30,000. Researcher.
- 2009. An Improved Method for Prediction Based On Fuzzy Time Series. FRGS. Grant No.: R.J130000.7826.3F418. 15/11/2009 - 14/11/2011. RM28,000. Project Leader.
- 2008. Development of an Intervention Model for Business Impact Analysis in the Implementation of the Business Continuity Management Process. Project Number: USIM/FRGS-FST-06-50508. 3 Oct. 2008 - 4 Apr. 2010. Researcher.
- 2008. Molecular Modelling and Simulation of Nano Structures. FRGS. Grant No.: 78341. 01/11/2008 - 30/04/2011. RM95,500. Researcher.
- 2007. Development of Software Tools for Performance Evaluation of Mobile Ad Hoc Networks using Taguchi Method. MOSTI: Science Fund. Grant No.: 79220. 01/09/2007 - 28/02/2009. RM140,600. Project Leader.
- 2004. Prediction of Optimum Performance in Self-Organizing Networks with Dynamic Source Routing Protocol. Grant No.: 75185. 01/11/2004 - 31/10/2005. RM15,000. Project Leader.
- 2000. The Development Of An Intelligent Project Estimating In An Integrated Construction Environment. Sciencefund. 72263. RM211,850. Researcher.
- 2000. The Development Of A Process Model For Effective Implementation Of Quality Management System In Construction Phase. Sciencefund. 72371. RM101,650. Researcher.
- 2000. The Development of an Intelligent Information Model for Construction Methods Assessment in an Integrated Construction Environment. Sciencefund. 72268. RM88,350. Researcher.
- 1999. Qualitative Model with Binary Dependent Variables Approach for Modelling of Students Performance of Academic Achievement. Grant No.: 71390. 1/1/1999 - 31/12/2000. RM15,000. Project Leader.
- 1999. An Investigation into the Implementation of a Quality Management System in a Mega Construction Project. IRPA. Grant No.: 72191. 01/07/1999 - 30/06/2003. RM118,750 Researcher.
- 1999. Architectural Design Management : The Development Of Best Practices Model Based On The Quality Management System Requirements. Sciencefund. 72169. RM110,200. Researcher.
- 1998. R&D Requirement of the Malaysia Construction Industry. Grant No.: 71231. 01/01/1998 - 31/12/1999. RM18,225. Researcher.
- 1997. Kajian Mengenai Permintaan Dan Penawaran Gunatenaga Serta Keperluan Latihan Dalam Industri Pembinaan Di Malaysia Sehingga Tahun 2005 Balai Iktisas Malaysia. Contract Research. 68052. RM300,000. Researcher.
- 1997. Study on High Radiation Area, Palong, Segamat. Grant No.: 71159. 01/06/1997 - 30/06/1998. RM20,000. Researcher.
- 1996. A Guide to Statistical Resource on the Internet for Malaysia Higher Institutes of Learning. Grant No.: 71091. 01/10/1996 - 30/09/1997. RM13,300. Project Leader.
- 1996. Menganalisis Pembolehubah Diskrit Dan Selanjar Secara Serentak. Short Term. 71090. RM6,000. Researcher.
- 1995. TQM Application in Construction Project Management. Grant No.: 61811. 02/01/1995 - 29/01/1997. RM17,150. Researcher.

Publications and Citations

(a) Research Impact Metrics

Scopus metrics: h-index 26, 138 publications, 2,578 citations. Web of Science metrics: h-index 25, 140 publications, 1,664 citations.

(b) List of Publications

1. Support vector data description with kernel density estimation (SVDD-KDE) control chart for network intrusion monitoring. (2023). *Scientific Reports*, 13(1), 19149. DOI: 10.1038/s41598-023-46719-3. Scopus.
2. Monitoring the Quality of PeduliLindungi Application based on Customer Reviews on Google Play Using Hybrid Naïve 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.

11. 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.
12. 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.
13. 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.
14. 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.
15. Rashid Mehmood, Muhammad Hisyam Lee, Iftikhar Ali, Muhammad Riaz. (2021). Comparative analysis between FAR and ARL based control charts with runs rules. *Hacettepe 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.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.
22. Muhammad Ahsan, Muhammad Mahsuri, Muhammad Hisyam Lee, Heri Kuswanto, Dedy Dwi Prastyo. (2020). Robust Adaptive Multivariate Hotelling's T^2 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.

23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
29. 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.
30. 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.
31. 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.
32. 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.
33. Nur Arina Bazilah, Muhammad Hisyam Lee, Abdul Ghapor 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.

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34. Mazalan Sarahintu, Muhammad Hisyam Lee, Hazura Mohamed. An Investigation of Interaction Effects for Network Parameters in Ad Hoc Networks Using Taguchi Method. Seminar Kebangsaan Sains Kuantitatif 2006. Universiti Utara Malaysia, Langkawi. 19 - 21 Dec. 2006.
35. Mazalan Sarahintu & Muhammad Hisyam Lee. Performance Evaluation on Mobile Ad Hoc Networks with Dynamic Source Routing Protocol. Simposium Kebangsaan Sains Matematik ke XIV. UM & PERSAMA. 6 - 8 June 2006.
36. Muhammad Hisyam Lee. Formulation of Properties for Motion Prediction in Wireless and Simulation Analysis of Dynamic Destination-Sequenced Distance-Vector Protocol. Seminar of Department of Mathematics, Faculty of Science, UTM. 24 Dec. 2003.
37. Muhammad Hisyam Lee, Shaharuddin Salleh, Bahrom Sanugi. Penghitungan Kebarangkalian Ketersediaan Laluan dalam Rangkaian Bergerak Tergesa. Simposium Kebangsaan Sains Matematik Ke-9 (SKSM-9). UKM & PERSAMA. 18 - 20 July 2001.
38. Shaharuddin Salleh, Bahrom Sanugi, Muhammad Hisyam Lee. Partitioning and Reconfiguration Strategies for Highly Dynamic Ad Hoc Networks. Malaysian Science and Technology Congress 2000. Genting Highlands. 7 - 9 Nov. 2000.
39. Muhammad Hisyam Lee, Stephan Olario, Shaharuddin Salleh, Bahrom Sanugi. (2000) 'Dynamic Source Routing (DSR) Protocol with Euclidean Effect in Mobile Ad Hoc Networks', National Conf. on Telecommunication Technology. E-45-49.
40. Ahmad Termizi Ramli, M. H. Lee and Abdel Wahab M. A. Hussein, "Effect of Soil Type on Environmental Terrestrial Gamma Radiation Dose in Johor State, Malaysia." an invited paper. Presented at International Meeting on Frontiers of Physics 98, Institute of Physics Malaysia and Asia Pacific Center for Theoretical Physics. 25-29 Oct. 1998. Published in Proceeding of the International Meeting on Frontiers of Physics 1998, Ed. S.P. Chia and D.A. Bradley, pp 498-512, 2000. World Scientific Publication Co. Pte. Ltd., Singapore. ISBN 981-02-4490-8.
41. Muhammad Hisyam Lee. S-System Analysis of the Central and Non-central Chi Square Distributions. The VI National Symposium of Mathematical Science, Universiti Malaya. 3 - 5 May 1994.
42. Muhammad Hisyam Lee. Introduction to S-System Modeling Methods. Mathematics Colloquium, Faculty of Science, UTM. 22 March 1994.
43. Muhammad Hisyam Lee & Mohamad Amir Manap. Guideline, Selection and Fitting in Multiple Regressions. Course and Workshop on Statistics, Faculty of Science, UTM. 14 - 16 June 1992.

44. Muhammad Hisyam Lee. Pengurangan Kepincangan Penganggar Menerusi Tatacara Jackknife. Kolokium Matematik, Fakulti Sains, UTM. 15 Mac 1992.

Editorial and Peer Review Contributions

(a) Editorial Roles

1. Malaysian Journal of Industrial and Applied Mathematics (MATEMATIKA) (since 2007). UTM.
 - Indexed by WoS (ESCI), MathSciNet, MyCite, and Google Scholar.
2. Jurnal Teknologi (since 2018). Universiti Teknologi Malaysia (UTM).
 - Indexed by Scopus, WoS (ESCI), ACI, MyCite, and MyJurnal.
3. Communication in Science & Technology (2016 - 2020).
 - Indexed by Scopus, DOAJ, EBSCO, Google Scholar, SINTA, Crossref.
4. Journal of Statistical Modeling & Analytics (2020 - 2022). Institut Statistik Malaysia.
 - Indexed by MyJurnal and Google Scholar.
5. Data Analytics and Applied Mathematics (since 2020). Universiti Malaysia Pahang Al-Sultan Abdullah.
 - Indexed by Crossref and Google Scholar.
6. Transaction in Mathematical and Computational Sciences (since 2020). University of Sargodha.
 - Indexed by Crossref and Google Scholar.
7. Inferensi (since 2021). Insitut Teknologi Sepuluh Nopember (ITS Surabaya).
 - Indexed by Sinta, Crossref, and Google Scholar.
8. Teknika: Jurnal Sains dan Teknologi (since 2021). Universitas Sultan Ageng Tirtayasa.
 - Indexed by Sinta, Crossref, Publons, and Google Scholar.
9. Al-Radidain Journal of Computer Sciences and Mathematics (since 2024). University of Mosul.
 - Indexed by Iraqi Scientific Academic Journals, DOAJ, and Google Scholar.

(b) Review Contributions

Journal reviewer for Computers & Industrial Engineering (Q1, since 2016), Applied Energy (Q1, since 2015), Tourism Management (Q1, since 2012), and numerous other high-impact journals across various quality tiers.

Awards and Recognitions

(a) World Class Professorship Award

Honoured with the World Class Professor Award by the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia in 2018 and 2020, highlighting his global impact in research and education.

(b) International Recognition Award

Institut Teknologi Nopember (ITS Surabaya) awarded the International Partner Award in 2023 for outstanding international collaboration.

(c) Service Excellence Award

Received the UTM Excellent Service Award multiple times (2006, 2009, 2012, 2020), acknowledging his dedication and outstanding contributions to the university.

(d) Research and Innovation Awards

Recognised for his contributions to information technology and statistical methods with awards from RMC UTM in 2012 and finalist for Information Technology Awards UTM in 2010.

(e) Academic Contributions Award

Earned the Lecturer Excellence Award from SAS Malaysia in 2008 and top 5% Best Lecturer recognitions from SPACE UTM for the 2005/2006 and 2006/2007 sessions.

(f) Academic Appointments

1. Adjunct Professor at Institut Teknologi Sepuluh Nopember (ITS), Surabaya (Jul. 2021 – Jun. 2024).
2. Visiting Professor at Universiti Tun Hussein Onn Malaysia (UTHM) (15 Sep. 2021 – 14 Sep. 2023).

(g) External Examiner of Academic Programme Appointments

- Universiti Malaysia Perlis (UniMAP): Served as an External Examiner for the Faculty of Applied and Human Sciences, specifically for the Master of Science (Engineering Mathematics) Mixed Mode Programme and research programs for the academic years 2021/2022 & 2022/2023.
- Universiti Utara Malaysia (UUM): Served as an External Examiner for the School of Quantitative Sciences, specifically for the Master of Science in Operations Research and Analytics program from 1 Jan. 2023 to 31 Dec. 2025.
- Universiti Kebangsaan Malaysia (UKM): Appointed as an External Evaluator for the Master of Science (Data Science and Analytics) Programme from 1 Feb. 2021 to 31 Jan. 2023.

(h) External Academic Promotion Roles

- Qatar University, Qatar: Appointed as External Assessor for Promotion to Professor and Associate Professor. Since 2018.
- University of Jeddah, KSA: Appointed as External Assessor for Promotion to Professor and Associate Professor. Since 2019.
- Universiti Kebangsaan Malaysia (UKM): Appointed as External Assessor for Promotion to Associate Professor and Professor. Since 2015.
- Universiti Malaysia Pahang Al-Sultan Abdullah (UMPASA): Appointed as External Assessor for Promotion to Associate Professor. 2022.
- Universiti Utara Malaysia (UUM): Appointed as External Assessor for Promotion to the Position of Associate Professor. 2023.
- Universiti Malaysia Perlis (UniMAP): Appointed as Assessor for the Evaluation of Application for Promotion to Associate Professor. Since 2023.
- Universiti Tun Hussein Onn Malaysia (UTHM): Appointed as External Assessor for Promotion to Associate Professor and Professor. 2024.
- Universiti Pendidikan Sultan Idris (UPSI): Appointed as External Assessor for the Application for the Position of Associate Professor. Since 2022.
- Universiti Malaysia Terengganu (UMT): Appointed as External Assessor for Promotion to Associate Professor and Professor. Jan. 2024 – Dec. 2027.

Professional Contributions

- **2010:** Invited Session on Statistical Modelling and Statistical Forecasting at The Regional Conference on Statistical Sciences.

- **2017:** Invited Panel Forum at Symposium Kebangsaan Sains Matematik Ke-25, PERSAMA, Kuantan, Pahang (28-29 Aug); Invited Speaker at Data Analysis: Accurate Respondents Seminar, Nuclear Malaysia, MOSTI (21-23 Mar).
- **2018:** Invited Speaker at Workshop on Collaboration Statistics UB, Universitas Brawijaya, Indonesia; Guest Lecturer on the Prospect of Actuaries in Asia, Institut Teknologi Sepuluh Nopember, Indonesia; Invited Speaker at Researcher & Research Student Enrichment Program, Institut Teknologi Sepuluh Nopember, Indonesia.
- **2019:** Keynote Speaker at International Seminar: Research Methods in Practice, Prince of Songkla University, Thailand (10-11 Jun).
- **2020:** Keynote Speaker at iADORE, Universiti Teknologi Malaysia (7-8 Dec); Keynote Speaker at ICMMEd, Pattimura University (26 Nov); Invited Speaker at the International Conference on Mathematics, Statistics and Data Science, IPB University (11-12 Nov).
- **2021:** Keynote Speaker at the 17th ICMSA, Prince of Songkla University (12-14 Dec); Invited Speaker at ICITMME, Universitas Islam Negeri Sunan Kaijaga (13-14 Oct).

Professional Services and Consultancy

(a) Academic Programme Accreditation Audits

- **2011:** Chair of Provisional Accreditation Audit of Diploma in Quantitative Science (MQA/PA 1119), Universiti Selangor (UNISEL), Kampus Berjantai Bestari.
- **2014:** MQA appointments as Panel Assessor for Audit and Accreditation Postgraduate Program at Faculty of Science and Technology, UKM.
- 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.
- **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 appointments as Panel Assessor for Final Accreditation of Doctor of Philosophy (PhD) of Science, Universiti Teknologi Petronas (UTP). MQA appointments as Panel Assessor for Final Accreditation of Bachelor of Science (Technology Mathematics), Universiti Tun Hussein Onn (UTHM), Feb. MQA appointments as Panel Assessor for Final Accreditation of Master of Science (Industrial Statistics), Universiti Tun Hussein Onn Malaysia, Jan.
- **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 appointments as Chairperson to audit the Provisional Accreditation Audit of Master in Mathematics (MQA/PA 9121), Universiti Malaysia Terengganu (UMT), Jan. MQA appointments as Panel Assessor for Provisional Accreditation of Master of Science (Industrial Computing), Universiti Malaysia Pahang (UMP), March. Universiti Malaya (UM) appointments as Panel Assessor for the Re-accreditation of the Bachelor of Science in Statistics, Faculty of Science, UM, March.
- **2018:** Chair of Compliance Audit - 'Deemed Accredited' B.Sc. with Honours (Industrial Statistics), Universiti Utara Malaysia (UUM), Nov. MQA appointments as Panel Assessor for the Compliance Audit of 'Deemed Accredited' Bachelor of Science with Honours (Decision Science) Programme, Nov. MQA appointments as Panel Assessor for Final Accreditation of Bachelor of Science (Actuarial Science), Universiti Sains Islam Malaysia (USIM), Nov. MQA appointments as Panel Assessor for Final Accreditation of Bachelor of Science (Mathematics) with Education, Universiti Pendidikan Sultan Idris (UPSI), Oct.

- **2019:** Chair for the New Fast-Track Postgraduate Programme Audit (MQA/FA 10910), Universiti Sultan Zainal Abidin (UniSZA), Sept. Assessment Panel for the Compliance Audit of Full Accreditation Requirements for Postgraduate Programmes, Universiti Malaysia Perlis (UniMAP), Oct. MQA appointments as Panel Assessor for Final Accreditation of Bachelor of Science (Mathematics with Computer Graphics) and Bachelor of Science (Mathematics with Economics), Nov.
- **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.

(b) Institutional Academic Quality Assurance and Accreditation Audits

- **2022:** Compliance Audit for Self-Accreditation at the University of Nottingham Malaysia by the Malaysian Qualifications Agency (MQA).
- **2023:** Compliance Audit for Self-Accreditation at Universiti Teknologi Petronas by the Malaysian Qualifications Agency (MQA).
- **2024:** Status Certificate Audit for Self-Accreditation at UCSI University by the Malaysian Qualifications Agency (MQA).

(c) Institutional Research Assessment Roles

- **2015:** Assessor Panel for Star Rating Assessment of MyRA: USM, UTHM, USIM, UTeM, UMP.
- **2016:** Assessor Panel for Centralised MyRA Year 2015 achievements.
- **2017:** Assessor Panel for Triennial Site Assessment for MyRA achievements Year 2013 & 2015: UKM, USM, UM. MyRA Year 2016 Site Assessment: UKM, UPM, UM, USM. MyRA Year 2016 Document Assessment for all public universities and UTP, UNITEN, and MMU.
- **2018:** MyRA Year 2017 Site Assessment: UPM, UKM, UM, USM.
- **2019:** MyRA Year 2018 Achievement Assessment: UTP, USM, UM, UKM. MyRA 2018 IPTS.
- **2023:** Site Assessment for MyRA Year 2022: UM.

(d) Consulting Expert

1. Tenaga Nasional Berhad.
 - Customer - Public Preference of Energy Conservation Technology (1992 - 1994).
2. Economic Planning Unit (EPU).
 - Kajian Mengenai Permintaan dan Penawaran Gunatenaga serta Keperluan Latihan dalam Industri Pembinaan di Semenanjung Malaysia sehingga Tahun 2005 (1996).
3. Ministry of Science, Technology and Innovation (MOSTI).
 - Pemetaan Isodos Sinaran Mengion Semenanjung Malaysia (Isotopes Mapping Ionizing for Peninsular Malaysia (2012).
4. Ministry of Natural Resources and Environment.
 - Enhancement of Environmental Performance Index (EPI) for Malaysia (2014).
5. Universiti Putra Malaysia (UPM)
 - The Reassessment Session of the Institute for Mathematical Research (INSPERM) (2020).
6. Institute for Youth Research Malaysia, Ministry of Youth and Sports.
 - The Malaysia Youth Index (MYI) 2023. The Study on the Malaysian Youth Mental Health Index.
 - Facilitator for the Technical Working Group (TWG) Workshop #MYIndexBelia 7.0.
 - Development of the Malaysian Youth Indeks (IBM) Analytical Model for the Year 2024.

(e) Community and Educational Engagement

- **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 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 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) and Committee of Parent-Teacher Association (PIBG) at Secondary School of Bandar Putra (SKMBP), Kulai, Johor.
- **2015/2016:** Committee of Parent-Teacher Association (PIBG) at Secondary School of Bandar Putra (SKMBP), Kulai, Johor.

Links

- ResearchGate
- Scopus Author ID: 56943557500
- Web of Science ResearcherID: C-9063-2011
- ORCID ID: orcid.org/0000-0002-3700-2363