

CURRICULUM VITAE



Associate Professor Ir. Dr. Raja Mohd Kamil Bin Raja Ahmad

Department of Electrical and Electronic Engineering

Faculty of Engineering

Universiti Putra Malaysia

43400 UPM, Serdang, Selangor

T: +603-9769 4360

E: kamil@upm.edu.my

Scopus ID: 26654785100

Orcid ID: 0000-0001-6307-8655

Linkedin: linkedin.com/in/raja-kamil-bb601353

Education

1. PhD. Control Engineering, 2006, University of Sheffield. UK
2. BEng. Electrical Engineering, 1999, University of Southampton. UK

Areas of Interest

1. Control Engineering, Biomedical Engineering, Signal Processing, Pattern Recognition

Professional Qualification/Membership/Affiliation

1. Executive Committee, IEEE CSS Malaysia Section 2009-2020
2. Member, Institute of Electrical and Electronics Engineers (IEEE)
3. Professional Engineer, Board of Engineers Malaysia (BEM)

Appointments

Position	Duration
1. Coordinator, Research Committee, Department of Electrical and Electronic Engineering UPM	Feb 2020 to date
2. Associate Professor, Department of Electrical and Electronic Engineering, UPM	June 2016 to date
3. Senior Lecturer, Department of Electrical and Electronic Engineering, UPM	October 2008 to May 2016
4. Industrial Attachment, Vitrox Corporation Bhd. and Universiti Teknologi Petronas.	January 2011 to December 2011
5. Postdoctoral Researcher, Intelligent Signal and Imaging Research Centre, Universiti Teknologi Petronas	January 2010 to December 2010
6. Lecturer, Department of Electrical and Electronic Engineering, UPM	October 2006 to September 2008

Publications

Journals (30 selected journals)

1. Abdallah Alsayed, Hayder Sadir, **Raja Kamil**, Hasan Sari (2020). Prediction of Epidemic Peak and Infected Cases for COVID-19 Disease in Malaysia 2020. *International Journal of Environmental Research and Public Health*, 17(11), 4076. (ISI)
2. Abdallah Alsayed, **Raja Kamil**, Hafiz Ramli and Azizan As'array (2020). An Automated Data Acquisition System for Pinch Grip Assessment based on Fugl-Meyer Protocol: A Feasibility Study. *Journal of Applied Sciences*, 10(10), pp1-18. (ISI)
3. Ali Hussein Sabry, W. Z. Wan Hasan, Mohd Nazim Mohtar, **Raja Mohd Kamil Raja Ahmad** and Hafiz Rashidi Ramli S. P. Ang and Zainidi Haji Abdul Hamid (2020). Image Processing Based Foot Plantar Pressure Distribution Analysis and Modeling. *Indonesian Journal of Electrical Engineering and Computer Science*, 17(2), pp. 594-605. (Scopus)
4. Sai Siong Jun, Hafiz Rashidi Ramli, Azura Che Soh, Nor Ain Kamsani, **Raja Kamil Raja Ahmad**, Siti Anom Ahman and Asnor Juraiza Ishak (2020). Development of Fall Detection and Activity Recognition Using Threshold based Method and Neural Network. *Indonesian Journal of Electrical Engineering and Computer Science*, 17(3), pp. 1338-1347. (Scopus)

5. Jong Heng Yapp, **Raja Mohd Kamil Raja Ahmad**, Rozi Mahmud, Norhafizah Mohtarrudin, Loqman Mohamad Yusof, Ezamin Abdul Rahim, Siti Anom Ahmad and Md Zuki Abu Bakar (2019). Determining Weigh-Bearing Tissue Condition Using Peak Reactive Hyperemia Response Trend and Ultrasonographic Features: Implication for Pressure Ulcer Prevention. *Wound Repair and Regeneration*, 27(3), pp. 225-234. (ISI)
6. Abdallah Alsayed, **Raja Kamil**, Hafiz Rashidi Ramli and Azizan As'array (2019). Design and Calibration of Pinch Force Measurement Using Strain Gauge for Post-Stroke Patients. *International Journal of Integrated Engineering*, 11(4), pp. 40-50. (Scopus)
7. Abdulhadi Abdulsalam Abulifa, Azura Che Soh, Mohd Khair Hassan, Raja Mohd Kamil Raja Ahmad, Mohd Amran Mohd Radzi (2019). Energy Management System in Battery Electric Vehicle Based on Fuzzy Logic Control to Optimize the Energy Consumption in HVAC System. *International Journal of Integrated Engineering*, 11(4), pp. 11-20. (Scopus)
8. T. A. Z. Rahman, A. As'array, N. A. Abdul Jalil and **R. Kamil** (2019). Dynamic Modelling of a Flexible Beam Structure Using Feedforward Neural Networks for Active Vibration Control. *International Journal of Automotive and Mechanical Engineering*, 16(1), pp. 6263-6280. (Scopus)
9. Ali Hussein Sabry, Wan Zuha Wan Hasan, Mohd Nazim Mohtar, **Raja Mohd Kamil Raja Ahmad** and Hafiz Rashidi Harun (2018). Plantar Pressure Repeatability Data Analysis for Healthy Adult Based on EMED System. *Malaysian Journal of Fundamental and Applied Sciences*, 14(1), pp. 96-101.
10. Radik Srazhidinov, **Raja Kamil** and Samsul Bahari Mohd Noor (2017). NLFXLMS and THF-NLFXLMS Algorithms for Wiener-Hammerstein Nonlinear Active Noise Control. *Asian Journal of Control*, 19: 1791-1801. doi:10.1002/asjc.1503 (ISI).
11. Jong-Heng Yapp, **Raja Kamil**, Rozi M, Norhafizah Mohtaruddin, Loqman M. Y., Ezamin A. R., Siti Anom Ahmad and Zuki Abu Bakar (2017). Trends of Reactive Hyperemia Responses to Repetitive Loading on Skin Tissue of Rats – Implication for Pressure Ulcer Prevention, *Journal of Tissue Viability*, 26(3), pp. 196-201 (ISI).
12. A. H. M. Findi, M. H. Marhaban, **R. Kamil** and M. K. Hassan (2017). Collision Prediction based Q-Learning for Mobile Robot Navigation in Unknown Dynamic Environment, *Journal of Computational and Theoretical Nanoscience*, 14(6), pp. 2873-2885. (Scopus)
13. Ahmed h. M. Findi, Mohamad H. Marhaban, **Raja Kamil**, Mohd Khair Hassan (2017), Genetic Network Programming-Reinforcement Learning Based Safe and Smooth Mobile Robot Navigation in Unknown Dynamic Environment, *Journal of Theoretical and Applied Information Technology*, 95(11) pp. 2339-2351. (Scopus)
14. A. H. M. Findi, M. H. Marhaban, **R. Kamil** and M. K. Hassan (2017). Collision Prediction based Genetic Network Programming-Reinforcement Learning for Mobile Robot Navigation in Unknown Dynamic Environments, *Journal of Electrical Engineering and Technology*, 12(2), pp. 890-903. (Scopus)
15. Sepehr Ghasemi, **Raja Kamil**, and Mohammad Hamiruce Marhaban (2016). Nonlinear THF-NLFXLMS Algorithm for Active Noise Control with Loudspeaker Nonlinearity, *Asian Journal of Control*, 18(3), pp. 1-12 (ISI).
16. Jing Jing Chang, S. Syafiie, **Raja Kamil** and Thiam Aun Lim (2015). Automation of anaesthesia: a review on multivariable control, *Journal of Clinical Monitoring and Computing*, 29(2), pp.231-239 (ISI).
17. Ahmad. Fadzil Mohd Hani, Dileep Kumar, Aamir Saeed Malik, **Raja Mohd Kamil Raja Ahmad**, Ruslan Razak and Azman Kiflie (2015). Non-Invasive in vivo assessment of osteoarthritic articular cartilage: A Review on MRI investigations, *Rheumatology International*, 35(1), pp. 1-18 (ISI).
18. Mouayad Sahib and **Raja Kamil** (2014). Loudspeaker Nonlinearity Compensation with Inverse Tangent Hyperbolic Function-Based Predistorter for Active Noise Control, *Transaction of the Institute of Measurement and Control*, doi: 10.1177/0142331214527602, pp. 1-12. (ISI).
19. Jing Jing Chang, S. Syafiie, **Raja Kamil** and Thiam Aun Lim (2014). Automation of anaesthesia: a review on multivariable control, *Journal of Clinical Monitoring and Computing*, doi: 10.1007/s10877-014-9590-6, pp. 1-9. (ISI).
20. Mouayad A. Sahib, **Raja Kamil**, Mohammad H. Marhaban (2012). Nonlinear FXLMS Algorithm for Active Noise Control with Saturation Nonlinearity, *IEEEJ Trans. EIS*. 7(6), pp. 598-606 (ISI).
21. L. W. Tan, **R. K. Raja Ahmad**, M. N. Ibrahim, F.S Taip (2012). Relationship of Lambda and Overshoot of Step Response for a Direct Synthesis PI Controller, *Brazilian Journal of Chemical Engineering*, 29(3), pp. 537-547. (ISI).
22. B. N Hussein, N. Sulaiman, **R. K. Raja Ahmad**, M. H. Marhaban (2011). Design of PSO-based fuzzy logic controller for single axis magnetic levitation system, *IEEEJ Trans. EEE.*, 6(1), pp. 577-584 (ISI).

23. Mansor, H., Noor S. B. M., **Ahmad, R. K. R.** and Taip, F. S. (2011). Online quantitative feedback theory (QFT) – based self-tuning controller for grain drying process. *Scientific Research and Essays*, 6(31), pp. 6520-6534
24. Mouayad Sahib and **Raja Kamil Raja Ahmad** (2011). Comparison of performance and computational complexity of nonlinear active noise control algorithms, *ISRN Mechanical Engineering*, vol.2011, Article ID 925085, doi:10.5402/2011/925085.
25. **Raja Ahmad, R. K.** and Tokhi, M. O. (2010) Analysis of geometry related constraints of minimum effort active noise control system, *Journal of Low Frequency Noise, Vibration and Active Control*, 2010. 29(2), 111-128 (ISI).
26. H. Mansor, S B. Mohd. Noor, **R. K. Raja Ahmad**, F. S. Taip and O. F. Lutfy (2010). Intelligent control of grain drying process using fuzzy logic controller, *Journal of Food, Agriculture & Environment*, 2010, Vol.8(2), 145-149.
27. H. Mansor, S B. Mohd. Noor, **R. K. Raja Ahmad**, F. S. Taip and O. F. Lutfy (2010). Design of QFT Controller for a Bench-top Helicopter, Special issue on Active Control of Vehicle Systems, *International Journal of Simulation: Systems, Science, and Technology*, 11(5) pp. 8-16.
28. **Raja Ahmad, R. K.** and Tokhi, M. O., Design of self-tuning minimum effort active noise control with feedback inclusion architecture, *Journal of Low Frequency Noise, Vibration and Active Control*, 2009. 28(3), 205-215. (ISI).
29. Samira Mohamady, **R. K. Raja Ahmad**, Allahyar Montazeri, Rizal Zahari and Nawal Aswan Abdul Jalil (2009). Modelling and Eigenfrequency Analysis of Sound-Structure Interaction in a Rectangular Enclosure with Finite Element Modelling, *Journal of Advances in Acoustics and Vibration*, vol. 2009, Article ID 371297, 2009, doi:10.1155/2009/371297.
30. **Raja Ahmad, R. K.** and Tokhi, M. O., (2008) Theoretical development of minimum effort active noise control with feedback inclusion architecture, *Journal of Low Frequency Noise, Vibration and Active Control*, 27(1), pp. 75-81. (ISI).

Conference Proceedings (30 recent Conference Proceedings)

1. R Musab, A. As'Arry, K. A. M. Rezali, **R. M. K. Raja Ahmad** and M. Z. Md Zain, "Tremor Quantification and its Measurements Using Shimmer," 2019 Journal of Physics: Conference Series, Vol 1262, 1st Colloquium on Noise, Vibration and Comfort.
2. T. A. Z. Rahman, K. A. M. Rezali, N. A. A. Jalil, A. Az'Arry and **R. Kamil**, "Training Feedforward Neural Networks for Structural Health Monitoring of an Aircraft Structure," 2019 Journal of Physics: Conference Series, Vol 1262, 1st Colloquium on Noise, Vibration and Comfort.
3. S. Ramli, **R. Kamil**, S. A. Ahmad, R. Mahmud and N. Mohtarrudin, "Trends of Skin Blood Flow Response Signals for Early Pressure Ulcer Evaluation," 2018 *IEEE-EMBS Conference on Biomedical Engineering and Sciences (IECBES)*, Sarawak, Malaysia, 2018, pp. 245-250. doi: 10.1109/IECBES.2018.8626632
4. A. H. Sabry *et al.*, "Foot Plantar Pressure Distribution Modeling Based On Image Processing," 2018 *IEEE 5th International Conference on Smart Instrumentation, Measurement and Application (ICSIMA)*, Songkla, Thailand, 2018, pp. 1-4. doi: 10.1109/ICSIMA.2018.8688776
5. A. A. Abulifa, **R. K. R. Ahmad**, A. C. Soh, M. A. M. Radzi and M. K. Hassan, "Modelling and simulation of battery electric vehicle by using MATLAB-Simulink," 2017 *IEEE 15th Student Conference on Research and Development (SCOReD)*, Putrajaya, 2017, pp. 383-387. doi: 10.1109/SCOReD.2017.8305360.
6. T. A. Z. Rahman, N. A. A. Jalil, A. As'Arry and **R. K. Raja Ahmad**. "Chaos-enhanced Stochastic Fractal Search algorithm for Global Optimization with Application to Fault Diagnosis" IOP Conference Series: Materials Science and Engineering, 201(1), 012060, 2017.
7. T. A. Z. Rahman, A. As'Arry, N. A. A. Jalil, and **R. M. K. R. Ahmad**. "Chaotic Fractal Search Algorithm for Global Optimization with Application to Control Design", IEEE Symposium on Computer Applications and Industrial Electronics (ISCAIE 2017), 8074960, pp. 111-116, 2017.
8. Radik Srazhidinov and **Raja Kamil**. "Performance Comparison of THF-NLFXLMS and VFXLMS Algorithms for Hammerstein NANC", Proceeding of 2016 IEEE Conference on Systems, Process and Control (ICSPC 2016), Melaka, Malaysia, pp. 76-79.
9. Radik Srazhidinov and **Raja Kamil**. "Performance comparison of LFXLMS, MOVFXLMS and THF-NLFXLMS algorithms for Hammerstein NANC", Proceeding of 2016 International Conference on Instrumentation, Control and Automation (ICA), Institut Teknologi Bandung, Bandung, Indonesia, August 29-31, 2016.
10. Dhiadeen M. Salih, S. B. Mohd Noor, M. H. Marhaban and **R. M. K. Raja Ahmad** (2013). Wavelet Network based Online Sequential Extreme Learning Machine for Dynamic System Modeling,

- Proceedings of Asian Control Conference (ASCC 2013)*, Istanbul, Turkey, 23-26 June 2013, pp.1-5.
11. Ahmad Fadzil Mohd Hani, Aamir Saeed Malik, **Raja Kamil** and Chung-Mun Thong. "A review of SMD-PCB defects and detection algorithms", *Proceeding of 2011 International Conference on Machine Vision (ICMV 2011)*, Singapore 9-10 December 2011, pp. 8350-81.
 12. Ahmad Fadzil Mohd Hani, Aamir Saeed Malik, Dileep Kumar, **Raja Kamil**, Ruslan Razak and Azman Kiflie (2011). Features and Modalities for Assessing Early Knee Osteoarthritis, *Proceedings of the 2011 International Conference on Electrical Engineering and Informatics (ICEEI)*, Bandung, Indonesia, pp. B4-1, 17-19 July 2011.
 13. Moauyad A. Sahib and **Raja Kamil** (2011). Multiple Channel Active Noise Internal Model Control with Saturation Nonlinearities, *Proceedings of 2011 International Conference on Computational Intelligence, Modelling and Simulation (CIMSIm 2011)*, Langkawi, Malaysia, pp.237-241, 20-22 September 2011.
 14. **R. K. Raja Ahmad**, Ai-Ping Yap, Pan-Qian Lin and T. Kamarul (2010). Linear and Nonlinear Modeling of Adult Malaysian Population's hand Grip Strength, *Proceedings of the 4th Asia International Conference on Mathematical/Analytical Modelling and Computer Simulation (AMS 2010)*, Kota Kinabalu, Sabah, Malaysia, pp.258-260, May 2010.
 15. Haryati Jaafar, **Raja Kamil Raja Ahmad**, Abdul Rahman Ramli and Mazin T. Muhsin (2009). A review of Omnidirectional Imaging System with Hyperbolic Mirror, *Proceedings of the International Conference on Software Engineering & Computer Systems (ICSECS 09)*, Kuantan, Pahang, Malaysia, pp.257-262 October 2009.
 16. Hasmah Mansor, Samsul Bahari Mohd Noor, **Raja Mohd Kamil Raja Ahmad**, Farah Saleena Taip, Omar Farouq Lutfi (2009). Fuzzy Control of Grain Drying Process, *Proceedings of the 11th International Conference on Computer Modelling and Simulation (UKSim 2009)*, Cambridge, England, 25-27 March 2009.
 17. H. Mansor, A. H. Amzaeri, S. B. Mohd Noor, **R. K. Raja Ahmad**, F. S. Taip (2009). Design of QFT controller for a bench-top helicopter, *Proceedings of the 2nd International Conference on Control, Instrumentation and Mechatronic Engineering (CIM09)*, Malacca, Malaysia, June 2-3 2009.
 18. Mazin T. Muhssin, **Raja Kamil Raja Ahmad**, Mohammad H. Marhaban, Payam S. Bafti and Haryati Jaafar (2008). Development of the propagation paths and selection of modes for active noise control using state-space formulation, *Proceedings of 2008 Student Conference on Research and Development (SCOReD 2008)*, 26-27 Nov 2008, Johor, Malaysia, pp.218-1 to 218-4.
 19. **Raja Ahmad, R. K.** and Tokhi, M. O. (2007). "Performance of Minimum Effort Active Noise Control System for Periodic and Broadband Noise Cancellation", *International Conference on Control, Instrumentation and Mechatronics Engineering (CIM'07)*, Johor Bahru, Malaysia, May 28-29, 2007, pp.364-369.
 20. **Ahmad, R. K. R.** and Tokhi, M. O. (2004). "Optimal prediction using reformulated minimum variance predictor and time series modelling", *Inter-Noise 2004, Prague*, pp. 374-381.

Books (If any)

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Chapter in Books (If any)

1. Jing Jing Chang, S. Syafie, **Raja Kamil Raja Ahmad** and Thiam Aun Lim (2014). ANFIS Based Model for Bispectral Index Prediction, T. Herawan et al. (eds.), *Recent Advances on Soft Computing and Data Mining SCDM 2014, Advances in Intelligent Systems and Computing* 287, Springer, ISBN 978-3-319-07691-1, pp. 133-142.

Patents

1. US9704470B2 & PI 2013701854 (M) - Method and Apparatus for Nonlinear Compensation in an Active Noise Control System.
2. PI2011003693 (M) & WO 2013022333A3 - Methodology and Apparatus for Early In Vivo Detection and Grading of Knee Osteoarthritis
3. PI 20055220 (M) – Hand Grip Strength Measuring Device

Copyright

1. Automated Plant Recognition System

Research Grants

No	Project Title	Amount (RM)	Year	Source of Fund
1.	Investigation On the Relationship Between Skin Blood Flow Response Signal Features and Tissue Condition For Pressure Ulcer Prevention	50,000	2018-2020	Geran Putra
2.	Predictive Optimization For Energy Management System In a Battery Electric Vehicle Using Hybrid Artificial Intelligence	47,900	2018-2020	Geran Putra
3.	Development Of Light Weight Metamaterial Based Acoustic Panel For Reduction Of Low Frequency Vehicle Noise	50,000	2018-2020	Geran Putra
4.	Smart Drive-Through Takeaway Utilizing Wirelessly Powered Passive Tag Automatic Identification for Vehicle Security and Services with Energy Harvesting Capability	132,500	2018-2019	Private Grant
5.	Resource Optimization and Safety Management for One Way EV Car Network Sharing System in UPM Campus Testbed	54,000	2017-2019	UPM Matching Grant
6.	MyComs – Electric Car Project	150,000	2016-2018	Private Grant
7.	Objective Hand Strength Evaluation Based on Controllable-Force Algorithm for Fugl Meyer Rehabilitation Assessment	19,650	2017-2019	Geran Putra
8.	Classification of Lung Cell Morphology Subjected to Natural Radiation	20,000	2016-2018	Geran Putra
9.	Formulation of Active Tremor Control for Person with Hand Tremor using Fuzzy Logic Controller	77,500	2015-2018	FRGS
10.	Portable Electronic Active Noise Canceller for Traffic Noise Cancellation	95,000	2015-2018	Innohub
11.	Lightning Surges on Distribution Line and Its Effects On Transformer Design and Protection	146,700	2015-2017	Geran Putra
12.	Development of Nonlinear Active Noise Control System for Traffic Noise Reduction	184,480	2014-2015	Science Fund
13.	An Investigation on the Evaluation of Tissue Damage using Skin Blood Flow Response for Pressure Ulcer Prevention	157,800	2014-2015	Geran Putra
14.	Development of a clinical decision support system for non-invasive early detection of in-vivo knee osteoarthritis using quantitative magnetic resonance imaging (MRI)	240,400	2012-2014	Science Fund
15.	Safe, reliable and efficient controller design for general anesthesia based on multivariable characteristic gathering from clinical data	50,000	2012-2014	ERGS
16.	Traffic Noise Reduction Inside Residential Housing Unit using Active Noise Control System	52,000	2010-2012	Research University Grant

Awards/Recognition(Current)

Num	Name of awards	Title	Award Authority	Award Type	Year
1.	1 st Runner Up Mathwork Track	Fall Detection System	Innovate Malaysia	National	2015
2.	Finalist NI Track	Portable Active Noise Control System	Innovate Malaysia	National	2015

3.	Finalist NI Track & Best Thesis Award	Tissue Evaluation using LDF system	Innovate Malaysia	National	2014
4.	Gold Medal	An Interactive Software for Active Noise Control Analysis	Pertandingan Rekacipta, Penerbitan dan Inovasi (PRPI UPM)	University	2008
5.	Silver Medal	Hyperspectral Urban Feature Detection System	Pertandingan Rekacipta, Penerbitan dan Inovasi (PRPI UPM)	University	2010

Professional Services/Consultation

No	Year	Title	Authority	Amount
1.	2013	Embedded Electronic Boards for DISEGANNI Storage Unit	Nagasteel Equipment Sdn Bhd	RM21,175

Student Supervision

PhD (Main Supervisor)

No.	Name	Title	Status
1.	Mouayad Abdul Redha Sahib (GS23847)	Nonlinear Adaptive Control for an Active Noise Control System	Graduated
2.	Yapp Jong Heng (GS35077)	Early Detection of Pressure Ulcer using Noninvasive Technique	Graduated
3.	Abdallah Al Sayed	Objective Assessment of Hand Function for Post Stroke Patients	Awaiting Viva
4.	Shahrul Nizam Abdul Rashid	Development of Microphone Calibration Technique in an Induced Quiet Zone using Active Noise Control Technique	Ongoing
5.	Saliza Ramli	Pressure Ulcer Evaluation using Skin Blood Flow Response Signal Features and Trends	Ongoing

MS with thesis (Main Supervisor)

No.	Name	Title	Status
1.	Payem Shafie Bafti (GS17700)	Stability and Convergence of an Adaptive Active Noise Control System	Graduated
2.	Samira Mohamady (GS18920)	Modelling and Control of Interior Noise in an Enclosure using Local Active Control of Sound	Graduated
3.	Mazin T. Muhssin (GS19655)	Development of Active Noise Control system using state-space formulation	Graduated
4.	Haryati Jaafar (GS18027)	Optimal location of CCTV location using a nonlinear optimization technique	Graduated
5.	Nor Hadzfizah Mohd Radi (GS26215)	Handgrip Strength and Endurance Prediction of Malaysian Young Female: Influences of Demographic and Hand Anthropometric Dimensions	Graduated
6.	Sepher Ghasemi Dehkordi (GS33341)	Development of Nonlinear adaptive Algorithm for Active Noise Control Application	Graduated

No.	Name	Title	Status
7	Radik Srazhidinov	NLFXLMS and THF-NLFXLMLS Algorithms for Wiener-Hammerstein Nonlinear Active Noise Control	Graduated