

CURRICULUM VITAE



Ir. Dr. Raja Mohd Kamil Bin Raja Ahmad
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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, Pattern Recognition

Professional Qualification/Membership/Affiliation

1. Corporate Member, Institution of Engineers Malaysia (IEM)
2. Executive Committee, IEEE CSS Malaysia Section 2009-2018
3. Member, Institute of Electrical and Electronics Engineers (IEEE)
4. Member, Board of Engineers Malaysia (BEM)

Appointments

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

Publications

Journals (30 recent journals)

1. Radik Srazhidinov, **Raja Kamil** and Samsul bahari Mohd Noor (2017). NLFXLMS and THF-NLFXLMLS Algorithms for Wiener-Hammerstein Nonlinear Active Noise Control. *Asian Journal of Control*, doi:10.1002/asjc.1503 (ISI).
2. 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 Hyperamia Responses to Repetitive Loading on Skin Tissue of Rats – Implication for Pressure Ulcer Prevention, *Journal of Tissue Viability*, <http://dx.doi.org/10.1016/j.jtv.2017.03.002>. (ISI).
3. 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.
4. 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.

5. 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.
6. 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).
7. 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).
8. 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).
9. D. M. Salih, S.B. M. Noor, m. H. Marhaban and R. M. Kamil (2015). Wavelet Network: Online Sequential Extreme Learning Machine for Nonlinear Dynamic System Identification, *Advances in Artificial Intelligence*, vol 2015, pp. 5
10. 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).
11. 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).
12. Mouayad A. Sahib, **Raja Kamil**, Mohammad H. Marhaban (2012). Nonlinear FXLMS Algorithm for Active Noise Control with Saturation Nonlinearity, *IEEJ Trans. EIS*. 7(6), pp. 598-606 (ISI).
13. 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).
14. Lee Woun Tan, Mohd. Nordin Ibrahim, **Raja Kamil**, Farah Saleena Taip (2011). Empirical modeling for spray drying process of sticky and non-sticky products, *Procedia Food Science*, vol. 1, pp.690-697.
15. 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, *IEEJ Trans. EEE.*, 6(1), pp. 577-584 (ISI).
16. 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(Scopus)
17. Mansor, H., Mohd Noor, S. B., **Raja Ahmad, R. K.**, & Taip, F. S. (2011). Design procedure of robust QFT-based controller for continuous-flow grain dryer plant. *Advanced Materials Research*, 328-330, 2318-2323 (Scopus).
18. 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. (Scopus)
19. Hussein, B. N., Sulaiman, N., **Raja Ahmad, R. K.**, Marhaban, M. H., Ali, H. I. (2011). H-infinity controller design to control the single axis magnetic levitation system with parametric uncertainty (2011), *Journal of Applied Sciences*, 11(1), 66-75.(Scopus)
20. **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).
21. Misman, M. A., Shafri, H. Z. M, **Ahmad, R. M. K.R.** (2010). Effects of Hyperspectral Data Transformation on Urban Inter-class Separation using a Support Vector Machine, *Journal of Applied Sciences*, 10(19), 2241-2250.(Scopus)
22. 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.(Scopus)
23. 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. (Scopus)
24. **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).

25. 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. (Scopus)
26. Hamid Rahimizadeh, M. H. Marhaban, **R. M. Kamil**, N. B. Ismail, (2009). Color Image Segmentation based on Bayesian Theorem and Kernel Density Function, *European Journal of Scientific Research*, Vol. 26, No 3, pp 430-436. (Scopus)
27. A. R. Mohd Azizi, M. Mohammad Hamiruce and **R. A. Raja Kamil** (2009). Dead Reckoning of a Skid Steer Mobile Robot using Fuzzy, *European Journal of Scientific Research*, Vol. 30, No 2, pp 305-314. (Scopus)
28. **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. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. **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.
10. 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.
11. 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.
12. 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.
13. 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.

14. **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.
15. **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.	Objective Hand Strength Evaluation Based on Controllable-Force Algorithm for Fugl Meyer Rehabilitation Assessment	19,650	2017-2019	Geran Putra
3.	Classification of Lung Cell Morphology Subjected to Natural Radiation	20,000	2016-2018	Geran Putra
4.	Portable Electronic Active Noise Canceller for Traffic Noise Cancellation	95,000	2015-2018	Innohub
5.	Lightning Surges on Distribution Line and Its Effects On Transformer Design and Protection	146,700	2015-2017	Geran Putra
6.	Development of Nonlinear Active Noise Control System for Traffic Noise Reduction	184,480	2014-2015	Science Fund
7.	An Investigation on the Evaluation of Tissue Damage using Skin Blood Flow Response for Pressure Ulcer Prevention	157,800	2014-2015	Geran Putra
8.	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
9.	Safe, reliable and efficient controller design for general anesthesia based on multivariable characteristic gathering from clinical data	50,000	2012-2014	ERGS
10.	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	Ongoing
3.	Abdallah Al Sayed	Objective Assessment of Hand Function for Post Stroke Patients	Ongoing
4.	Qais Ahmed Habash	Classification of Lung Cells Exposed to Natural Radiation Using Morphological Features	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



No.	Name	Title	Status
3.	Mazin T. Muhssin (GS19655)	Development of Active Noise Control system using state-space formulation	Graduated
4.	HaryatiJaafar (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

