

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

Curriculum Vitae



I. Personal Particulars

Name: Mohd Shakir Bin Md Saat

Address:
Faculty of Electronics and Computer Engineering,
Universiti Teknikal Malaysia Melaka,
Hang Tuah Jaya, 76100, Durian Tunggal,
Melaka, Malaysia

Current Position: Associate Professor

Gred position: DS 54

Contact:

Email : shakir@utem.edu.my

Mobile: +6011-28743404

Permanent/Contract : Permanent

Date of Birth : 31 March 1981

Date of CV Updated : January 2019

II. Academic Career Experience

Year	Appointment
2002-2003	Lecturer – Universiti Teknologi Mara
2004 - 2005	Tutor - Universiti Teknikal Malaysia Melaka (UTeM)
2005 -2006	Study Leave - Master Degree (UTM)
2006	Lecturer – Universiti Teknikal Malaysia Melaka (UTeM)
2009 -2013	Study Leave – PhD (The University of Auckland, NZ)
2013 – present	Senior Lecturer – Universiti Teknikal Malaysia Melaka (UTeM)
2014 – Nov 2015	Head of Department – Industrial Electronics Department
Nov 2015 – Oct 17	Deputy Dean (Academic)
December 2016 - Present	Associate Professor – Universiti Teknikal Malaysia Melaka
Sept 2017 – Feb 18	Industrial Attachment: CEO@Faculty Fellows 2.0 (A Program by Ministry of Higher Education)
March 2018 – Oct 2018	Deputy Dean (Academic)
1 Nov 2018 - Present	Dean of Faculty of Electronic and Computer Engineering

III. A. Academic and Professional Qualifications

Tahun Year	Kelulusan Degree	Pengkhususan Discipline	Universiti University
2002	Bachelor Degree	Medical Electronics	Universiti Teknologi Malaysia
2006	Master Degree	Mechatronics and Automatic Control	Universiti Teknologi Malaysia
2013	PhD	Electrical and Computer Engineering (Nonlinear Control System Theory)	The University of Auckland, New Zealand.

B. Title of Postgraduate Thesis Written

MEng Thesis Title:

A Cart-ball System: Comparison Between Fuzzy Logic Controller and State-Feedback Controller

PhD Thesis Title:

Controller Synthesis for Polynomial Discrete-time Systems

IV. Main Areas of Research Interest

1. Controller and observer synthesis for polynomial systems and nonlinear systems.
2. Wireless Power Transfer Technologies: Capacitive and Acoustic Power Transfer

V. Teaching Experience

1. Diploma

- a. ECADD
- b. Control Principles
- c. Final Year Project

2. Bachelor Degree

- a. Process Instrumentation (Final Year)
- b. Power Electronics and Drives (Final Year)
- c. Control Principles (Second Year)
- d. Engineering Workshop (Second Year)
- e. Fundamental Electronics (Second Year)
- f. Electronic Engineering Laboratory
- g. Integrated Design Project (Third Year)
- h. Control Principles and Systems (Third Year)
- i. Final Year Project

3. Master Degree

- a. Advanced Power Electronics
- b. Digital Control
- c. Artificial Intelligence

VI. Completed/On-Going Research Project

Principal Researcher:

1. Real control of a cart ball systems, Short term grant, Universiti Teknikal Malaysia Melaka, 2007: **(Completed)**
2. Design of wireless power transfer using capacitive based method for self-recharging UAV systems, Short Term Grant (PJP/2013/FKEKK(10A)/S01177), Universiti Teknikal Malaysia Melaka – RM 15,500 – June 2013 to February 2015 **(Completed)**.
3. The development of less human interaction UAV system for precision Agriculture, Short Term Grant (PJP/2013/FKEKK(17C)/S01204), Universiti Teknikal Malaysia Melaka – RM 10,000 – June 2013 to May 2015 **(Completed)**.
4. A novel method of robust H-Infinity controller design for polynomial discrete-time networked control systems using sum of squares approach, RAGS 2013(RAGS/2013/FKEKK/TK02/06/B00035), Ministry of Higher Education Malaysia – RM 60,000 – Oct 2013 to March 2016 **(Completed)**.
5. A new method of nonlinear H-infinity observer design for polynomial discrete-time networked control systems using sum of squares optimization approach, Ministry of Education (FRGS/2/2014/TK03/FKEKK/03/F00243), Ministry of Higher Education Malaysia – RM63,500 - 1 December 2014 to 30 Nov 2016 **(Completed)**.
6. Development of Wireless Power Transfer Technologies for Medical Implantable Devices Based on the Capacitive

Co-Researcher:

7. Automatic Control Applied for paddy irrigation system, Short term grant, , Universiti Teknikal Malaysia Melaka , 2008: **completed**
8. Development of an Intelligent Quadrotor System for Industrial Plant Aerial Inspection in Malaysia, Short Term Grant (PJP/2013/FKEKK(31B)/S01221), , Universiti Teknikal Malaysia Melaka – RM 12,300 – Sept 2013 to March 2015 **(Completed)**
9. Development of a testbed for wireless underground sensor networks using radio frequency(RF) system, Short Term Grant 2013(PJP/2013/FKEKK(33B)/S01232), , Universiti Teknikal Malaysia Melaka – RM 9,000 - Sept 2013 to March 2015 **(Completed)**
10. Design of PIC-based low voltage DC to DC converter for photovoltaic application, Short Term Grant 2013(PJP/2013/FKEKK(35A)/S01237), , Universiti Teknikal Malaysia Melaka - RM 16, 500 - Sept 2013 to March 2015 **(Completed)**
11. The Development of efficient wireless power transfer using magnetic induction for implantable glucose monitoring system, Short Term Grant (PJP/2013/FKEKK(40C)/S01254), , Universiti Teknikal Malaysia Melaka – RM 10,000 - Sept 2013 to March 2015 **(Completed)**
12. A Novel design of matching circuit with high-Q resonator to improve efficiency of RF-DC conversion for RF energy harvesting, Ministry of Higher Education (RAGS/2013/FKEKK/TK02/02/B00031) – RM 56,000 - Oct 2013 to Sept 2015 **(Completed)**
13. Novel algorithm for blind source separation using multiplicative update and expectation-maximization of nonnegative matrix factorization, Ministry of Higher Education (RAGS/2013/FKEKK/TK02/04//B00033) – RM 50,000 - Oct 2013 to Sept 2015 **(Completed)**
14. Design of effective Capacitively coupled power transfer system for contactless charging, Short Term Grant, Universiti Teknikal Malaysia Melaka – RM 16,500 **(Completed)**
15. Design and development of ankle-foot rehabilitation exercise (AFRE) system using intelligent pneumatic actuator (IPA), Ministry of Higher Education (RAGS/1/2014/TK03/FKEKK/B00063 – RM53,900 – 1 December 2014 to 30 Nov 2016 **(Completed)**
16. A new approach of designing a self-tunable power converter for acoustic power transfer system, Ministry of Higher Education (RAGS/1/2014/TK03/FKEKK/B00062) – RM57,000 - 1 December 2014 to 30 Nov 2016 **(Completed)**
17. Modelling and characterization of pre-stressed piezoelectric-integrated enhanced structure for its electrical output optimization, Ministry of Higher Education (FRGS/2/2014/SG02/FKEKK/02/F00244– RM79,000 - 1 December 2014 to 30 Nov 2016 **(Completed)**
18. VISUAL SIMULTANEOUSLY LOCALIZATION AND MAPPING (VSLAM) FOR UAV IN GPS DENIED ENVIRONMENTS, Ministry of Higher Education (RAGS/1/2015/TK0/FTK/03/B00111), RM 134 000 **(On Going)**
19. IMPACT OF PV GENERATION ON ACTIVE DISTRIBUTION NETWORK, Universiti Teknikal Malaysia Melaka (PJP/2015/FKE(7C)/S01428), RM 14 000 **(On Going)**
20. A Novel Method of Designing Self-Tuning Capacitive Power Transfer for Rotary Applications, Ministry of Higher Education (FRGS/1/2016/TK04/UTEM/FKEKK-CETRI/F00313), RM114,500 - 1 July 2016 to 30 May 2018 **(On Going)**
21. A NOVEL MULTIPHYSICS TRANSIENT MODELING OF THERMOELECTRIC MODULE (TEM) FOR MALAYSIA'S ROAD PAVEMENT, Ministry of Higher Education (FRGS/1/2017/TK07/FKEKK-CETRI/F00337), RM 120 000, 2017 to 2019 **(On Going)**

VII. List of awards

2014	<ol style="list-style-type: none"> 1. Gold Medal, Research Invention & Innovation Design (RIID – UiTM), : The Design of Capacitive Power Transfer for Powering Low Power Devices” 2. Silver Medal, 5th Exposition on Islamic Innovation 2014 (i-Inova2014), Universiti Sains Islam Malaysia, “The Improved Design of Capacitive Power Transfer for Low Power Devices” 3. 2 Gold Medals, UTeMeX, Universiti Teknikal Malaysia Melaka, “ Capacitive Power Transfer for Aquarium Systems” and “ Acoustic Power Transfer for Low Power Applications”
2015	<ol style="list-style-type: none"> 1. 1 Silver and 1 Bronze, MTE 2015, “ <i>Acoustic Power Transfer for Low Power Applications”</i> and “<i>Capacitive Power Transfer for Low Power Devices”</i>”
2016	<ol style="list-style-type: none"> 1. 2 Gold Medals and 1 Silver, INOTEK 2016, Universiti Teknikal Malaysia Melaka. Won the category champion (Green Technology).

VIII. Bilangan dan no. pendaftaran Harta Intelek yang dihasilkan

IX. List of Major Publication

Refereed Journal:

1. S. K. Nguang, **S. Saat**, and M. Krug, Nonlinear static output feedback controller design for uncertain polynomial systems: An iterative sum of squares approach, *IET in Control and Applications*, Vol. 5, No. 9, pp. 1079-1084, 2011.
2. M. Krug, **S. Saat**, and S. K. Nguang, Robust H-infinity static output feedback controller design for parameter dependent polynomial systems: An Iterative sums of squares Approach, *Journal of the Franklin Institute*, vol. 350, no. 2, pp. 318-330, 2012.
3. **S. Saat**, D. Huang, and S. K. Nguang, Robust state feedback control of uncertain polynomial discrete-time systems: An integral action Approach, *International Journal of Innovative Computing, Information and Control*, vol. 9, No. 3, pp. 1233–1244, 2013.
4. **S. Saat**, S. K. Nguang, D. Huang, and A. H. Hamidon, Nonlinear state feedback control for a class of polynomial nonlinear discrete-time systems with norm-bounded uncertainties: An integrator approach, *Journal of the Franklin Institute*, vol. 350, no. 7 , pp. 1739-1752, 2013.
5. Zahrladha Zakaria, Sam Weng Yik, Mohamad Zoinol Abidin Abd Aziz, Mohamad Ariffin Mutalib, **S. Saat**, A New Class of Dual-mode Substrate Integrated Waveguide (SIW) Filter with Two Metalized Posts, *Australian Journal of Basic and Applied Sciences*, 7(11) Sept 2013, Pages: 170-177.
6. **S. Saat**, S. K. Nguang, C. M. Lin, and Z. Zakaria, Robust Nonlinear H_{∞} State Feedback Control of Polynomial Discrete-Time Systems: An Integrator Approach, *Circuit, Systems and Signal Processing*, vol. 33 (2), pp. 331-346, 2014.
7. **S. Saat**, and S. K. Nguang, Nonlinear H Infinity Output Feedback Control with Integrator for Polynomial Discrete-time Systems, *International Journal of Robust and Nonlinear Control*, 2013. DOI 10.1002/rnc.3130.
8. **S. Saat**, S. K. Nguang, AM Darsono, N Azman, Nonlinear H infinity feedback control with integrator for polynomial discrete-time systems, *Journal of The Franklin Institute*, 2014.
9. N. Jamal, **S. Saat**, and Y. Yusop, A development of class e converter for loosely coupled inductive power transfer system, *WSEAS Transaction on Circuits and Systems*, 2014.
10. A. M. Darsono, N. Z. Haron, **S. Saat**, M. M. Ibrahim, N. A. Manap, Blind audio separation with sparse nonnegative matrix factorization, *Research Journal of Applied Sciences, engineering and Technology*, 2014.
11. N. Jamal, **S. Saat**, Y. Yusmarnita, Thoriq Zaid, M. S. M. Isa, and A. A. M. Isa, Investigations on Capacitor Compensation Topologies Effects of Different Inductive Links Coupling Configurations, *International Journal of Power Electronics and Drive System (IJPEDS)*, Vol.6, No.2, 2015.
12. N. Azman, **S. Saat**, S. K. Nguang, Nonlinear Filter Design for a Class Of Polynomial Discrete-time Systems: An Integrator Approach, *International Journal of Innovative Computing, Information and Control*, vol. 11, No. 3, pp. 1011-1019, 2015.
13. N. Jamal, **S. Saat**, Y. Yusmarnita, Thoriq Zaid, M. S. M. Isa, and A. A. M. Isa, Investigations on Capacitor Compensation Topologies Effects of Different Inductive Links Coupling Configurations, *Journal of Telecommunication Electronics and Computer Engineering (JTEC)*, Vo. 7, no. 1, 2015.
14. **S. Saat**, Y. Yusmarnita, Thoriq Zaid, M. S. M. Isa, and A. A. M. Isa, The Development of Wireless Power Transfer Technologies for Low Power Applications: An Acoustic Based Approach, *Journal of Telecommunication Electronics and Computer Engineering (JTEC)*, Accepted October 2015.
15. **S. Saat**, Y. Yusmarnita, Thoriq Zaid, M. S. M. Isa, and A. A. M. Isa, Developing a Wireless Charging Concept via Loosely Coupled Inductive Power Transfer for Mobile Applications, *Journal of Telecommunication Electronics and Computer Engineering (JTEC)*, Accepted August 2015.
16. Y. Yusop, **S. Saat**, S. H. Husin, S. K. Nguang, Design and Analysis of 1MHz Class-E Power Amplifier, *WSEAS Transaction on Circuits and Systems*, Accepted 2015.
17. T. Zaid, S. Saat, S. H. Husin, A Development of Acoustic Energy Transfer System through Air Medium using Push-Pull Power Converter, *WSEAS Transaction on Circuits and Systems*, 2015.
18. S. H. Husin, **S. Saat**, T. Zaid, S. K. Nguang, Development of Class D Inverter for Implantable Devices through Acoustics Energy Transfer Approach, *International Journal of Power Electronics and Drive System (IJPEDS)*, 2015.
19. T. Zaid, **S. Saat**, S. H. Husin, Implementation of a MIMO system for Wireless Power Transfer Using Acoustic Approach, *International Journal of Power Electronics and Drive System (IJPEDS)*, Accepted 2015.
20. Kamarudin Kh, **S. Saat**, Y. Yusmarnita, Norezmi Jamal, Analysis and Design of wireless Power Transfer: A Capacitive Based Method for Low Power Applications, *WSEAS Transaction on Circuits and Systems*, vol. 4, 2015.
21. M.S.M.Isa, A.N.L.Azmi, A.A.M.Isa, M.S.I.M.Zin, **S. Saat**, Comparative Study of Mutual Coupling on Microstrip Antennas for Wireless Local Area Network (WLAN) Application, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, 7(2), pp. 161-167, 2015.
22. Z.A. Ghani, W.K. Wong, **S. Saat**, Mohd Fauzi Ab Rahman, F.A. Azidin, N.R. Mohamad, Peripheral Interface Controller-Based Photovoltaic dc-dc Boost Converter, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, 7(2), pp. 123-127, 2015.
23. M.S.M.Isa, A.N.L.Azmi, A.A.M.Isa, M.S.I.M.Zin, **S. Saat**, Comparative Study of Mutual Coupling on Microstrip Antennas for Wireless Local Area Network (WLAN) Application, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, 7(2), pp. 161-167, 2015.
24. F. K. A. Rahmat, **S. Saat**, L. H. Zamri, N. M. Husain, N. A. Naim, S. A. Padli, Design of Class-E Rectifier with DC-DC Boost Converter, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, 8(1), 2016.
25. Yusop. Y, **Saat. S**, Husin. H, Hindustan. I, Nguang. S.K, Design and Analysis of 1Mhz class E power amplifier for load and duty cycle variations, *International Journal of Power Electronics and Drive System (IJPEDS)*, 2016.
26. Mustapa. Z, **Saat. S**, Darsono. A. M, Yusof. H.H, Experimental validation of an altitude control for quadcopter, *ARPN Journal of Engineering and Applied Science*, 11(6), 2016.
27. Y. Yusop, **S. Saat**, S. K. Nguang, H. Husin, Z. Ghani, Design of Capacitive power transfer using a class E resonant Inverter, *Journal of Power Electronics (JPE)*, 2016.

28. Chuan. T. C, Darsono. A. M, **S. Saat**, Blind Separation on biomedical field by using nonnegative matrix factorization, *ARPN Journal of Engineering and Applied Science*, 11(13), 2016.
29. Huzaimah Husin, **Shakir Saat**, Yusmarnita Yusop, Azmi Awang Md Isa, Saari Mohd Isa, Majid Darsono, Aziz Yahya, Sing Kiong Nguang, Class E ZVS Inverter Simulation for Series Resonance Mode Ultrasonic Transducer, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, Vol. 9 (4), 2017.
30. MSM Isa, ANL Azmi, AAM Isa, MSIM Zin, **S Saat**, Z Zakaria, IM Ibrahim, M Abu, A Ahmad, Textile Dual Band Circular Ring Patch Antenna under Bending Condition, *International Journal of Power Electronics and Drive Systems*, Vol. 9 (3), pp. 37-43, 2017.
31. FK A Rahman, **Shakir Saat**, Yusmarnita Yusop, Siti Huzaimah Husin, Simulation-based Study of Capacitance Values Affected by Various Dielectric Materials and Distances for Low Power Wireless Power Transfer System, *International Journal of Power Electronics and Drive Systems*, Vol 9 (2-8), pp 61-65, 2017.
32. FKA Rahman, **Shakir Saat**, Yusmarnita Yusop, Huzaimah Husin, Y Aziz, Design and Analysis of Capacitive Power Transfer System with and without the Impedance Matching Circuit , *International Journal of Power Electronics and Drive Systems*, Vol 8 (3), pp. 1260, 2017
33. AM Darsono, CC Toh, **S Saat**, NA Manap, MM Ibrahim, MI Ahmad, β -Divergence Two-Dimensional Nonnegative Matrix Factorization with Sparseness Constraints for Biomedical Signal Separation, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, vol.9(2-6), pp. 7-10, 2017.
34. Norezmi Jamal, **Shakir Saat**, Experimental analysis of self-frequency tracking control strategy for inductive power transfer system, *International Journal of Power Electronics*, vol.8 (4), pp. 288-299, 2017.
35. AM Darsono, CC Toh, **MS Md Saat**, AAM Isa, NA Manap, MM Ibrahim, β -Divergence Nonnegative Matrix Factorization on Biomedical Blind Source Separation, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, Vol. 9 (2), pp 1-4, 2017.
36. S. Gnasegaran, S. Saat, F.K.A Rahman, A. Khafe, The development of wireless power transfer technologies for mobile charging in vehicles using inductive approach, *Journal of Telecommunication, Electronic and Computer Engineering*, vol. 10 (2), pp. 143-149, 2018.
37. N.A.A Nawir, A.A Basari, S. Saat, N.X Yan and S. Hashimoto, A review on piezoelectric energy harvester and its power conditioning circuit, *ARPN Journal of Engineering and Applied Sciences*, vol. 13 (8), pp. 2993-3006, 2018
38. N. H Halim, A.A.M Isa, A.M.A Hamid, I.S.M Isa, S. Saat and M.S.I.M Zin, A pre-defined scheme for optimum energy consumption in wireless sensor network, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, Vol. 10, pp 145-148, 2018.
39. A.S.M Isira, N.X. Yan, M. M Ibrahim, S. Saat, A. M Khafe and A. M Darsono, Sliding mode observer based controller for active steering control, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, Vol. 10, pp 43-48, 2018.
40. M.K Mohsen, M.S.M Isa, A.A.M Isa, M.S.I M Zin and S. Saat, The fundamental of leaky wave antenna, *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, Vol. 10, pp 119-127, 2018.
41. M.K Mohsen, M.S.M Isa, A.A.M Isa, M.S.I.M Zin and S. Saat , Novel design and implementation of MIMO antenna for LTE application, , *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, Vol. 10, pp 119-127, 2018.

Fully Refereed Conference Papers:

1. **S. Saat**, M. Krug, and S. K. Nguang, A Nonlinear static output feedback controller design for polynomial systems: An iterative sums of squares approach, *In proceeding of 4th International Conference on Mechatronics (ICOM), Kuala Lumpur, Malaysia, 2011*, pp. 1 – 6,.
2. **S. Saat**, M. Krug, and S. K. Nguang, Nonlinear H^∞ static output feedback controller design for polynomial systems: An iterative sum of squares approach, *In proceeding of 6th IEEE Conference on Industrial Electronics and Applications (ICIEA), Beijing, China, 2011*, pp. 985 – 990.
3. **S. Saat**, M. Krug, and S. K. Nguang, Nonlinear static output feedback controller design for uncertain polynomial systems: An iterative sum of squares approach, *In proceeding of 6th IEEE Conference on Industrial Electronics and Applications (ICIEA), Beijing, China, 2011*, pp. 979 - 984.
4. **S. Saat**, M. Krug, and S. K. Nguang, Nonlinear robust H^∞ static output feedback controller design for parameter dependent polynomial systems: An iterative sum of squares approach, *In proceeding of Decision and Control and European Control Conference (CDC-ECC), Orlando, Florida, USA, 2011*, pp. 3502 - 3507.
5. **S. Saat**, M. Krug, and S. K. Nguang, State feedback control for a class of polynomial nonlinear discrete-time systems with norm-bounded uncertainties: An integrator approach, *In proceeding of 7th IFAC symposium on Robust Control Design, Allborg, Denmark, 2012*, pp. 319 - 324.
6. **S. Saat**, M. Krug, and S. K. Nguang, Robust disturbance attenuation for a class of polynomial discrete-time systems with norm-bounded uncertainty: An integrator approach, *in Proceeding of Australian Control Conference, Sydney, 2012*, pp. 132.
7. **S. Saat**, M. Krug, and S. K. Nguang, Nonlinear robust state feedback control of uncertain polynomial discrete-time systems: An integral action approach, *in Proceeding of 12th International Conference on Control Automation Robotics & Vision (ICARCV), China, 2012*, pp. 486 – 491.
8. **S. Saat**, M. Krug, and S. K. Nguang, Disturbance attenuation for a class of uncertain polynomial discrete-time systems: An integrator approach, *in Proceeding of 12th International Conference on Control Automation Robotics & Vision (ICARCV), China, 2012*, pp. 787 – 792.
9. **S. Saat**, M. Krug, and S. K. Nguang, Robust H^∞ state feedback control of networked control systems with congestion, *in Proceeding of 12th International Conference on Control Automation Robotics & Vision (ICARCV), China, 2012*, pp. 199 – 204.
10. N. Jamal, **S. Saat**, and A. Z. Shukor, A study on performances of different compensation topologies for loosely coupled inductive power transfer system, *in Proceeding of IEEE International Conference on Control System, Computing and Engineering (ICCSC2013), Penang, Malaysia, 2013*, pp. 173-178.

11. **S. Saat**, N. Azman and S. K. Nguang, Nonlinear filter design with integrator for a class of polynomial discrete-time systems, in Proceeding of *International Symposium on Technology Management and Emerging Technologies (ISMET2014)*, Bandung, Indonesia, 2014, pp. 311-315.
12. N. Jamal, **S. Saat**, N. Azman, and T. Zaid, The experimental analysis of class-E converter circuit for inductive power transfer applications, in Proceeding of *International Symposium on Technology Management and Emerging Technologies (ISMET2014)*, Bandung, Indonesia, 2014, pp. 516-520.
13. T. Zaid, **S. Saat**, Y. Yusop, and N. Jamal, Contactless energy transfer using acoustic approach – A review, in Proceeding of *International Conference on Computer, Communications and Control Technology (I4CT2014)*, Langkawi, Malaysia, 2014.
14. Z. Mustapa, **S. Saat**, S. H. Husin, and N. Abas, Altitude control design for multi-copter UAV, in Proceeding of *International Conference on Computer, Communications and Control Technology (I4CT2014)*, Langkawi, Malaysia, 2014.
15. H. A. Sulaiman, M. A. Othman, **S. Saat**, A. M. Darsono, Vector-based technique for distance computation in narrow phase collision detection, in Proceeding of *International Symposium on Technology Management and Emerging Technologies (ISMET2014)*, Bandung, Indonesia, 2014, pp. 506-510.
16. Kamarudin. K. H, **S. Saat**, Y. Yusop, Ramli. M. S, A. W. Siti Sufiah, Capacitive power transfer system design using a class E resonant converter circuit, in Proceeding of Progress in Applied Mathematics in Science and Engineering, 2015.
17. Huzaimah Husin, **S. Saat**, Yusmarnita Yusop and Sing Kiong Nguang, Development of 416kHz PZT Driver for Acoustics Energy Transfer Applications, In Proceeding of 2016 IEEE International Colloquium on Signal Processing & Its Applications (CSPA2016), 2016.
18. Yusmarnita Yusop, **S. Saat**, Zamre Ghani, Huzaimah Husin and Sing Kiong Nguang, Capacitive Power Transfer with Impedance matching network, In Proceeding of 2016 IEEE International Colloquium on Signal Processing & Its Applications (CSPA2016), 2016.
19. Kamarudin KH, **S. Saat**, Y. Yusmarnita, Analysis and Design of Wireless Power Transfer: A Capacitive Based Method, In Proceeding of 2014 IEEE Symposium on Industrial Electronics and Applications (ISIEA), Kota Kinabalu, Sabah, pp. 163-168, 2014.
20. Mustapa. Z, S. Saat, HUsin. S.H and Zaid. T, Quadcopter physical parameter identification and altitude system analysis, in Proceeding of 2014 IEEE Symposium on Industrial Electronics and Applications, ISIEA 2014; Sutera Harbour Resort Kota Kinabalu, Sabah; Malaysia; 28 September 2014 through 1 October 2014, pp. 130-135, 2017
21. **S. Saat**, Hamzah Asyrani Bin Sulaiman, Mohd Azlishah Bin Othman, Nurul'Atiqah Binti Hamid, Selected Peer-Reviewed Articles from the 2016 International Conference on Social Sciences and Humanities (SOSHUM 2016), Kota Kinabalu, Sabah, Malaysia, 19–21 April 2016.

Book/Book Chapter:

1. **Shakir Saat**, S.K. Nguang and Alireza Nasiri, Analysis and Synthesis of Polynomial Discrete-time Systems: An SOS Approach, Elsevier (Butterworth-Heinemann), 1st Edition, September 2017.

X. International Contribution

Keynote Speaker:

1. The Challenge in Controller Design for Polynomial Discrete-time Systems, International Conference on Differential Equations and Applications, May 15-16 2017, Bharathiar University, Tamil Nadu, India.
2. Controller Synthesis of Polynomial Discrete-time Systems: SOS Approach, International conference on applied mathematics and Informatics, Kongu Engineering College, May 18-19, 2017, Tamil Nadu, India.

Chief-Editorial Board/Associate Editorial Board:

1. Chief Editor of MALTESAS Multi-disciplinary Research Journal (MIRJO), 2016 – Present

Conference Committee:

1. Vice Chair, 2014 International Conference on Computer, Communication, and Control Technology (I4CT 2014).
2. Technical Committee, 2014 International Symposium on Technology Management and Emerging Technologies
3. Technical Committee, 2nd International Conference on Computer, Communication, and Control technology, 2015 (I4CT 2015).
4. Technical Committee, 2015 International Conference on Integrated and Sustainable Transportation (INTGAST 2015)
5. CHAIR, 2015 International Conference on Control Theory and Its Application (CNTIA 2015).
6. Technical Committee, Advances in Machine Learning and Signal Processing, 2015
7. Vice Chair, 2016 International Conference on Computer, Communication, and Control Technology I4CT 2016).

8. Technical Committee, Advancement Research in Circuits and Systems International Conference (ARECAS 2016), 2016.
9. Technical Committee, 2016 3th International Conference on Power and Energy Systems Engineering (CPESE 2016)
10. Technical Committee, 2017 4th International Conference on Power and Energy Systems Engineering (CPESE 2017)
11. Technical Committee, 5th International Conference on Power and Energy Systems Engineering (CPESE 2018)

Reviewer:

1. IEEE Transaction on Industrial Informatics
2. IEEE/CAA Journal of Automatica Sinica
3. International Journal of Electronics Letters
4. International Journal of Electronic
5. Royal Society: Proceeding A
6. IEEE Transaction on Power Electronics
7. The Open Automation and Control Systems Journal
8. Journal of Communications, Electronics and Computer (JTEC)
9. International Journal of Sensors, Wireless Communications and Control.

XI. Others Contribution

1. Internal Auditor for Diploma in Electrical engineering and Diploma in Electronic Engineering, Politeknik Merlimau Melaka.
2. Internal Auditor for Diploma in Electronic Engineering, Politeknik Port Dickson, Negeri Sembilan.

XII. Supervisor for postgraduate students since 2007

PhD students: Main Supervisor

1. Student Name: Yusmarnita Yusop
Project Title: Design and analysis of capacitive power transfer for biomedical implantable devices
Registration Year: September 2014
Status: Completed
2. Student Name: Siti Huzaimah Husin
Project Title: Design and analysis of acoustic power transfer for biomedical implantable devices
Registration Year: September 2014
Status: On-Going
3. Student Name: Khairul Kamaruddin Hasan
Project Title: Design and analysis of high efficiency power converter for capacitive power transfer systems.
Registration Year: June 2014
Status: On-Going
4. Student Name: Muhamad Zaki Bin Mustapa
Project Title: Wireless Power Transfer using Capacitive Approach for Implantable Device
Registration Year: September 2017
Status : Ongoing

MSc students: Main Supervisor

5. Student Name: Norezmi Bt Md Jamal
Project Title: Design of inductive power transfer system for self-charging UAV systems
Registration Year: September 2013
Status: Completed

6. Student Name: Muhamad Zaki Bin Mustapa
Project Title: Development of Autonomous VTOLs for Quadrotor Systems
Registration Year: September 2013
Status : Completed

7. Student Name: Su Noorazma Binti Mohd Azman
Project Title: Analysis and Synthesis of Controller design for polynomial discrete-time Control Systems
Registration Year: October 2013
Status: Completed

8. Student Name: Muhammad Thoriq Bin Mohamad Zaid
Project Title: The development of acoustic power transfer for low power applications
Registration Year: November 2013
Status: Completed

9. Student Name: Farah Khalidah Bt Abdul Rahman
Project Title: The Design of Capacitive Power Transfer for Larger Distance Applications.
Registration Year: September 2015
Status: Ongoing (Waiting for Viva Voce).

10. Student Name: Nurul Muslimah Meor Shaari
Project Title: Optimization of Wireless Power Transfer for Implantable Devices.
Registration Year: September 2017
Status: Ongoing.

PhD students: Co-Supervisor

11. Student Name: Chow Khoon Keat
Project Title: Modelling and design optimization on low-powered single-loop continuous conduction mode buck-boost driver for led array operated by impact based piezoelectric energy harvesting mechanism.
Status: On Going

MSc students: Co-Supervisor

12. Student Name: Bong Yu Jing
Project Title: In-Situ destructive structural health monitoring under vibration impact using multi input-output phased array piezoelectric transducers.
Status: Completed

13. Student Name: Shafiee bin Super
Project Title: Feasibility of using late event-related potential based on habituation stimulus to identify attention deficit towards driving activities

Status: Completed

14. Student Name: Nur Syawaliah binti Mohd Ludin

Project Title: Development of acoustic energy transfer (aet) through metal medium applications

Status: On Going

15. Student Name: Nur Amalina binti Ahmad Nawir

Project title: Design and development of power conditioning circuit for impact-based piezoelectric energy harvester

Status: On Going

16. Student Name: Toh Cheng Chuan

Project title: Blind source separation using nonnegative matrix factorization

Status: On Going