



**Name** : Wan Zuha Wan Hasan  
**Nationality** : Malaysian  
**Gender** : Male  
**Occupation** : Academician (Associate Professor)

### Office Address

Department of Electrical and Electronic Engineering,  
Faculty of Engineering,  
Universiti Putra Malaysia,  
43400 UPM Serdang  
Tel: 03-89464365 Fax : 03-89466327  
Email: [wanzuha@upm.edu.my](mailto:wanzuha@upm.edu.my)

### Academic Qualifications

<i>Year</i>	<i>Qualification</i>	<i>Field</i>	<i>Institution</i>	<i>City / Country</i>
2010	PhD	Memory Testing	Universiti Kebangsaan Malaysia	Bangi / Selangor
2001	MSc	Microelectronics	Universiti Putra Malaysia	Serdang /Selangor
1997	BSc (Hons)	Electronic & Computer	Universiti Putra Malaysia	Serdang /Selangor
1993	Matriculation	Physics	Universiti Putra Malaysia	Serdang /Selangor

*Language Proficiency* : Malay/English

### Previous Appointments

<i>Year</i>	<i>Title</i>	<i>Institution</i>
1998-2000	Tutor	Faculty of Engineering, Universiti Putra Malaysia
2000-2005	Lecturer	Faculty of Engineering, Universiti Putra Malaysia
2005-2013	Senior Lecturer	Faculty of Engineering, Universiti Putra Malaysia
2013- date	Associate Professor	Faculty of Engineering, Universiti Putra Malaysia

## Experience and Specialization

### *Field of Research:*

Microelectronics, Sensor Technology, Robotic and Automation, especially in Pressure Sensor for Medical and Robotic & Automation Application, Mobile Robot, Automated Machine and Memory Testing includes Built-in Self-test and Self-diagnose.

### *Membership of Professional Bodies:*

- IEEE Senior Member
- IEEE Circuit and System Society
- IEEE Electron and Devices Society
- IEEE EMBS
- IEEE Robotic and Automation Society
- IEEE Instrument and Measurement
- Academic Association (PPAUPM)
- BEM

### *Professional Affiliation:*

1. Chairman of WG E-Cigrate SIRIM BERHAD 2016-present
2. President of PPAUPM 2017-2019
3. Vice President of PPAUPM 2015-2017
4. Auditor for MyQuest, MOHE 2015/2017
5. External Assessor for MFI, UNIKL 2014-2017
6. Honorary Secretary of PPAUPM 2013-2015
7. Auditor for MySPEK, MOE 2014
8. Auditor for PILOT Run Sistem Penarafan Kolej Komuniti KPT 2013
9. Judge for National Science Challenge, (NSC2013). YSM 2013
10. Judge for Creativity & Innovative Technology Competition-CITEC KSM 2013
11. Jury for Malaysia International Robot Competition (MIRoC) UNIMAP 2013
12. Visiting Researcher, University of Southampton, 2011-2012
13. Head of Judge for Pertandingan Rekacipta dan Inovasi Sekolah (PRPI11), 2011
14. Judge for Pertandingan Robotic (MSAE-FK), 2011
15. Advisory Committee for Robotic Club UPM 2013
16. Counselor for Robotic Club UPM, 2010 – 2011
17. Counselor for IEEE Student Branch, 2011
18. Faculty Representative of PPAUPM 2008-2011
19. Advisor of IEEE Circuits and Systems Society Chapter, 2013-2014
20. Past Chair IEEE Circuits and Systems Society Chapter, 2010- 2012
21. Chapter Chair of IEEE Circuit and System Society Chapter, 2008-2010
22. Secretary of IEEE Circuits and Systems Society Chapter, 2006-2008
23. Committee Member of PPAUPM 2007
24. Research Member, SRAM Design, UPM-MIMOS, 2005-2007

### *Administrative Duties and other Responsibilities:*

1. Deputy Dean (Undergraduate Study), Faculty of Engineering, 2016-2019
2. Head of Department (Electrical and Electronic Engineering), 2014-2016
3. Head of Unit (Student Affairs and Alumni) of Deputy Dean (Academic, Student Affairs, Alumni and Industry & Community Relations Division), Faculty of Engineering, 2014-2016
4. Head of Laboratory for Electrical & Electronic Engineering Laboratory 2013.
5. Head of Unit (Student Affairs and Alumni) of Deputy Dean (Academic, Student Affairs, Alumni and Industry & Community Relations Division), Faculty of Engineering, 2011
6. Head of Program of Sensor Technology for Advance Technology Institute (ITMA), 2011
7. Presiden of Social and Sport Club, Faculty of Engineering UPM, 2010-2011
8. Coordinator (HEPA) for EE Department, 2010-2011

9. Coordinator (Final Year Project) for EE Department, 2010-2011
10. Course Coordinator for UPM-IPTS(UNNITI College) 2009-2011
11. Team Manager for Robocon, Muroc and Robogamez ( 2005-2011)
12. Co-ordinator for Electrical Engineering Laboratory, 2008-2010
13. Welfare committee Member, Fakulty of Engineering, UPM 2008-2011
14. Committee Member or Majlis Minggu Perkasa Putra, 2011
15. Committee Member of Robogamez 2008-2010, 2012-Present
16. Team Manager for Robogamez 2009-2010
17. Team Manager for Muroc Robot 2009-2011
18. Team Manager for MIRoC 2012-Present
19. Team Manager for RobotWar2012-Present
20. Co-ordinator of Courses (BE-Electrical & Electronics) for UNITI colleges, 2009-2011
21. Committee Member of PPAUPM 2007
22. Vice Chair of ISO, EE Department 2001-2004
23. Vice Chair of ISO, Department of Electrical and Electronic Engineering, 2001 – 2004
24. Department Representative, Department of Electrical and Electronic Engineering, April 2001-2004
25. Chairman of IT Committee, Department of Electrical and Electronic Engineering 2001- 2004
26. Chairman Procurement Committee, Department of Electrical and Electronic Engineering 2001-2004).
27. Committee member of Student affair, Fakult of Engineering, UPM, 2001-2002
28. Committee member of Fire Drill, Fakulty of Engineering, UPM 2001- 2004
29. Coordinator for Electrical Engineering Laboratory (Store) (Mei 2001 – 2004).
30. Academic Advisor for BE (Electrical and Electronics) students.
31. Internal Auditor for ISO 9001:2000, Faculty of Engineering, UPM, 2002-2004
32. Coordinator of Courses (BE-Electrical & Electronics) for colleges (PRIME, IKRAM, UNITI).
33. Examiner for Final Year Project UPM, PRIME, UNITI, 2001-2003
34. Head of Examination, Unit Program Luar (Kolej Uniti), 2001-2003
35. Visiting Lecturer for Practical Training (BE-Electrical & Electronics) for colleges (PRIME, IKRAM, UNITI)

*Reviewer of Technical Papers for Journals and Conferences:*

1. Journal of Instrument Technology
2. Journal of Medical and Biology Engineering
3. International Food Research Journal
4. Journal of Food and Technology
5. Journal of Electrical Engineering Technology, JEET
6. Journal of Industrial Technology, SIRIM Berhad
7. Reviewer for World Engineering Congress 2007 (WEC 2009)
8. Reviewer for Asia Pacific Conference on Defence & Security Technology 2009 (DSTC 2009)
9. Reviewer for IEEE Student Conference on Research and Development (SCORED 2009-2016)
10. Reviewer for Asia Pacific Symposium on Applied Electromagnetics and Mechanics (APSAEM 2010)
11. Reviewer for International Conference on Intelligent and Advanced Systems (ICIAS 2011-2016)
12. Reviewer for IEEE International Conference on Circuits and Systems (ICCAS2012,2016)
13. Reviewer for IEEE International Conference on Semiconductor and Electronic(ICSE2012-2016)
14. Reviewer for IEEE Very Large Scale Integrated (VLSI2013)
15. Reviewer for IEEE Regional Symposium on Micro and Nanoelectronics (IEEE-RSM2015)
16. Reviewer for IEEE International Conference of Robotic and Automation (IEEE-ROM2016)
17. Reviewer for IEEE International Symposium on Robotics and Intelligent Sensors(IEEE-IRIS-2015)
18. Reviewer for IEEE International Conference on Electrical, Electronic, Communication and Control Engineering (ICEECC2016)

*Committee member for workshop/Conferences:*

1. IEEE International Conference on Smart Instrumentations, Measurement and Applications (IEEE ICSIMA2017)
2. IEEE Regional Symposium on Micro and Nanoelectronics (IEEE-RSM2015)
3. IEEE International Conference on Circuits and Systems (ICCAS2015)
4. IPC, International Conference on Education and Entertainment Robotics (ICEER), FIRA 2013
5. IEEE International Conference on Semiconductor and Electronic (ICSE2014)
6. IEEE Regional Symposium on Micro and Nanoelectronics (IEEE-RSM2013)
7. Asia Pacific Symposium on Applied Electromagnetics and Mechanics (APSAEM 2010)
8. 2010 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS 2010)
9. 2010 Workshop on Smart Sensor Systems (WSS2010)
10. 2 Days Workshop on Mobile Robot (WRM2010)
11. IEEE Student Conference on Research and Development (SCORED 2009)

*Chairperson of Workshops/Conferences:*

1. Co-Chair IEEE International Symposium On Robotic & Manufacturing Automation (IEEE ROMA2017)
2. Chair, Lego Robotic Workshop 2016-2017
3. Chair, International Conference of Electrical and Electronic Technology (ICEETech2016)
4. Session chair, IEEE Regional Symposium on Micro and Nanoelectronics (IEEE-RSM2015)
5. Chair, IEEE FYP Open Day 2011
6. Chair, 2010 Workshop on Mobile Robot(WMR2010)
7. Session chair FIRA RoboWorld Congress 2013
8. Session Chair, IEEE Regional Symposium on Micro and Nanoelectronics (IEEE-RSM2013)
9. Chair, International Conference on Education and Entertainment Robotics (ICEER), FIRA RoboWorld Congress 2013
10. Chair, 2010 Workshop on Smart Sensor Systems(WSS2010)
11. Session Chair, IEEE Student Conference on Research and Development (SCORED 2009)

*Internationalisation*

*Committees of organisation*

<b>No</b>	<b>Detail</b>	<b>Designation</b>	<b>Duration</b>
1	IEEE IRIS2016-Conference Editorial Board(CEB)	Editorial Board	2015-Present
2	Intelligent Robotics Systems: Inspiring the NEXT: 16th FIRA Robotworld Congress (Communication in Computer and Information Science)	Editorial Board	2016
3	Journal of Computational and Theoretical Nanoscience	Editorial Board	2015-Present
4	American Journal of Sensor Technology	Editorial Board	2015-Present

5	International Journal of Engineering Research in Electrical and Electronic Engineering(IJEREEE)	Editorial Board	2011-Present
6	Pertanika Journal	Guest Editor	2016

*Thesis Examine:*

*Internal*

M.Sc Candidates:

<b>No.</b>	<b>Name</b>	<b>Title of Project</b>	<b>Institution</b>	<b>Date</b>
1	Izhal Abdul Halin	<i>Development of Test Algorithm Based on CMOS Operational Amplifier Application Circuit</i>	UPM	2002
2	Norulhuda Bt Abd Rashid	<i>Predicted Performance of Si/SiGe CMOS</i>	UPM	2002
3	Yeong Tak Nging	<i>Development of An 8-Bit FPGA Asynchronous RISC Pipelined Processor for Data Ecrption</i>	UPM	2002
4	Adel Hamad Rafa	<i>Protection of Power Transformer Using Microcontroller-Based Relay</i>	UPM	2002
5	Pang Wai Leong	<i>ALU Circuit Design Mix Logic Styles Technique</i>	UPM	2003
6	Lee Seng Siong	<i>Design of 1K Asynchronous SRAM Using 0.35 Micron CMOS Technology</i>	UPM	2004
7	Tung Li Qian	<i>A Local Mapping Operator for High Dynamic RangeImages</i>	UPM	2012
8	Komeil Hadidi	<i>Ear Recognition Based on Color Scale Invariant Feature Transform</i>	UPM	2012
9	Ahmad Syukri Mohamad	<i>Design and Construction of a 115, 400Hz Aircraft Inverter Using Novel Cascaded Multilevel Inverter Topology</i>	UPM	2013
10	Thai Seng Choong	<i>Design and Development of multiple Platform for Monitoring Cathodic Protection System on Undr Ground Pipeline</i>	UPM	2013
11	Lioe De Xing	<i>Low Power Modulator for The application of Capsule Endoscope</i>	UPM	2013
12	Usman Hamisu	<i>Suppression of Total Harmonic Distortion Using Single Phase Shunt Active Power Filter With Fuzzy Logic Controller</i>	UPM	2013
14	Hamid Barzabadi Farhani	<i>MGO Doped(BA X, SRI-X) TIO3 Porous Humidity Sensor Design, Fabrication and Characterization in Thick-Film and Bulk Form</i>	UPM	2013
15	Maryam Ehsani	<i>Influence of PT on the Structural Thick Film Gas Sensor Based on LA203-Doped SNO2 To Detect of Carbon Dioxide CO2</i>	UPM	2013
16	Muhammad Noh Hamzah	<i>Analysis of Electromagnetic Fields Generated by Lightning in Malaysia</i>	UPM	2013
17	Mohammad Ali Jan	<i>Automated Plant Recognition Based on Features Decision Making Using Colony Optimization</i>	UPM	2013
18	Rasoul Garmabdari	<i>Four Sensor Bidirectional Water Flow Detection and Measurement System</i>	UPM	2014
19	Nima Khoshirat	<i>Optimization of CIGS Thin Film Solar Cell Using Numerical Simulation</i>	UPM	2014
20	Mohammad Kazem Charman	<i>Non-Invasive Leak Detection for Water Pipeline Utilizing Ultrasonic Transducer</i>	UPM	2014

21	Mohammad Jabir	<i>Monitoring and Control of Power Distribution Board Through Spund Card Based Scada System</i>	UPM	2014
22	Hamdan Yahya Ahmed Al-Ruhaimi	<i>Machine Vision Approach for Oil Palm in Vicro Shoots Sorting</i>	UPM	2015
23	Sarah Rezaeian	<i>Gas Inspector Mobile Robot: Carbon Monoxide Source Finder</i>	UPM	2015
24	Maral Faghni Hamadani	<i>Integration of Sigma-Delta Analog to Digital Coverter with Sinc Filter Programmable Gate Array</i>	UPM	2015
25	Ala Hadi Mohammed	<i>Analog Adaptive Interference Cancelled (AAIC) Based on Analog Algorithm with Offset Voltage for Controlling the Ouuput</i>	UPM	2015
26	Saman Azhari	<i>Development of CNTS/PDMS Nanocomposite: Applicable for Nano Scale Piezoresistive Pressure Sensor Application</i>	UPM	2016

### Internal

P.nD Candidates:

No.	Name	Title of Project	Institution	Date
1	Mustafa Shehu Salihu	<i>A dual iron-ring double-stator permanent magnet integrated with a magnetic gear for low speed power generator</i>	UPM	2018
2			UPM	2018
3			UPM	2018

### External

M.Sc Candidates:

No.	Name	Title of Project	Institution	Date
1	Ghazanfar Ali	<i>Development of a Single-Chip Test and Debug Plarform using IEEE 1500 Standard</i>	UTP	2014
2	Wang Jing Jing	<i>FPGA-Based On-line Tracking of Power System Harmonics Using the ADALINE Adaptive Filter</i>	Prince of Songkla University, Thailand	2014
3	Nurhakimah Abd Aziz	<i>Artificial Neural Network as Post-Processing Stage for Chemically Selective Field Effect Transistor (CHEMFET) Sensor Selectivity</i>	UITM	2015
4	Muhammad Amin Hashim	<i>A Development of Real Time Smart Arrhythmia Classifier System Using Hermite Polynomial and Multilayer Perception Neural Networks</i>	UTM	2016
5	Vidya Dharan A/L Sri Daran Nambiar	<i>Embedded Video Processing On GPU System-On-Chip For Accelerating Face Detection And Recognition Algorithms</i>	UTM	2016
6	Hasliadi Bin Giliga	<i>Extended Field Effect Transistor Integrated Circuit Array For Electrochemical Sensing</i>	UITM	2017
7	Farah Fatin Zulkifli	<i>Reka Bentuk Penuai Tenagai Mikro Berkuasa Sangat Rendah Menggunakan RF bagi Sistem Pemantauan Kesihatan</i>	UKM	2017

8	Ung Wei Chun	<i>Functional Near-Infrared Spectroscopy Based Neurofeedback Technology for Preventing Progression of Dementia</i>	UTP	2018
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PhD Candidates:

No.	Name	Title of Project	Institution	Date
1	Salim Ahmad Jayousi	<i>Improving Integrated Circuit Testing Using One Shared Test Access Port and Single Bidirectional Data Line</i>	UNIMAS	2015
2	Zulfakar Aspar	<i>Design Recovery of Complex Programmable Logic Controller Using High Level Model</i>	UTM	2016
3.	Ateeq Ur Rehman Shaheen	<i>Study on Delay Design-for-Testability for Functional RTL Circuit</i>	UTP	2017
4.	Mustafa Shehu Salihu	<i>A dual iron-ring double-stator permanent magnet integrated with a magnetic gear for low speed power generator</i>	UPM	2018

Teaching :

KEE 3001	Electrical and Electronic Technology	EEE 3013	C Programming
KEE 3901	Applied Electromagnetic	KEE 4211	VLSI
KEE 3401	Microcontroller Technology	EEE 4211	Testing and Reliability
KEE 3207	Microprocessor Technology	EEE5201	Memory Technology
KEE 3909	Electronic System Design	MTE3IR1	Industrial Robotic

Professional and Public Services:

Public

Secretary of Residential Committee, BBBSek9 , Malaysia (2008)  
 NYDP, SKBBB 2015-2016  
 EXCO, SKBBB 2016-2017

Professional

Visiting Lecturer(Industrial Robotic), University Technology Brunei 2017

Assessor Program (Bachelor/Diploma), MFI, UNIKL 2015-2107  
Postdoctoral (Academic Visitor) Southampton University 2011-2012  
Lecturer for UNIMAP Student(Extra Course) 2011  
Lecturer for International Student(SUDAN)(Microcontroller Course) 2010  
Speaker for Robotic Competition (USIM Students), 2011  
Speaker for Robotic Competition (UNITI Students), 2010&2011  
Speaker for Program Inovasi dan Rekacipta (ICT, Sains & Teknologi, UNITI College),  
2010  
Speaker(Robotic) for Program 'Selangkah ke Universiti, 2010  
Speaker(Robotic) for Kem Kanak-kanak Malaysia 2010  
Demostrator (Robotic) for Pameran Pesta Sem Type III MRSM Kuala Klawang, 2011  
Demostrator (Robotic) for Karnival Pengajian Tinggi Negara Jom Masuk U, 2011  
Demostrator (Robotic) for Majlis Anugerah Perkhidmatan Cemerlang (APC) 2010 JPA, 2011  
Demostrator (Robotic) for Majlis Bulanan JPA, 2011  
Demostrator (Robotic) for Majlis Perasmian Seminar Psikologi Perkhidmatan Awan ke-17, 2011  
Demostrator (Robotic) for Seminar Kaunseling Lembaga Kauselor Malaysia, 2011

*Honors and Awards :*

Quality Service Award, 1999.  
Anugerah Khidmat Cemerlang 2002, 2003, 2008,2009,2010,2011,2013,2014,2015,2016,2017 UPM  
Anugerah Pengajaran Cemerlang 2007, 2008, 2009,2010,2011, 2013,2014, 2015, 2016,2017 Faculty  
Excellent in Teaching Evaluation Awards, 2000/2001, 2001/2002, 2002/2003,2003/2004,2004/2005,  
2008/2009,2009/2010,2010/2011,2011/2012,2013/2014,2014/2015  
Internal Auditor, 2003,2004  
Sukan Staf Universiti, 1999,2000,2001  
Sukan Staff Fakulti, 1999,2000,2001,2002,2003,2004,2010  
IEEE Circuits and Systems Society, 2005-2006. Runner-up for the Best chapter Award  
IEEE Circuits and Systems Society, 2005-2006. Runner-up for the Best Volunteer Award  
IEEE Circuits and Systems Society, 2007. Best Chapter Award, IEEE Region 10  
IEEE Circuits and Systems Society, 2010. Best Chapter Award, IEEE Region 10  
IEEE Circuits and Systems Society, 2011. Best Chapter Award, IEEE Region 10  
Nominee for Anugerah Pengajar Putra 2010  
Best Final Year Project 2012  
IEEE CAS Outstanding Master Dissertation Award (Malaysia Chapter) 2016  
Gold Award Final Year Project 2016

## **Society Services**

*National and International*

*Organiser for Technical Seminars)-Distinguish Lecture Program(DLP)*

Low Voltage Current Mode Analog Circuit Structures and Their Applications by Prof. S.S. Jamuar,  
University Putra Malaysia, Malaysia on 15<sup>th</sup> June 2005

DFT Implementation in Today ASIC Design by Dr. Bambang S. Suparjo, Mentor Graphics Corporation, USA  
on 4<sup>th</sup> July 2005

DLP Lecture on Modelling and Simulation of Mixed Signal Circuits Systems by Prof. Alan Mantooh,  
University of Arkansas, USA on 29<sup>th</sup> September 2005



How to Become an Expert Digital Systems Designer: Analysis, Architecture Exploration, Modeling Methods and Systems Platforms by Dr. James Davis, University of Southern California, USA on 18<sup>th</sup> May 2005

How to Become Expert Digital System Designer by Dr. James Davis, University of Southern California, USA on 19<sup>th</sup> May 2005

Introduction to MEMS Technology, Devices and Systems by Prof. Prakash R. Apte, Indian Institute of Technology Bombay, India on 28<sup>th</sup> May 2005

Design and Test of Digital systems in the Era of High Process” DLP by Prof. Sandeep Gupta, Univ. of Southern Calif., Los Angeles, USA on 4<sup>th</sup> January 2006

Built in self Test, Self Diagnosis and self repair (MBISTDR) for Embedded SRAMs by Dr Wan Zuha Wan Hasan, UPM Malaysia on 27<sup>th</sup> April 2006

Introduction to the Wonderful World of Delta Sigma Analog to Digital Converters by Prof. G. S. Visweswaran, IIT Delhi, India on 16<sup>th</sup> November 2006

A Query Probing Strategy for Search Engines by Prof. B.D. Choudhary, MNNIT Allahabad, India on 26<sup>th</sup> December 2006

PLL Faster and the Fastest by Prof. Kobayashi 25<sup>th</sup> March 2007

A new canonical lattice realization of arbitrary IIR and FIR transfer function by Prof. Dutta Roy 25<sup>th</sup> November 2007

Technology involved and design consideration of WiMAX Femtocell by Dr. Lim 25<sup>th</sup> November 2007

Multichip Module Packaging and Its Impact on Architecture Prof Hubert Harrer, IEEE CAS Malaysia 25 June 2008

Flexible VLSI Architectures for UWB, MIMO and Cognitive Radio Prof G.Sobelam 18/9/2008

Softskill Greatness through Level 5 Leadership Principles Mr Rohn Rajan 5/7/2008

Circuit and System Implementation of An Implantable Biomedical Device for Micro-stimulation and Neural Sensing Prof. C.C. Wang 24/6/2008

Fundamental & Recent Progress on CMOS Image Sensor and Their Application Systems by Prof. Kawahito 25 March 2009

Energy-efficient on-chip power management: System, circuit and device perspectives. (DLP) by Dr Eduard Alarcón 28<sup>th</sup> May 2009

Proteus Professional PCB and Schematic by Mohd Khairul Hamzani 25<sup>th</sup> June 2009

Core SoC Technologies for indoor 60Ghz Multi-Gbp Wireless Baseband Transceiver by Prof Shyh-Jye Jou/Penang 10<sup>th</sup> December 2010

Design of Over GIGA bit Wireless LSI systems: Next Generation Wireless Communication System by Prof Yoshikazu Miyanaga 13<sup>th</sup> December 2010

#### *Organizer for Tutorials and Workshops*

Modelling Techniques in the 21<sup>st</sup> Century by Prof. Alan Mantooth, University of Arkansas, USA on 29<sup>th</sup> September 2005

In-Vehicle Networks by Prof. M. Jamali, University of Toledo, USA on 21<sup>st</sup> July 2005

Convergence of Computing and Communications Creating New Opportunities and Challenges in Research by Dr. Guan Keat Yeon, Intel Technologies, Malaysia on 21<sup>st</sup> July 2005

Electronics: The Big Picture by Dr. Albert Kordesch, Silterra Malaysia, Malaysia on 22<sup>nd</sup> July 2006

Flexible Integrated Radio System Technology Software Radio by Prof. S.S. Jamuar, UPM Malaysia on 3<sup>rd</sup> Aug. 2005

Low Voltage Current Mode Analog Circuit Structures by Prof. S.S. Jamuar, UPM Malaysia on 20<sup>th</sup> October 2005

Adventures of a Ghost Buster in S & T Communication by Prof. Thomas Chako, Indian Institute of Science, Banglore, India on 22<sup>nd</sup> March 2006

Design for Manufacturing, Low Power Design, Routing for Packaging and Interconnect Optimization by Prof. Martin D.F. Wong on 6<sup>th</sup> September 2006

Low Power Digital Circuits by Prof. Gerald E. Sobelman, Univ. of Minnesota, USA on 8<sup>th</sup> December 2006  
First-Pass-Silicon Radio Technology for B3G Wireless Terminal Tutorial by Prof. Mohammad Ismail on January 19 2007

One a day Tutorial in Serdang on “Design and Test of System-on-Chip Integrated Circuits Tutorial by Prof. Krish Chakrabarty on August 16 2007

a Half day tutorial on FPGA and Reconfigurable Computing Tutorial by Prof. Dinesh Bhatia on September 11 2006

Hardware Design Exploration for Embedded Computing Systems Tutorial by Dr. Promod Meher on November 25 2007

Neural Network, fuzzy logic and genetic-algorithm with MATLAB Tutorial by Dr.Thang Ka Fei on November 25 2007

Digital Microfluidics: Connecting Biochemistry to Computer-Aided Design Prof Hubert Harrer25<sup>th</sup> June 2008

Multichip Module Packaging and Its Impact on Architecture Prof Hubert Harrer26<sup>th</sup> June 2008

Simplified Fast Motion Estimation: Simplified and Unified Multi-Hexagon Search (SUMH) with Context Adaptive Lagrange Multiplier (CALM) Prof Nam Lim22<sup>th</sup> July 2008

Flexible VLSI Architectures for UWB, MIMO and Cognitive Radio Prof G.Sobelam16<sup>th</sup> Sept 2008

Radio Technology for Nanometer CMOS Prof Mohammed Ismail3<sup>th</sup> July 2008  
Low PowerAsynchronous-Logic Circuit Design by Associate Prof. Dr Gwee Bah Hwee. 27<sup>th</sup> July 2009

Workshop on PCB, Thick Film and Thin Film by Mohd Khairul Hamzani 7<sup>th</sup> October 2009

Design of high resolution CMOS digital-to-analog converters by Prof Georges 21<sup>th</sup>December 2009

2 Days Workshop on Making Mobile Robotby Dr Wan Zuha Wan Hasan&Khairul Hamzani Hamid4<sup>th</sup>August2010

Design of indoor 60GHz Multi-Gbps Wireless Baseband Transceiver by Prof Shyh-Jye Jou 9<sup>th</sup> December 2010

VLSI Architectures for DSP and Communications by Prof Gerald Sobelman 10<sup>th</sup> December 2010

Phase-Locked Loops: Principle and Some Topics by Fuminori Kobayashi 11<sup>th</sup> December 2010

Digital Microfluidic Biochips: A Vision for Functional Diversity and More than Moore by Krishnendu Chakrabarty 6<sup>th</sup> December 2010

C programming and PCB Proteus Training by Dr Wan Zuha Wan Hasan & Khairul Hamzani Hamid 5<sup>th</sup> November 2010

### *School Program*

Speaker, Robotic Program-Sekolah Menengah Ismail Petra, Kota Bharu 2011

Speaker, Robotic Program-Sekolah Kebangsaan Preseint 5 Putra Jaya 2011

Speaker, Robotic Program-Maktab Rendah Sains Mara Kuala Klawang, Serembam 2011

Speaker, Robotic Lego Workshop for Primary School, 2016

Consultant, Robotic Lego Competition (NRC 2016)

Speaker, Robotic Lego Workshop for Imtiaz, Malacca, 2017

Consultant, Robotic Lego Competition (NRC 2017)

Consultant, Robotic Lego Competition (FLL 2017)

## **Robotic and Automation project**

National ABU Robocon, 2004

National ABU Robocon, 2005

National ABU Robocon, 2006

National ABU Robocon, 2007

National ABU Robocon, 2008

National ABU Robocon, 2009.

National ABU Robocon, 2010

National ABU Robocon, 2011

National ABU Robocon, 2013

Robogamez, Malaysia (Robot Maze), 2008

Robogamez (RobotWar I), 2009

Robogamez (RobotWar II), 2010

Robogamez (RobotWar III), 2013

Robot War 2010

Malaysia University Robot Competition (MURoC), 2010

Malaysia University Robot Competition (MURoC), 2011

Malaysia University Robot Competition (MIRoC), 2013

1<sup>st</sup> NATIONAL LEVEL COMBAT ROBOT COMPETITION, PSN 2013

Robotic Workshop, Kyutech Japan 2014

Robot War UNIKL 2015

Robot Combat 2016

National Robotic Competition (NRC) 2016 - SKBBB

National Robotic Competition (NRC) 2017 - SKBBB

National Advance Robotic Competition (NARC) 2016

First Lego League (FLL) 2017

*Honors and Awards :*

National ABU Robocon, 2005. 1<sup>nd</sup> Runner-up.  
National ABU Robocon, 2005. Best Ideal.  
National ABU Robocon, 2005. Best Design.  
National ABU Robocon, 2008. 2<sup>nd</sup> Runner-up.  
National ABU Robocon, 2009. Best Design.  
Robogamez(Solve Maze) 2008. Champion  
Robogamez 2009(Robot War). 1<sup>st</sup> Runner-up  
Robogamez 2010(Robot War II). 2<sup>nd</sup> Runner-up  
Robogamez2013(RobotWarIII) 2013. Champion

MURoC 2010.

Champion – Painball Robot  
Champion – Rope Climbing  
1<sup>st</sup> Runner-up – Fire Fighting  
Best Design – Paintball Robot  
Best Design – Rope Climbing  
Industry Award – Fire Fighting

MURoC 2011.

Champion – Rope Climbing Robot  
Champion – Fire Fighting Climbing  
3<sup>st</sup> Runner-up – Paintball Robot  
Best Presenter Award – Fire Fighting Robot  
Best Presenter Award – Rope Climbing  
Microchip Special Award, – Rope Climbing  
Final Year Project 2010. Best Project (Fire Fighting Robot)

MURoC 2013.

1<sup>st</sup> Runner-up – Paintball Robot  
Best Presenter Award – Fire Fighting Robot

*Published Articles in Local News Paper*

Robotic UPM, Quarter Pounder juara Robogamez 2008, KOSMO Isnin September 2008  
Memory Testing Project, Raih 6 Anugerah, Harian Metro Khamis 17 Desember 2009  
Peeler and Grater Project, UPM Cipta alat Parut, kupas, Potong Buah, KOSMO Jumaat Oktober 2008  
Robotic UPM, UPM Bolot dua Hadiah, Utusan Malaysia Isnin 4 Januari 2010  
Robotic UPM, UPM Juara Cipta Robot, Harian metro Isnin 1 Februari 2010  
Robotic UPM, UPM Lahir robot Terbaik, Harian Metro Ahad 30 Mei 2010  
Robotic UPM, UPM Pakar Robot, Harian Metro Ahad 30 Mei 2010  
Workshop on Lego Robot, Harian Metro, Live on TV3 “Malaysia Hari Ini”

## Research Achievement

### *Honors and Awards:*

Design and Innovation Exhibition (Fault Syndrome Simulator), 2007. Bronze Medal, UPM  
 Malaysia Technology Expo (MTE) (Fault Syndrome Simulator), 2009. Silver Medal  
 INNOVA BRUSSEL, (Fault Syndrome Simulator), 2009. Gold Medal.  
 INNOVA BRUSSEL, (Peeler and Grater), 2009. Gold Medal.  
 Invited speaker at The 12<sup>th</sup> Takayanagi Kenjiro Memorial Symposium, 18-19 November 2010  
 Design and Innovation Exhibition (Smart Grader), 2012. Silver Medal, UPM  
 Smart EZ-Grader, ITEX 2013, Gold Medal

### *Chairman for Supervisory Committee of:*

#### PhD. Candidates:

No.	Name	Title of Project	Status
1	Aina Mardhiyah Mohammad Ghazali	<i>In sole Algorithm for Pressure Distribution Under Diabetic Foot</i>	On Going 2013
2	Ahmad H. Sabry	<i>Smart Home based on Solar System</i>	Completed 2017
3	Ahmed M.M. Al Massri	<i>Robotic Glove for Rehabilitation Application</i>	On Going 2015
4	Mohd Fairuz	<i>MEMs Pressure Sensor Array Design for Medical Application</i>	On Going 2015
5	Yasir Al Kubaisi	<i>An Intelligent Automated Parking System with Smart Power Management System</i>	On Going 2015
6	Falih Salih Mahdi Al kafari	<i>Precise Response of FPGA for Robotic Application</i>	On Going 2016
7	Omar Ibrahim	<i>Searching Pattern of SAR application using Quad copter</i>	VIVA 2016
8	Husamuldeen Khalid Hameed	<i>Electromyography Controlled Soft Robotic Glove System for Hemiparesis Stroke Patients</i>	On Going 2016

#### MSc. Candidates:

No.	Name	Title of Project	Status
1	Zulkifli Abd Rahman	<i>Single Chip MC68HC11 Interfacing with Speed Trap Application Via Internet.</i>	Completed 2004
2	Muhammad Nazir Muhammad Khalid	<i>Design of Automatic Test Pattern Generation (ATPG) for Digital Circuit Using Verilog Synopsys</i>	Completed 2005
3.	Mohd Hasimi Mohd Sidek	<i>Line Tracking using Phosphorus Ultraviolet Light</i>	Completed 2014

4	Norazura Zakaria	<i>Memory Testing on Single Cell SRAM</i>	Completed 2011
5	Ahmad M. M. Almassri	<i>Pressure sensor Detector For Robotic Hand</i>	Completed 2014
6	Omar Hussein Alwan	<i>Pressure Sensor- Development of Intelligent monitoring system for Clinical data of Diabetes Patients</i>	Completed 2016
7	Asaad AbdulJabbar Mohammed	<i>Pressure Sensor - Design and Development of MEMs Pressure Sensor</i>	Completed 2017
8	Alaa Husain	<i>Transparent Solar Cell</i>	VIVA 2015
9	Yasuhiro Fuwa	<i>Investigation on Pressure Effect of Matters (Join Research Kyutech-UPM)</i>	On Going 2015
10	Yasameen Hussien Sabri	<i>Modelling and Measurement of Transparent Solar System</i>	VIVA 2016
11	Ali Hussien Sabri	<i>Analysis of Under Foot Pressure Pattern for Diabetic Patient.</i>	VIVA 2016

Member for Supervisory Committee of:

Phd Candidates:

No.	Name	Title of Project	Status
1	Amin Mazaheri	<i>An on Chip Design cmos potentiostat of amperometric electrochemical sensor for heavy metal concentration detection</i>	Completed 2011
2	Nurul Fauzani Jamaluddin	<i>Electromyography(Emg) Analysis On Muscle Activities In Sport</i>	Completed 2012
3	Ali Khalifa Abd Galil	<i>Transparent Solar cell design using Graphene Oxide</i>	On going 2012
4	Mojtada Ahadi	<i>Sensor Array for Breast Cancer Detection using Microwave</i>	On going 2012
5	Julie Roslita Rosli	<i>Capacitance to Digital Converter</i>	On going 2014
6	Fadzilah Sharif	<i>Quantum Dot Analysis for Solar Cell Design</i>	On Going 2015
7	Huda Hatem	<i>Robotic Hand</i>	On Going 2016
8	Rozaimi	<i>Solar System</i>	On Going 2017

Member for Supervisory Committee of:

Msc Candidates:

No.	Name	Title of Project	Status
1	Izhal Abdul Halin	<i>Development of Test Algorithm Based on CMOS Operational Amplifier Application Circuit</i>	Completed 2002
2	Norulhuda Bt Abd Rashid	<i>Predicted Performance of Si/SiGe CMOS</i>	Completed 2002
3	Yeong Tak Nging	<i>Development of An 8-Bit FPGA Asynchronous RISC Pipelined Processor for Data Encryption</i>	Completed 2002

4	Adel Hamad Rafa	<i>Protection of Power Transformer Using Microcontroller-Based Relay</i>	Completed 2002
5	Pang Wai Leong	<i>ALU Circuit Design Mix Logic Styles Technique</i>	Completed 2003
6	Lee Seng Siong	<i>Design of 1K Asynchronous SRAM Using 0.35 Micron CMOS Technology</i>	Completed 2004
7	Julie Roslita Rusli	<i>Memory Testing on NPSF</i>	Completed 2010
8	Masnita Mat Isa	<i>Memory Diagnosis on Single Cell</i>	Completed 2011
9	Muhd Hanif Mohammad Zaini	<i>Development of Prosthetic Hand With Microcontroller Interface</i>	Terminated 2011
10	Aishah Fauthan	<i>A Selective Area Cnts Growth Method in Fabrication</i>	Completed 2013
11	Badrul Hisham Abu Bakar	<i>Ripeness Level Classification For Pineapple Using RGB And HSI Color Map</i>	On Going 2012
12	Mohammad Al Hussien	Transparent Solar Cell System	On Going 2016
13	Mohammad Ramiz	Self Charging of Drone System	On Going 2016

*Supervisor for B.Eng Candidates :*

<b>No</b>	<b>Name</b>	<b>Title of Project</b>	<b>Status</b>
1.	Sivabalan s/o Suppiah	<i>The Design of Anti-Theft System Using PLD Technology</i>	Completed (May 2000)
2.	Ramanitharan s/o Annamalay	<i>An Investigation on PC-Doctor Software</i>	Completed (May 2000)
3	Mohd Hisham Abdul Hamid	<i>Faulty in Switching</i>	Completed (May 2000)
4	Norfazlina Romli	<i>An Investigation of Linear Feedback Shift Register</i>	Completed (May 2000)
5	Mohd Redzuan	<i>Built-in Self test and Boundary Scan for one Cell Memory Unit Using CMOS Technology</i>	Completed (May 2001)
6	Zulkifly Abdul Rahman	<i>Voltage Sensor Via MC68HC11 Microcontroller</i>	Completed (May 2001)
7	Muhammad Zazir Muhammad Khalid	<i>Stuck-at Fault on Digital Circuit (ex-gate)</i>	Completed (May 2001)
8	Haizura Hasran	<i>Software and Hardware of Microcontroller</i>	Completed (May 2001)
9	Khuzainey Ismail	<i>Fault Detection on 8-bits Memory Unit</i>	Completed (May 2001)
10	Hamidun Basran	<i>Hardware Development for Speed Trap Application</i>	Completed Nov 2001
11	Hamidi Abu Bakar	<i>Software Development for Speed Trap Application</i>	Completed Nov 2001
12	Ang Soon Gin	<i>ALU Design With Testing Technique Using VHDL</i>	Completed Nov 2002
	Chen li Poh	<i>BIST Design With LFSR and Multiplier Circuit Using VHDL</i>	Completed Nov 2002
13	Nur Azlin Mohd Yusof	<i>Design of Speed Trap Sensor Using Ultrasonic Detector</i>	Completed Nov 2002
14	Hariani Sulaiman	<i>Development of C Programming of Speed Trap Application Using Microcontroller</i>	Completed Nov 2002

15	Siti Hawa Mat Rodi	<i>Design of Built-in Self-test for Instruction Decoder Circuit Using VHDL</i>	Completed Nov 2002
16	Imran Husni Mukthar	<i>Design of Speed Trap Sensor Using Magnetic Sensor</i>	Completed Nov 2002
17	Mohd Naziha Mohd Nazir	<i>Smart Digital Alarm Clock using Microcontroller</i>	Completed Nov 2002
18	Syed MahathirSyed Azman Shah	<i>Power Management of Robot System</i>	completed Mei 2003
19	Hew Kah Way	<i>Development of Line Tracking (A)</i>	completed Mei 2003
20	Ong Kien Huei	<i>Development of Line Tracking (B)</i>	completed Mei 2003
21	Fong Kwai Fei	<i>Coupling Fault Testing and Simulation for SRAM Memories</i>	completed 2008
22	Tung Li Qian	<i>Address Decoder Fault Simulator for SRAM Memories</i>	completed 2008
23	Muhammad Iqbal Rusli	<i>Robot Application Using C Programming</i>	completed 2008
24	Mohd Aizuddin Mohd Jailani	<i>Autonomous Robot</i>	Completed 2010
25	Mohd Hasimi Mohd Sidek	<i>Fire Fighting Robot</i>	Completed 2010
26	Mohd Safuan Mohd Somari	<i>Autonomous Robot</i>	Completed 2010
27	Lim Wei Chun	<i>Smart Car Design ( Smart Car Competition)</i>	Completed 2011
29	Norhairayana Md Zainal	<i>Fire Fighting Robot(MURoC 2010)</i>	Completed 2011
30	Nur'ain Abd Aziz	<i>PIC Test Jig for Robotic Application</i>	Completed 2011
31	Muhammad Zulhilmi Che Aminuddin	<i>Design of Robotic Hand for Grasping Mechanism Based on Pressure Sensor Measurement</i>	Completed 2014
31	Azlan Mohamad Dain	<i>Development of Gyroscope and Accelerometer System in the Rope Climbing Robot</i>	Completed 2015
32	Nor Mimi SuhaidaAhmad	<i>Performance Investigation on Inertial Measurement Unit (IMU) Sensor For Fire Fighting Robot</i>	Completed 2015
32	Mohammad Faris Kamaludin	<i>Development of Robotic Hand Glove System for Rehabilitation Purposes</i>	Completed 2016

### Present and Pass Researches

Currently working on MEMs Pressure Sensor, Robotic and Automation and Memory Testing. Research in other areas of microelectronics and Sensor Technologies has also been conducted. They can be summarized as:

1. Thick Film Pressure Sensor for Medical
2. Pressure Sensor for Robotic Hand Application and Development of Prosthetic Hand System
3. Solar Tracker System for Consumer Product
4. Smart Sensor System for Food Processing
5. Sensor Design for Life Science and Environmental



Research projects :

No.	Title	Funded by	Role	Status
1.	Design of Speed Trap Model using Microcontroller	UPM RM15000	Leader	Ended 2002
2.	Design and Development of Flickermeter and Calibration Test System	Mosti RM 238,000	Member	Ended 2005
3.	Development of an FPGA a SoC for Low Cost IC Testing	Mosti RM178,000	Member	Ended 2005
4.	Design of Speed Trap Model using Microcontroller –Extended	UPM RM20,000	Leader	Ended 2004
5.	Robot Competition 2004	UPM RM100,000	Leader	Ended 2004
6.	Robot Competition 2005	UPM RM150,000	Member	Ended 2005
7.	Robot Competition 2006	UPM RM80,000	Member	Ended 2006
8.	Robot Competition 2007	UPM RM200,000	Member	Ended 2007
9.	Robot Competition 2008	UPM RM40,000	Member	Ended 2008
10.	Robot Competition 2009	UPM RM60,000	Leader	Ended 2009
11.	Robot Competition 2010	UPM RM 80,000	Leader	Ended 2010
12.	Robot Competition 2010	UPM RM 80,000	Leader	Ended 2010
13.	A novel Automatic Fault Testing and Diagnosis Algorithms For SRAM Memories.	MOHE-FRGS RM100,000	Leader	Ended 2010
14.	A Development of Programmable Built –in Self-Test and Self-Diagnosis for Sram Memories Using Optimum March Test Algorithms.	UPM RM30,000	Leader	Ended 2011
15.	Green motor	Mosti RM155,000	Member	Ended 2011
16.	Integrated and Portable Device for Detection and Dielectrophoretic Separation of Microorganism	UPM RM160,000	Member	End 2012
17.	Intelligent Five-Fingered Robotic Hand Design and Developmentfor Prosthetic Application	Mosti RM172000	Member	End 2013
18.	Nanowire-based Semiconductor Sensors for Heavy Metal Ions Detection	Mosti RM498000	Member	End 2013
19.	Design andFabricationof a High Data Rates, Low Power Binary Phase Shift Keying Modulator for Capsule Endoscope	Mosti RM357000	Member	End 2013
20.	Portable sensorfor selective and specific toxic metalsutilizing peptide nanocomposite as the recognition element	Mosti RM433600	Member	End 2013
21.	Development Of Maturity Detector and Grading Machine for Pineapples Using Smart Sensor System	Mosti RM230000	Member	End 2013
22.	Pulsed Field Dielectrophoretic-Field Flow Fractionation (DEP-FFF) Integrated with	Mosti RM459000	Member	End

	Optical Detection on a Biochip for Biological Application			2014
23	Investigation and Characterization of Active Solar Power System with Angle Controller Utilizing Date and Time Based Approach	<i>MOHE-FRGS RM70,000</i>	Member	End 2014
24	Development of a high efficiency solar-integrated power system utilizing motorized system with two-axes angle controller	<i>MOHE-PRGS 240,000</i>	Member	End 2014
25	Intelligent Robotic Hand for Pick and Place Application with Unknown Weight Object	<i>UPM-IPS RM15,000</i>	Leader	End 2015
25	Characterization of Graphene Material in MEMs Pressure Sensor Design for Medical Application	<i>MOHE-FRGS RM127,500</i>	Leader	On Going 2014
26	High Sensitivity Pressure Distribution of Polymer Based Pressure Sensor Array for Under Diabetic Foot	<i>000MOHE- UPM RM187,000</i>	Leader	Completed 2016
27	High Efficiency Integrated Solar Home Automation System Based on DC Load Matching Technique	<i>UPM-IPS RM20,000</i>	Leader	End 2017
28	On-site Calibration of Pressure Sensor for Insole Application	<i>UPM-IPS RM20,000</i>	Leader	End 2017
29	Modelling and Measurement of Multi Layer Transparent Solar System for Green House Application	<i>MOHE-UPM RM120,000</i>	Leader	On Going 2017
30	An Algorithm of Real Time Self Calibration for Pressure Sensor on Hand Glove Rehabilitation System	<i>MOHE-FRGS RM99,000</i>	Leader	On Going 2017

***Consultant projects :***

<b>No.</b>	<b>Title</b>	<b>Funded by</b>	<b>Role</b>	<b>Status</b>
1.	Embedded Electronic Board for 'DISEGANI' storage Unit	<i>NAGASTEEL EQUIPMENT SDN BHD RM21,175.00</i>	Head of Embedded System Laboratory	On going 2013

## Publications

### *Journal*

1. Liakot A., Nurul Amziah, Haslina Jafar and **Wan Zuha W. H.**, “ Design of a low Cost Digital lock”, *Journal of Industrial Technology*, 13(2), 2004, 49-55.
2. Syed Abdul Rahman, Tan Cheng Hong, Abd Rahman Ramli, **Wan Zuha Wan Hasan**, Faisul Arif, Mohd Azrin Azau, Remote Database Uploading Using Fax, *Journal of Technology Management and Entrepreneurship*, May 2005 Vol2
3. Mohd. Liakot Ali, Mohd Khair Hassan, **Zuha Wan Hasan** and Tan Yar Loon Design of A, “Synthesis of 8Bit Smart Card Microprocessor Using Harvard Architecture and RISC”, *Sirim Journal of Science & Technology*, Vol. 14(1) 2005.
4. **Wan Zuha W.H.**, Zulkifli A.R., Samsul B.M.N., MK Hassan and Liakot Ali, Syed Abdul Rahman, “Development of on-line Speed Trap Radar Gun with Doppler Effect Principle”, *Sirim Journal of Science & Technology*, Vol. 14(2), 2005, 97-111
5. Syed Abdul Rahman, Tan Cheng Hong, Abd Rahman Ramli, **Wan Zuha Wan Hasan**, Mohd Azrin Azau. Faisul Arif. Transferring Paper as Web Page to Internet by Using Fax, *Jurnal Teknologi Maklumat*, Universiti Teknologi Malaysia, Skudai, Johor.
6. S.A.R. Al-Haddad, Mohd Wardi Azis, Salina Abd Samad Aduwati Sali, Adznan Jantan, Elsadig Ahmed, Abd Rahman Ramli, **Wan Zuha Wan Hasan**, Simulation for transmitting of MPEG-4 over Satellite Network, *WSEAS Transactions on Communications*, 1(5): 57-65, ISSN 1109-27. ([ISI/SCOPUS](#))
7. **Wan Hasan Wan Zuha**, Abdul Halin Izhal, Roslina Mohd Sidek, & Othman Masuri. 2009. An Efficient Fault Syndromes Simulator for SRAM Memories. *IEICE Trans, Eelectron* 92(5): pp.639-646. ([IF: 0.682](#))
8. **Wan Zuha Wan Hasan**, Izhal abd Halin, Roslina Sidek & Masuri Othman. 2008. A Fault Syndromes Simulator for Random Access Memories. *European Journal of Scientific Research*. 23(1): pp.13-24. ([SCOPUS](#))
9. Julie R.R., **Wan Zuha W.H** and R.M. Sidek “Test Procedure for Neighborhood Pattern Sensitive Fault Testing and Diagnosis using March 12N Algorithm” *GJET*. Vol. 2 No1. 2009
10. M.I. Masnita, **W.H.W Zuha**, M.S. Roslina, and Izhal Abdul Halin, “March Based- SRAM diagnostic Algorithm for distinguishing Stuck-at and Transition Faults. *IEICE Ekectronic Express* 6(15): pp.1091-1097. ([IF: 0.482](#))
11. Izhal Abd Halin, **Wan Zuha Wan Hasan** and Suhaidi Shafie, “Soil Moisture sensor and read- out circuit topology for large array development, *IEICE Ekectronic Express* 6(17): pp.1234-1239. ([IF: 0.482](#))
12. Suhaidi Shafie, Shoji Kawahito, Izhal Abd Halin and **Wan Zuha Wan Hasan**, “ Non-linearly in wide dynamic range CMOS image sensors utilizing a partial charge transfer technique” *Sensor* 2009(9):pp 9452-9467. ([IF: 1.870](#))
13. Mazlina, M.K.S., A.R.N. Aliaa, H.N. Hidayati, M.S.I.S. Shima and **W.H.W. Zuha**, 2010. Design and development of an apparatus for grating and peeling fruits and vegetables. *Am. J. Food Technol.*, 5: 385-393. ([SCOPUS](#))
14. M.H.M Hasimi, **W.H.W.Zuha**, S. Shafie and M.H. Marhaban, “Fire Fighting Robot”, *Journal of the Japan Society of Applied Electronics Mechanics*, 2011

15. N. Zakaria, **W.H.W Zuha**, M.S. Roslina, and Izhal Abdul Halin, "Fault Detection with Optimum March Test Algorithm, *Journal of Theoretical and Applied Information Technology (JATIT)*, Vol 47 (1) 2013.([SCOPUS](#))
16. M.H. Chong, H.Jaafar, **W.Z.W.Hasan**, S.Shafie, M.N.Hamidun, M.M. Isa and A.F. Hawary, "An Experiment of Thick Film Force Sensor using MEMS Simulation Software", *Journal of Theoretical and Applied Information Technology (JATIT)*, Vol 48 (1) 2013. ([SCOPUS](#))
17. W.Z.W.Hasan, Lim Wei Chun, M.H. Marhaban, M.N. Hamidon, S. Shafie and A.Che Soh, A Smart Car Design Model Using Freescale single-chip MC9S12XS128 ICEE2013, 24-25 December 2013, Madinah Arab Saudi (will be Published on *Federation's International Journal of Engineering & Technology (IJET)* 2013
18. W. Z. W. Hasan, , J.I. Asnor, Z. S. Rosnah, H.A.B. Badrul. Development of Electronic Nose for Determining Ripeness of Pineapple .will be published on *Journal of Engineering Science and Technology*, 2013. ([SCOPUS](#))
19. Badrul Hisham Abu Bakar,Asnor Juraiza Ishak, Rosnah Shamsuddin,Wan Zuha Wan Hassan. Ripeness Level Classification For Pineapple Using RGB And HSI Color Map. *Journal of Theoretical and Applied Information Technology (JATIT)*. Vol 57(3). 2013.([SCOPUS](#))
20. Haslina Jaafar, K.S. Beh, Nurul Amziah Md. Yunus, Wan Zuha Wan Hasan and Othman Sidek, A Comprehensive Study on RF MEMS Switch, *Journal of Micro/Nanolithography, MEMS and MOEMS, SPIE*.2013 ([SCOPUS](#))
21. Juraiza Ishak, Rosnah Shamsudin, Wan Zuha Wan Hassan and Nurnazeera ZulkefliDesign of Weight Grader for Pineapple, *International Journal of Engineering and Technology, Vol. 10, No.2*.
22. Shafie , F A M Fodzi, L Q Tung, D X Lioe , I A Halin, W Z W Hasan, HJaafar, Development of CMOS Imager Block for Capsule S Endoscope, *Journal of Physics: Conference Series* 495 (2014) 012005, 2014.
23. Mojtaba Ahadi, Maryam Binti Mohd Isa, M. Iqbal Bin Saripan, Wan Zuha Wan Hasan, Square monopole antenna for microwave imaging, design and characterisation. *Journal of IET Microwaves, Antennas & Propagation*, 2014.
24. F. N. Jamaluddin, S. A. Ahmad, S. B. N. Noor, W. Z. W. Hasan, "Low cost and wearable multichannel surface electromyography data acquisition system architecture" *Journal of Engineering Science and Technology* (2014), 98 – 106.
25. AhmedM. Almassri, W. Z. Wan Hasan, S. A. Ahmad, A. Ishak, A. M. Ghazali " Pressure Sensor: State of the Art, Design, and Application" for Robotic HandArticle in *Journal of Sensors* 2015(2015):12 ·[SCOPUS](#) (IF-1.182).
26. O. Hussein, W.Z. Wan Hasan, A. Che Soh. H. Jafaar, "An Accurate Setting for Remapping Process of Foot Plantar Pressure", *Journal of Advanced Science, Engineering and Medicine (ASEM)*, 2015
27. Rasoul Garmabdari, Suhaidi Shafie, **Wan Zuha Wan Hassan**, Alireza Garmabdari, "Study on the effectiveness of dual complementary Hall-effect sensors in water flow measurement for reducing magnetic disturbance", *Flow Measurement and Instrumentation*, Vol 45, 2015, pp. 280–287([ISI, IF:1.040](#))
28. Ahmad H. Sabry, **Wan Zuha Wan Hasan**, Mohd Zainal, Mohd. Amran and Suhaidi B. Shafie, "DC Loads Matching Technique as an alternative to AC inverter in residential Solar System Application Evaluation and Comparison" *Applied Mechanics and Materials* Vol. 785 (2015) pp 225-230

29. Ahmad H. Sabry, **Wan Zuha Wan Hasan**, Mohd Zainal, Mohd. Amran and Suhaidi B. Shafie, "Alternative Solar-Battery Charge Controller to Improve System Efficiency" *Applied Mechanics and Materials* Vol. 785 (2015) pp 156-161 (Q3)
30. Ahmad H. Sabry, Wan Zuha Wan Hasan Mohd Zainal, Mohd. Amran and Suhaidi B. Shafie "High Efficient Integrated Solar Home Automation System Based on DC Loading Matching Technique" *ARPN Journal of Engineering and Applied Sciences* VOL. 10, 2015 pp6424-6434
31. Mojtaba Ahadi, Ph.D., Maryam Isa, Ph.D, M. Iqbal Saripan, Ph.D, and W.Z.W. Hasan, Ph.D," Three Dimensions Localization of Tumors in Confocal Microwave Imaging for Breast Cancer Detection" , *Journal of Microwave and Optical Technology Letters* 2015.
32. Aina Mardhiyah M. Ghazalia, W. Z. W. Hasan, M. N. Hamidunb, Ahmed H. Sabry, S.A. Ahmed, C. Wada, "An Accurate Wireless Data Transmission and Low Power Consumption of Foot Plantar Pressure Measurements" *Elsevier-Procedia Computer Science* 76 ( 2015 ) 302 – 307.
33. Asaad A.Alhasoon W.Z.W. Hasan, H. Hizam "Constant DC-DC Converterwith Variable Voltageand Load Resistivein Pico Hydro Turbine Generator System" *International Journal of Control Theory and Applications*. IJCTA, 9(31), 2016, pp. 7-14
34. M.A. Nazir, N.A. Kamsani, N. Azis. And W.Z.W. Hasan, "Integration of Ultra-Capacitor and Battery as hybrid Energy Storage with Intelligent Controller for Efficient Electric Vehicle Application" *IJCTA*, 9(5), 2016, pp. 345-355
35. M.H.M. Sidek, N. Azis. W.Z.W. Hasan, M.Z.Ab Kadir, S. Shafie and M.A.M. Radzi, "Automated positioning dual-axis solar tracking system with precision evelation and azimuth angle control" *Energy* (74) 2017 pp 302-30
36. Ahmed M. M. ALmassri, Chikamune Wada, W. Z. Wan Hasan and S. A. Ahmad, "*Auto Grasping Algorithm of Robot Gripper Based on Pressure Sensor*" *Pertanika J. Sci. & Technol.* 25 (S): 2017, pp 113 122
37. W. Z. Wan Hasan, F. R. M. Rashidi, M. N. Hamidon and Y. Wahab," *Design of Readout Circuit for Piezoresistive Pressure Sensor Using Nodal Array Approach Reading Technique*", *Pertanika J. Sci. & Technol.* 25 (S) 2017, pp 215 224
38. A. A. F. Husain and W. Z.Wan Hasan' "Transparent Solar Cell Using Spin Coating and Screen Printing" *Pertanika J. Sci. & Technol.* 25 (S) 2017, pp 225 – 234
39. A. H. Sabry W. Z. W. Hasan, MZA Ab. Kadir, M. A. M. Radzi, and S. Shafie," *Photovoltaic-Powered Smart Home System with Direct Current-Environment*", *Journal of Computational and Theoretical Nanoscience (ASP)* Vol. 14, 1–16, 2017
40. F.A.Aziz, K.A, A. H. Sabry and W. Z. W. Hasan, "*Augmented Reality Application to Monitor wireless data Process in Manufacturing*", *Journal of Computational and Theoretical Nanoscience (ASP)* Vol. 14, 1–16, 2017
41. Yasir Alkubaisi, W.Z. W. Hasan, S.B. Mohd Noor, M.Z.A. Ab.Kadir, and A H. SABRY "*Gravitational Electric Energy of a Multilevel Parking Buildings in Commercial and Residential Sectors Proof of Concept and Prototype Measurements*", *Journal of Computational and Theoretical Nanoscience (ASP)* Vol. 14, 1–16, 2017

42. Yasir Alkubaisi, W.Z. W. Hasan, S.B. Mohd Noor, M.Z.A. Ab.Kadir, and A H. SABRY " *Review of Gravitational Electric Energy and Application Perspectives on Modern Buildings*", Journal of Computational and Theoretical Nanoscience (ASP) Vol. 14, 1–16, 2017
43. Ahmad H. Sabry, W. Z. W. Hasan, M.Z.A. Ab Kader, M. A. M. Radzi, S. Shafie, "Field Data-based Mathematical Modeling by Bode Equations and Vector Fitting Algorithm for Renewable Energy Applications", PLoS ONE 12(9), 2017.
44. Ahmad H. Sabry, W. Z. W. Hasan, M.Z.A. Ab Kader, M. A. M. Radzi, S. Shafie, et al. "Processing and Monitoring Algorithm for Solar-Powered Smart Home in DC-Environment System Based on RF-Radio Node, Multi-disciplinary Trends in Artificial Intelligence, pp.304-314, 2017.
45. Falih S. M. Alkhafaji <sup>A,B\*</sup>, Wan Z. W. Hasan<sup>a</sup>, M.M. Isa And N. Sulaiman, "Robotic Controller: ASIC Vs FPGA - A Review" Journal of Computational and Theoretical Nanoscience (ASP) Vol. 14, 1–16, 2017\_Accepted
46. Falih S. M. Alkhafaji <sup>A,B\*</sup>, Wan Z. W. Hasan<sup>a</sup>, M.M. Isa And N. Sulaiman, "Optimisation Proportional Integral Derivative Controller Based on Second and Third Plant Model" Scopus Journal 2017\_Accepted
47. Omar I. Dallal Bashi, W. Z. Wan Hasan, N. Azis, S. Shafie and Hiroaki Wagatsuma, "UAV Quadcopter: A Review", Journal of Computational and Theoretical Nanoscience (ASP) Vol. 14, 1–16, 2017\_Accepted
48. Omar I. Dallal Bashi, W. Z. Wan Hasan, N. Azis, S. Shafie and Hiroaki Wagatsuma, "UAV Quadcopter: Effect of quadcopter flight modes on the application of methane gas concentration measurement accuracy at landfill sites" SCOPUS Journal 2017\_Accepted
49. Omar I. Dallal Bashi, W. Z. Wan Hasan, N. Azis, S. Shafie and Hiroaki Wagatsuma, "Autonomous Quadcopter Altitude for Measuring Risky Gases in Hazard Area" SCOPUS Journal 2017\_Accepted
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## Intellectual Property (IP)

- 1) Fault Syndrome Simulator (Software Copyright)
- 2) Smart Weight Grader Machine (ID 12-00941-0101-Industrial Design)
- 3) Integrated Circuit Layout Design Filed " MPP charge controller circuit – Solar Home System Based-on Integrated DC-matching Technique". (ICDL No. 201703230506)
- 4) Integrated Circuit Layout Design Filed " DC-DC Management Circuit Diagram – Solar Home System Based-on Integrated DC-matching Technique". (ICDL No. 201703230504)
- 5) Integrated Circuit Layout Design Filed " Full DC-Load Matching circuit Diagram – Solar Home System Based-on Integrated DC-matching Technique". (ICDL No. 201703230505).
- 6) Copyright Filed " One-Time MPP Software for Calculating The Voltage at which Solar-Battery Controller Operates". (Copyright No. 201703310502)
- 7) Copyright Filed " Software Algorithm for Engineering Management and Monitoring based on only couple RF-Module for Solar Power Home System ". (Copyright No.201703310503)
- 8) A Solar Tracker And A Method For Controlling Thereof-Pi 2017700249
- 9) A Solar Tracking Sensor – Ui2017700251
- 10) Quadcopter Sensing System -Filling

## Consultancy

1. Expert Service and robotics facility, Seminar Psikologi Perkhidmatan Awam ke-17, 5-6 July 2011, PICC Putrajaya.
2. Expert Service and robotics facility, Seminar Kaunseling Lembaga Kaunselor Malaysia, 17-18 July 2011, Renaissance Hotel, Kuala Lumpur.
3. Expert Service and robotics facility, Seminar Kaunseling Lembaga Kaunselor Malaysia, 4 May 2011, Majlis Anugerah Perkhidmatan Cemerlang 2010, PICC Putrajaya
4. Expert Service and robotics facility, Workshop on Robotic to USIM, 20 April 2011, UPM.
5. Head of Embedded System Laboratory, Embedded Electronic Board for 'DISEGANI' storage Unit, UPM-NagaSteel Sdn Bhd, Jun -Dec 2013

## ATTENDED CONFERENCES

### Keynote Speaker

#### *OVERSEA*

1. Title: MEMS Technology for Passive Wireless Sensing Harsh Environment Applications at The 12<sup>th</sup> Takayanagi Kenjiro Memorial Symposium, 18-19 November 2010
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#### *LOCAL*

1. Title: Built-in Self-test, Self-diagnosis and Self-repair for Embedded SRAMs, IEEE CAS Malaysia, UPM 26 April 2006

### Presenter

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- W.Z.W. Hasan**, “Sensor Application Using PIC Microcontroller”, Sensor Technology and Application Seminar 25<sup>th</sup> Oct 2011, ITMA UPM Malaysia.