



CURRICULUM VITAE

A. Personal Detail

1. **Name:** PROF. DR. ISHAK BIN ARIS

2. **Address:** **Professor,**
Department of Electrical and Electronic Engineering
Faculty of Engineering, Universiti Putra Malaysia
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Tel: (General Office) +603-97696323, Fax: +603-97694488
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Adjunct Professor,
(15 August 2017 – 14 August 2020)
Faculty of Science, Engineering and Technology, Swinburne
University of Technology, PO Box 218 Hawthorn, Victoria 3122
Australia

Honorary Professor
School of Engineering & Technology
Amity University, Uttar Pradesh, India
26th Oct. 2017 – up to date

E-Mail: ishak_ar@upm.edu.my

Main Field of Interest: Electrical Engineering (Automotive Electrical and Electronic System, Power Electronics and Drive System, Electrical machine design, Electric Vehicle, Intelligent Energy Efficient Vehicle, Autonomous Vehicle, Vehicle Communication system, Embedded System, Artificial Intelligence, Image Processing, Avionics, UAV, Sensor, Robotic System, IoT System, Renewable Energy System and Intelligence System, VLC)

Orcid author ID: [0000-0003-0864-8656](https://orcid.org/0000-0003-0864-8656)

Scopus author ID: 6603306751

Scopus H-Index: 20
Citation: 1190

Google Scholar H-Index: 25
Citation: 2111

3. **Date of Birth:** 11 April 1966

Age: 56 years old

4. **Academic Background and Qualifications**

No.	School/University	Period	Note
a.	Primary School - Sekolah Rendah Kebangsaan L. B. Johnson, Seremban, Negeri Sembilan, Malaysia	1973-1978	
b.	Secondary School – Sekolah Menengah Dato’Mohd Said, Nilai, Negeri Sembilan, Malaysia	1979-1981	
c.	Royal Military College, Sg. Besi, Selangor. Malaysia	1982-1984	
d.	George Washington University, Washington D. C. USA	1984-1988	BSc in Electrical Engineering (CGPA: 3.35 on 0 to 4 scale)
e.	University of Bradford, United Kingdom / Loughborough University of Technology, United Kingdom	1990-1991	MSc in Power Electronics Engineering.
f.	University of Bradford, United Kingdom.	1992-1995	PhD Thesis Title: “Application of Artificial Intelligence to Power Electronic Circuit Design and Fault Diagnosis”.

5. **Nationality:** Malaysian

6. **Marital status:** Married

7. **Language Proficiency:**

No.	Language	Oral (Current Status)	Written (Current Status)
1.	English language	Excellent	Excellent
2.	Malay Language	Excellent	Excellent

B. Computing Environment Familiarity

B.1 Programming Languages

Assembly Language, C, Fortran, Basic, Smalltalk-80, Visual Basic, EMTDC, PSCAD, Microcoding for TPU of the Power PC MPC500 family, PIC program, Atmel microcontroller (BASCOM), GT-Power, Power PC MPC555x, Arm processor- Linux AVR32 - Linux, MATLAB, Simulink, LabView

B.2 VLSI CAD & Electronic Design Tool Familiarity

PSPICE, HSPICE and Board Maker, Protel, Cadstar, Poteus, Verilog - FPGA

B.3 Word Processing Software

Microsoft Words, Microsoft Excel, Microsoft Powerpoint, Microsoft Access, Wordstar, MacWrite, MacDraw, Corel Draw and Paint Brush

C. Administrative Duties and Other Responsibilities

Year	Post	Level
2020 - 2021	Committee member of WG-Human Capital Development Nasional Automotive Policy (NAP) 2020	National
2020 - 2023	Committee member of Eng. Doctor Program	Faculty
2018	Chairman, Technical Committee on Automotive electrical and electronic - TC/L/2, Malaysia Standard, SIRIM	National
2018 - 2020	Assessor for Study Programs for UPM	University
12 Dec 2018	Coordinator (UPM), MDEC – Intel AI Academy Program	National
1 Nov 2018	Coordinator, Proton – Universities Technical Consortium	National
15 August 2017 – 14 August 2020	Adjunct Professor, Faculty of Science, Engineering and Technology, Swinburne University of Technology, PO Box 218 Hawthorn, Victoria 3122 Australia	International
20 Nov 2013	Committee member of Faculty of Engineering Utility Saving	Faculty
27 April 2012 – 2014	Chief Editor of International Journal on Sustainable Mobility Technologies, SAE International Malaysia	International
1 Jun 2011 - 2013	Advisor of SAE International Malaysia for 2011/2013	International
1 Jun 2007 – 31 May 2010	Deputy Director, Institute of Advanced Technology, UPM	University
2009 - 2011	Chairman of SAE International Malaysia for 2009/2011	International / National
1998 - 2007	Assessor for National Accreditation Board in Engineering and Technology Program Courses (LAN)	National

2008 date	to	Senior Assessor for Malaysian Qualification Agency (MQA)	National
1996 date	to	Academic Adviser, Dept. of Electrical and Electronics Eng.	Department
2010 date	to	Research Proposal Assessor	Faculty/ Institute/ University
2010 2012	-	Curriculum Development Committee for M.S. (Electrical Power Engineering) Structure C Program.	Department
2010		Chairman of Organising Committee for SAE International Conference on Sustainable Mobility, 1 st – 3 rd Dec 2010, Kuala Lumpur.	International / National
2009		Coordinator of short course, “UAV Design, Fabrication and Technology Implementation Part I”, 2 – 13 Nov 2009, Institute of Advanced Technology.	Department/Institute
2009		Coordinator of short course, “UAV Composite Course”, 19 Oct – 30 Oct 2009, Institute of Advanced Technology.	Department/Institute
2009		Coordinator of short course, “UAV Avionics Embedded System Design and Practical Training”, 16-27 March 2009, Institute of Advanced Technology.	Department/Institute
2009		Coordinator/speaker of short course, “UAV Design, Fabrication and Technology Implementation”, 23 Feb – 6 March 2009, Institute of Advanced Technology.	Department/Institute
2009		Coordinator/speaker of short course, “UAV Design, Fabrication and Technology Implementation”, 2 -13 Feb 2009, Institute of Advanced Technology.	Department/Institute
2009		Coordinator, Technical visit to Proton Tanjung Malim, 10 December 2009.	Department
2008 2009	-	Deputy Chairman SAE Malaysia for 2008/2009	International / National
2007 2008	-	Exco Member of SAE Malaysia for 2007/2008	International / National
2004 2006	-	New Curriculum Committee Member for a New Program of BEng. in Electrical and Electronics	Department
2003 2006	-	Committee Member of Departmental Examination Board	Department
2006		Program Head (Electronic Control Unit for CNG/DI vehicleProject (AATL, ITMA)	University
2006		Committee Member of Research Products Selection	Faculty
2006		Panel for University Research Policy	University
2006		Head of Electrical Power Unit	Department
2003 2005	-	Chairman of Faculty Electric Committee	Faculty
2002 2005	-	Member of task force on electrical and electronics industry – Malaysian Industrial Development Authority	National

2002 - 2005	Member of Technical Evaluation Panel for IRPA RM8 Research Proposal	University
2005	Chief de Mission of UPM delegates to 33 rd International Exhibition of Inventions, New Techniques and Products of Geneva, 6 th – 10 th April 2005	University
2003 - 2005	Head, Electric Power Unit	Department
2005	Program Head (Electronic Control Unit for CNG/DI vehicleProject (AATL, ITMA)	University
2005	Coordinator for MSc in Electrical Engineering Without Thesis	Department
2004	Chairman of Faculty Electric Committee	Faculty
2004	Advisor Panel for Trip to Geneva	Faculty
2004	Coordinator for MSc in Electrical Engineering Without Thesis	Department
2004-05	Panel of Final Year Project Evaluation Committee.	Department
2003	Advisor of Robocon 2003 project	University
2002 - 2003	Committee member for UPM research magazine UPM R&D Digest: Synthesis	University
2003	Committee Member of Post Graduate Diploma in Biomedical Engineering	University
2001 - 2003	Chairman of Department of Electrical and Electronic Engineering ISO9001 Committee	Department
2002	Chairman of Evaluation Panel for Industry Research and Development Grant Scheme under Ministry of Science, Technology and Environment. Project Evaluated: “Research and Development of Electronic Sensorless Closed Loop Temperature Controller” by AS & S Sdn. Bhd.	National
2002	Chairman of Exhibition Committee for Department of Electrical and Electronic Engineering	Department
2002	Member of Examiner and Assessor Body of JUMPA (Academic Quality Control Committee)	University
2002	Committee Member of Post Graduate Diploma in Biomedical Engineering	University
2002	Chief de Mission of UPM delegates in Education Ministry Innovation and Quality Exhibition 2002	University
2001	Co-ordinator of the Robolab II and ISVS Robotoy Projects participated in Expo Science and Technology 2001	National
2001	Co-ordinator of the Robolab Project participated in the Malaysia Public Services Department Innovation Exhibition	National
2000-2001	Steering Committee Member of Robofest 2001	National
2001	Co-ordinator of dancing robot and Robocon projects for Robofest 2001	National

2000 - 2001	External program (Prime College) Co-ordinator for EE Degree Program	University
1997 - 2001	Industrial Training Co-ordinator for BKEE	Department
2001	Co-ordinator Lab machines (Teaching Lab) and develop lab manual for KEE3310 (Electrical Machines Lab)	Department
2001	Co-ordinator Medical Instrument Lab (2 nd . phase Engineering complex).	Department
2000	Committee member of Faculty ISO9001 IQA	Faculty
2000	Curriculum committee member of Electrical and Electronic Engineering Degree (4 year program)	Faculty
2000	Co-ordinator / designer of Biomedical Engineering lab for the Faculty of Engineering new complex.	Faculty
2000	Member of ISO9001 Internal Quality Audit	Faculty
2000	Coordinator of Machine Lab	Department
2000	Committee member of Innovation and Research Awards of Faculty of Engineering	Faculty
2000	Co-ordinator of ITEX 2000 – Robolab and Car Pager System	Department
2000	Co-ordinator of the projects - Self guided vehicle and car pager system in Universiti Putra Malaysia Innovation and Research 2000 Award –	Department
2000	Co-ordinator of the Robolab project participated in Innovation Exhibition 2000, Ministry of Education.	National
1999	Program Co-ordinator for Bachelor Degree in Electrical and Electronic Engineering of Prime College.	Department
1999	Student advisor for additional final year students	Department
1999	Head of multimedia unit.	Department
1999	Member of Evaluation Panel for Bachelor of Technology Programmes in Tooling Engineering Technology and Mechatronics Engineering Technology for German-Malaysian Institute.	National
1999	Curriculum Development Committee for a new four years program of BEng (Electrical and Electronic Engineering).	Department
1998	Committee for Departmental Examination Board	Department
1998	Curriculum Development Committee for a 3 1/2 years program of BEng (Electrical and Electronics Engineering)	Department
1998	Assessor for National Accreditation Board in Engineering and Technology Program Courses (LAN)	National
1997 - 1988	Head, Power Engineering Section	Department

1997	Co-ordinator of a teaching section of ISO9000 organising committee at the Faculty of Engineering, UPM.	Faculty
1997 - 1999	Curriculum Development Committee for M.S. (Electrical Power Engineering) Structure C Program.	Department
1997	Committee for Purchasing Lab Equipment	Department
1997	Co-ordinator of Electronic System II Laboratory	Department
1996	Organising committee of a short course entitled “DC to DC Converter”, Faculty of Engineering, UPM , 3. 12. 97 – 4. 12. 97	Department
1996	Curriculum Development Committee for Diploma in Electronic Engineering Program., UPM	Department

D. Working Experience

No.	Employer	Position	Duration
1	Universiti Putra Malaysia (Department of Electrical and Electronic Eng.)	Professor	1 August 2011 – to date
2.	Faculty of Science, Engineering and Technology, Swinburne University of Technology, PO Box 218 Hawthorn, Victoria 3122 Australia	Adjunct Professor	15 August 2017 – 14 August 2020
3.	School of Engineering & Technology Amity University, Uttar Pradesh, India	Honorary Professor	26 Oct 2017 – up to date
4.	Universiti Putra Malaysia (Institute of Advanced Technology)	Deputy Director	1 Jun 2007 – 31 May 2010
5.	Universiti Putra Malaysia (Department of Electrical and Electronic Eng.)	Associate Prof.	1 May 2003 – 31 July 2011
6.	Collaborate with Texas Instrument and UTM. Project title: Design and Development of Character and Marking Inspection System for Semiconductor Applications – Symbol Inspection Research Contract: RM192,720.00	Project Leader	2002 – 2005
7.	Collaborate with Advance Interconnection Technologies Sdn. Bhd. Project Title: RFID GSM-based vehicle immobiliser system. Research Contract: RM209,236.00.	Project Leader	2002 - 2004.
8.	Collaborate with Proton, Petronas Research, UKM, UM, UTM, UTP, UiTM Program Title: Compressed Natural Gas /Direct Injection Engine and Transmission Project title: Development of an Electronic Control Unit and its Diagnostic Kit for CNG Direct Injection Engine (2002 – 2007) – RM2.94 million Research Grant: RM28.8 million (IRPA) – from the Ministry of Science Technology and Environment	Project Leader	2002 – 2007

9.	Malaysia Utility Board Research Centre (TNB Research Sdn. Bhd) – Project: Electric Vehicle Project and HVDC Transmission Project	Sabbatical Leave (Research Associate)	1 st . August 2001 – 30 April 2002.
10.	Universiti Putra Malaysia (Dept. of Electrical and Electronic Eng.)	Lecturer	8. 8. 96 – 30. 4. 2003
11.	Universiti Sains Malaysia (School of Electrical and Electronic Eng.)	Lecturer	28. 8. 95 - 7. 8. 96
12.	University of Bradford (Dept. of Electrical and Electronic Eng.) United Kingdom	Demonstrator for Power Electronics & Machines undergraduate lab.	Feb. 94 - April 94
13.	University of Bradford (Dept. of Electrical and Electronic Eng.) United Kingdom	Demonstrator for Power Electronics Lab. MSc course	Oct. 92 - Dec. 92
14.	Universiti Sains Malaysia (Electrical and Electronic Eng. Department)	Tutor	15 March 90 - 30 Sept. 90
15.	Ministry of Defence (Electrical and Mechanical Eng. Corps, Malaysia Army)	Army Officer	5 Dec 88 - 14 March 90

E. Teaching Experience

- a. December 1988 – March 1990, lecturing the following subjects at the School of Electrical and Mechanical Engineering Malaysian Army Corp,
 1. Engineering Mathematics
 2. English Language.
- b. March 1990 – September 1990, lecturing and supervising the following subjects at the School of Electrical and Electronic Engineering, Universiti Sains Malaysia,
 1. Circuit Theory for technicians
 2. Electronic Laboratory I.
- c. Oct. 1992 – April 1994, lecturing and supervising the following subjects at the Department of Electrical and Electronic Engineering, University of Bradford, United Kingdom,
 1. Power Electronics Lab for MSc course
 2. Power Electronics and Machines Lab for undergraduate course
 3. Undergraduate final year project.
- d. August 1995 – July 1996, lecturing and supervising the following subjects at the School of Electrical and Electronic Engineering, Universiti Sains Malaysia,
 1. Introduction to Power Engineering
 2. Electronic Lab II
 3. Power Electronics Engineering
- e. August 1995 – present,

Lecturing the following subjects at the Department of Electrical and Electronic Engineering, Universiti Putra Malaysia,

Semester July 96/97	KK422	Power Electronics Eng (3 credits).
	KEE3101	Circuit Theory I (3credits)
	KEE3101	Circuit Theory I Lab (1 credit).
Semester Dec. 96/97	KEE3102	Circuit Theory II (3 credits)
	KEE3102	Circuit Theory II Lab (1 credit).
	Design and produce lab manual for KEE3102	
Sem. May 97/98	KEE3101	Circuit Theory I (3 credits)
	KEE3101	Circuit Theory I Lab (1 credit)
	Design and produce lab manual for KEE3101	
	KK422	Power Electronics Eng. (3 credits)
Sem. Nov. 97/98	KEE3102	Circuit Theory II (3 credits)
	KEE3102	Circuit Theory II Lab (1 credit)
	KEE3908	Industrial Training – Coordinator (3 credits)
Sem. May 98/99	KEE4303	Power Electronic (3 credits)
	KKK3601	Communication Theory (3 credits)
Sem Nov. 98/99	KEE3102	Circuit Theory II (3 credits)
	KEE4403	Industrial Control Electronic (for undergraduate and post graduate students) (3 credits)
	KEE3301	Power Engineering Principal (3 credits)
Sem. May 1999/2000	KEE3908	Industrial Training Coordinator (3 credits)
	KKK3601	Communication Theory (3 credits)
	KEE4303	Power Electronics (for undergraduate and post graduate students) (3 credits)
Sem Nov. 1999/2000	KEE3102	Circuit Theory II (3 credits)
	KEE4403	Industrial Control Electronic (for undergraduate and post graduate students) (3 credits)
	KEE3908	Industrial Training Coordinator (3 credits)
Sem May 2000/2001	KEE3310	Electrical Power and Control System Laboratory (2 credits)

	KEE4303	Power Electronics (for undergraduate and post graduate students) (3 credits)
	KEE4309	Electric Power Quality (3 credits) (for undergraduate and post graduate students)
	KKK3601	Communication Theory (3 credits)
Sem Nov 2000/2001	KEE4403	Industrial Control Electronic (for undergraduate and post graduate students) (3 credits)
	KEE3908	Industrial Training Coordinator (3 credits)
Sem March 2001/2001	KEE4308	Wiring System Design (3 credits)
Sem May 2002/2003	KEE4303	Power Electronics (for undergraduate and post graduate students) (3 credits) Teaching evaluation: 4.15/5
	KEE 3011	Electrical and Electronic Technology (3 credits) Teaching evaluation: 4.02/5
Sem Nov 2002/2003	KEE4407	Multivariable Control Systems (for undergraduate and post graduate students) (3 credits) Teaching evaluation: 4.35/5
Sem May 2003/2004	KEE4303	Power Electronics (for post graduate students) (3 credits) Teaching evaluation: 4.58/5
	KEE3312	Power Electronics (for under graduate students) (3 credits) Teaching evaluation: 4.29/5
Sem Nov 2003/2004	KEE3601	Communication Engineering (3 credits) Teaching evaluation: 4.51/5
	KEE4318	Industrial Drives (3 credits) Teaching evaluation: 4.62/5

Sem I 2004/2005	KEE5319	Power Electronic Converters (3 credits) (4.53/5)
	KEE4309	Electric Power Quality (3 credits)
	KEE3905	Electrical and Electronic Lab (2 credit)
	KEE3312	Power Electronics (Tutorial) (1 credit) Teaching evaluation: 4.25/5
Sem II 2004/2005	KEE4318	Industrial Drives (3 credits) Teaching evaluation: 4.69/5
	KEE3904	Electrical and Electronics Lab IV (2 credit)
Sem II 2005/2006	KEE4318	Industrial Drives (3 credits) Teaching evaluation: 4.46/5
	KEE3906	Electrical and Electronics Lab VI (2 credits)
	KEE3313	Electric Machines and Drives (Tutorial) (1 credit)
Sem I 2006/2007	KEE 3312	Power Electronics (3 credits) Teaching evaluation: 4.21/5
	KEE4309	Electric Power Quality (3 credits) Teaching evaluation: 4.24/5
	KEE5955	Compressed Natural Gas Direct Injection Engine Electronic Control Unit (3 credits)
Sem II 2006/2007	KEE4318	Industrial Drive (3 credits) Teaching evaluation: 4.12/5
	KEE3601	Communication Engineering (3 credits) Teaching evaluation: 4.33/5
Semester II 2007/08	KEE3311	Power generation and utilization (3 credits) Teaching evaluation: 4.55/5
Semester I 2008/09	EEE3302	Power Electronics (3 credits) Teaching evaluation: 4.44/5

Semester II 2008/09	EEE3306	Electrical Wiring Design (3 credits) Teaching evaluation: 4.44/5
	KEE5955	Engine Management System (3 credits)
Semester I 2009/10	EEE5319	Power Electronics Converter (3 credits) Teaching evaluation: 4.02/5
Semester II 2009/10	EEE3306	Electrical Wiring Design (3 credits) Teaching evaluation: 4.63/5
Semester I 2010/11	EEE4307	Electrical Power Generation and Utilization (3 credits) Teaching evaluation: 4.68/5
	EEE5955	Engine Management System (3 credits)
Semester II 2010/11	EEE3101	Electrical and Electronic Principles (3 credits) Teaching evaluation: 4.83/5
	EEE4308	Industrial Drives (3 credits) Teaching evaluation: 5/5
Semester I 2011/12	EEE3101	Electrical and Electronic Principles (3 credits) Teaching evaluation: 4.37/5
Semester II 2011/12	KPB5900	Research Methodology (3 credits) Teaching evaluation: 4.68/5
	EEE 3301	Principles of Electrical Power Technology (3 credits) Teaching evaluation: 4.25/5
	EEE 3201	Microprocessor Technology (3 credits) Teaching evaluation: 4.28/5
Semester I 2012/13	EEE5301	Power Electronics Converter (3 credits) Teaching evaluation: 4.62/5
	EEE3904	Electrical Power Engineering Lab (1 credit): Teaching evaluation: 4.46/5
Semester II 2012/13	KBP5900	Research Methodology (3 credits) Teaching evaluation: 3.85/5
	EEE3907	Power System and Machine Laboratory (1 credit) Teaching evaluation: 4.67/5

Sem I 2013/2014	EEE3904	Electrical Power Engineering Lab (2 credit) Teaching evaluation: 4.56/5
Sem II 2013/2014	EEE3306	Electrical Wiring Design (3 credits) Teaching evaluation: 4.46/5
	EEE5301	Power Electronics Converter (3 credits) Teaching evaluation: 4.87/5
Sem I 2015/2016	EEE3306	Electrical Wiring Design (3 credits) Teaching evaluation: 4.69/5
	EEE5301	Power Electronics Converter (3 credits) Teaching evaluation: 5/5
Sem II 2015/2016	EEE3313	Electrical Machines and Drives (3 credits) Teaching evaluation: 4.26/5
Sem I 2016/2017	EEE3306	Electrical Wiring Design (3 credits) Teaching evaluation: 4.6/5
Sem II 2016/2017	EEE5301	Power Electronics Converter (3 credits) Teaching evaluation: 4.9/5
Sem I 2017/2018	EEE3306	Electrical Wiring Design (3 credits) Teaching evaluation: 4.67/5
Sem II 2017/2018	EEE5301	Power Electronics Converter (3 credits) Teaching evaluation: 5.0/5.0
Sem I 2018/19	EEE3306	Electrical Wiring Design (3 credits) Teaching evaluation: 4.5/5
	EAB5100	Research Methodology (3 credits) Teaching evaluation: 4.8/5
Sem II 2018/19	EEE3020	Electrical and Electronic Technology (2+1 credits) Teaching evaluation: 4.12/5
	EEE3100	Electrical and Electronic Technology (2+1 credits) Teaching evaluation: 5/5
Sem I 2019/2020	EEE3020	Electrical and Electronic Technology (2+1 credits) Teaching evaluation: 4.47/5
Sem II 2019/2020	EEE3326	Electrical Wiring Design (3 credits) Teaching evaluation: 4.56/5
	EEE3306	Electrical Wiring Design (3 credits)

Sem I 2020/2021	EEE3326	Electrical Wiring Design (3 credits) Teaching evaluation: 4.47/5
	EEE5100	Research Methodology (3 credits) Teaching evaluation: 4.67/5
Sem II 2020/2021	EEE3121	Electrical and Electronic Principles (3 crd) Teaching evaluation: 5/5
	EEE5100	Research Methodology (3 credits)
	EEE3927	Power System and Machine Lab (1 crd.)
Sem I 2021/2022	EEE3326	Electrical Wiring Design (3 credits)
	EEE5100	Research Methodology (3 credits)

F. Laboratory Development

1. Electrical Machines Laboratory (Teaching Lab)
2. Robotic and Vision Lab (Research Lab)
3. Automotive Power Train and Electronics System Lab (Research Lab)

G. Research Activities

1. BSc Final Year project (George Washington University, USA)

Development of IC-based audio amplifier (1988)

2. M.Sc. Dissertation (University of Bradford, United Kingdom)

-Inverter high quality audio amplifier- (1991)

This project deals with the design and development of a switched mode pulse width modulated audio power amplifier using power MOSFETs as switching devices.

Courses attended include: Power Device Physics & Characteristics; Analogue & Digital Power Circuitry; Introduction to Microprocessor Architecture; AC-DC Conversion; AC Load Control and HVDC Transmission; Self Commutated Converters; Instrumentation, Passive Components, Protection and Cooling; Control Theory; Power Electronics Control of Electrical Machines and Microprocessor Control in Power Electronics and Drives.

3. Ph.D Thesis (University of Bradford, United Kingdom)

-Application of Artificial Intelligence to Power Electronic Circuit Design and Fault Diagnosis- (1995)

The research work is divided into two parts. The first part involves the upgrade and improvement of a Power Electronics simulation package called PECT II. This includes designing and implementing a power MOSFET model into the package and the increase of its simulation speed using both HSPICE and an object-oriented language Smalltalk-

80. The second part deals with the development and implementation of a fault diagnosis knowledge-based system to be used for detecting faults that occur in a three-phase PWM inverter system, in real time. It is also included the design and development of a three-phase PWM inverter.

Research Grant:

No.	Research Title / Research Period/ Project Vot	Function	Research Grant Amount (RM) US\$1.00 = RM3.1	Source Funding of	Level	Status
1.	Development of Knowledge Based Expert System for Power Electronic Circuit Design (1997 –2000), (51314/1999)	Researcher	RM195,000.00 IRPA Research Grant	Ministry of Science Technology and Environment	National	Completed
2.	Microprocessor-based Three-Channel Current Probe System (1997 – 1998). (50223/1997)	Project Leader	10,000.00	UPM Short-Term Research Grant	University	Completed
3.	Early Warning Monitoring System for PETRONAS Natural Gas Pipeline Network (1997 – 1998) (50223/1997)	Project Leader	15,000.00	UPM Short-Term Research Grant	University	Completed
4.	Smart Battery Charger for an Electric Vehicle (1998 – 1999). (50223-98-01)	Project Leader	10,000.00	UPM Short-Term Research Grant	University	Completed
5.	Development of Uninterruptible Power Supply (UPS) for PC (1999 – 2000). (50208-99-04)	Project Leader	10,000.00	UPM Short-Term Research Grant	University	Completed
6.	Robolab – Auto-Laboratory and Testing Machine (1999-2000)	Project Leader	5,000.00	Internal Funding	University	Completed
7.	Telemedicine: Blood Pressure Monitoring System for Individual Use Through Internet (1999 – 2000) 50208-99-03	Project Leader	10,000.00	UPM Short-Term Research Grant	University	Completed
8.	An Investigation of lightning surge resonance and development of ultra-fast lightning arrester (2000 – 2002) 51512/2000/01	Project Leader	114,000.00 IRPA Research Grant	Ministry of Science Technology and Environment	National	Completed
9.	Robotoy – Robotic kit for school children (2000 – 2002)	Project Leader	5,000.00	Internal Funding	University	Completed

10.	IPAD ROBOT – An autonomous humanoid robot for ROBOCON Contest 2002 (2001 – 2002)	Project Leader	53,000.00	Ministry of Education Malaysia	National	Completed
11.	Development of a microcontroller based speed controller for model aeroplane engine (2000 – 2001) 50657	Project Leader	10,000.00	UPM Short-Term Research Grant	University	Completed
12.	Development of an automated IC casing system using PLC (2000 – 2001) 50675	Project Leader	10,000.00	UPM Short-Term Research Grant	University	Completed
13.	House painter robot (2001-2003)	Project Leader	5,000.00	Internal Funding	University	Completed
14.	The development of a pager system to be interfaced with an immobilizer system for motorcycles and heavy vehicles (RFID GSM-based vehicle immobiliser system). 2002 – 2004. 67001	Project Leader	Total grant = RM2.637 million. Grant given to UPM = RM209,236.00	Industry Research and Development Grant Scheme (IGS) Advance Interconnection Technologies Sdn. Bhd.	National	Completed
15.	Program Title: Design and Development of an Intelligent Vision Software with Integrated Automated Systems and their Applications Sub project title: Design of an Intelligent Vision Inspection System for Quality Control in Semiconductor Industry – Symbol Inspection (2002 – 2005) Collaborate with UTM and Texas Instrument. Project Number: 03-02-06-0051PR0022/04-02, 54837	Project Leader	Total Grant = RM3.6 million Research Grant to UPM: RM192,720.00	Ministry of Science Technology and Environment	National	Completed
16.	Development of e-diabetes monitoring system 02-03-02-0018S, 55018	Project Leader	15,000.00	UPM Short-Term Research Grant	University	Completed
17.	Development of fuzzy logic based position estimation in three-phase brushless permanent magnet motors. 02-03-02-0013F, 55013	Project Leader	50,000.00	UPM Short-Term Research Grant	National	Completed
18.	Development of an FPGA-Based SoC (system-on-a-	Researcher	178,000.00	Ministry of Science	National	Completed

	chip) for Low Cost IC Testing. Oct 2003 – March 2006 IRPA 09-02-04-0829-EA001			Technology and Environment		
19.	Development of Hybrid Photovoltaic System for Tropical Greenhouse Cooling. 09-02-04-0873-EA001 2004 - 2006	Researcher	189,400.00	Ministry of Science Technology and Environment	National	Completed
20.	Program Title: CNG/DI Engine and Transmission 03-02-04-0000-PR0030/10 Project title: Development of an Electronic Control Unit and its Diagnostic Kit for CNG Direct Injection Engine (2002 – 2007) 03-02-04-0561-PR0030/10-06 Collaborate with Proton, Petronas Research, UKM, UM, UTM, UTP, UiTM	ECU Project Leader	Total grant for the program = RM28.8 million. Grant for ECU project = RM2.94 million	Ministry of Science Technology and Environment	National	Completed
21.	Automated analysis of numerical protective relay operation using FPGA 2007 -2009	Researcher	60,000.00	Ministry of Higher Education Malaysia	National	Completed
22.	Development of a Macro Language for representing spatial relations in natural language. 2007 -2009	Researcher	80,000.00	Ministry of Higher Education Malaysia	National	Completed
23.	Development of a New Artificial Intelligent Controlled ND:YAG Laser Module 2007 -2009 Project Collaborator: UNITEN	Researcher	186,000.00	Ministry of Science Technology and Innovation	National	Completed
24.	Miniaturization of Driver module of ECU for Compressed natural Gas Direct Injection (CNGDI) Vehicle 2007 -2009	Researcher	123,000.00	Ministry of Science Technology and Innovation	National	Completed
25	Kinematics Analysis of Serial Robot Manipulators, Analytical and Experimental Artificial Intelligence Approach. 2007 -2009	Researcher	70,700.00 FRGS	Ministry of Higher Education Malaysia	National	Completed

26.	Development of Signal Emulator and Calibration Tool for Multifuel Electronic Control Unit of a Vehicle Power Train. 05-03-08-0471RU 91476 2008 –2010	Project Leader	30,000.00	Research University Grant Scheme	University	Completed
27.	Development of an On-line Genetic Algorithm-based High Precision Dispenser System for High Viscosity Material. 2008 -2010 Project Collaborator: UNITEN	Researcher	225,000.00	Ministry of Science Technology and Innovation	National	Completed
28.	Unmanned Ariel Vehicle (UAV) 1-8 2009.	Project Leader	52,500.00 Contract research	Asmara Aerospace Sdn. Bhd and Institute of King Abdul Aziz City for Science and Technology, Saudi Arabia (KACST	International	Completed
29.	PWM-based dual head industrial dosing system with evolutionary algorithm optimization. Project Number : 03-02-03-SF0176 2009 -2011 Project Collaborator: UNITEN	Researcher	162,000.00	Ministry of Science Technology and Innovation	National	Completed
30.	Analyzing EEG changes to estimate the level of attention or concentration during different mental tasks. Project Number : 04-04-10-907FR, Vot: 5523947 2010 -2012	Project Leader	48,000.00	Ministry of Higher Education The best FRGS scheme phase 2010	National	Completed
31	An Intelligent data mining technique in numerical protective relay performance analysis. Proj. No.: FRGS/1/11/TK/UPM/03/4 . Pusat No.: 5524136	Researcher	98,000.00	Ministry of Higher Education	National	Completed
32	Development of an electrical motorized cutter for oil palm harvesting	Researcher	125,000.00	RUGS	Universiti	Completed
33	Travelling Grant to USA attending SAE World	Project Leader	RM12,000.00	SAE International Malaysia Section	International	Completed

	Congress and Technical Course, 2011					
34	Sustainable Networked Charging Station for Electric and Hybrid Vehicles	Project Leader	RM 129,000.00	RUGS 05-02-12-1881RU Vot: 9345100	University	2012 – 2014 Completed
35	Development of Electromagnetism-like embedded smart controller for energy wastage diagnosis and optimization of machine efficiency. 03-02-03-SF0245	Researcher	RM175,600.00	SF	MOSTI	2012 – 2014 Completed
36	Wireless power transfer	Project Leader	RM11,000.00	DFRAN Research Technologies Sdn. Bhd	National	2013 Completed
37	Development of ECU for Energy Efficient Green Engine Multi-fuel Mixer	Project Leader	RM329,600.00	GP-IPB/2013/94129 01 PK:9412901	UPM	2 dec 2013 – 1Dec 2015
38.	Intelligent Control and Communication System for Smart Grid Power System	Researcher	RM100,000.00	GP-IPB/2013/94121 03 PK: 9412103	UPM	20 Nov 2013 – 30 Nov 2015 Completed
39.	Therapeutic effect of brain-waves (EEG) biofeedback guided prayer on mental and psychiatric disorders	Project Leader	RM120,000.00	03-01-14-1394FR PK: 5524478	Ministry of Education Malaysia	1 Jan 2014 – 31 Dec 2016
40.	Development of a Wireless Broadband Vehicle Network System	Project Leader	RM388,200.00	03-01-04-SF1739 PK: 5450762	Ministry of Science	1 Jun 2014 – 30 Nov 2016
41.	Optimization of Topology Permanent Magnet Linear Motor Using Finite Element Method and Permeance Analysis Method to Improve the Performance in Industrial Robotic & Automation	Researcher	RM101,200.00	FRGS/1/2014/T K01/UNITEN/0 2/2 Project code: 20140124FRGS Project ID: 48651 Collaborate with UNITEN	Ministry of Education Malaysia	2014 - 02016
42	Development Modular Electric Motor For Electric Vehicles	Researcher	RM 193,000.00	GERAN PUTRA INDIVIDU BERPRESTASI TINGGI (GP-IBT)	UPM	01-01-2014 - 31-12-2015
43	Design and Development of New Energy Sources and efficient energy management system humanoid robot	Project Leader	RM15,000.00	GP-IPS GP-IPS/2014/94387 20	UPM	17 Nov 2014 – 17 Nov 2016
44	Nature-inspired parametric analysis of driver's spinal response to steering vibration impact for electric vehicle steering system	Mentor	RM20,000.00-UPM RM50,000.00 - UIAM	Research Acculturation collaborative effort (RACE) Vot:9389900 RACEI4-006-0012	Ministry of Education Malaysia	Fasa 2 Jan 2014 –Dec 2015 Completed

	Project Leader: Dr. Siti Fauziah binti Toha (UIAM)					
45	Multi-direction wireless charging device	Project Leader	RM4.35 millions Collaborate with DFRAN Research Technologies Sdn. Bhd.	DANA Strategik Pelaburan Domestik (DISF) Malaysian Investment development authority(MIDA)	National MIDA	Jan 2013 – Dec2015 Completed
46	Design and Fabrication of a converter system for pre-heating vehicle catalytic converter to reduce the harmful gases emission during early stage of fuel combustion	Project Leader	RM20,000.00	Grant Putra – IPS GP-IPS/2016/94826 00	UPM	1 April 2016 – 1 April 2018
47	Mycoms . Electric car Project	Project member	RM150,000.00	Toyota Auto body Malaysia	International	May 2016 – April 2018
48	Design and Verification of Electroencephalography (EEG) Guided Prayer System Network for Stress Related Disease	Project Leader	RM24,500.00	GP-IPS/2019/96726 00	UPM	1 Feb 2019 - 31 Jan 2021
49	Circuit Design Techniques for the Improvement of Biophotovoltaic Cell Efficiency	Researcher	RM 98,670.00	GPB - GERAN PUTRA BERIMPAK (GP-IMPAK)	UPM	01-09-2017 - 31-05-2021
50	Prototyping Magnetically Geared High Power Density Generator for Vertical Axis Wind Turbine under Low Speed Terrain	Researcher	RM151,000.00	Prototype Research Grant Scheme (PRGS)	Ministry of Higher Education Malaysia	1 Sept. 2020 – 31 August 2022
51	Laser based Underwater Visible Light Communication (UVLC) All Optical Orthogonal Frequency Division Multiplexing (AO-OFDM) for Optical Internet of Things (OIOT)	Researcher	RM103,900.00	FRGS//1/2020/T K0/UPM/02/19	Ministry of Higher Education Malaysia	1 Nov. 2020 – 31 Oct 2023

EV and Electric Scooters project

No.	Project	Function	Amount	Source	Level	Duration
1.	EV and Electric Scooters Project	Project Leader	1 EV, 18 electric scooters	MIMOS	National	2013-2015

			worth RM260,000			
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H1 Sabbatical Leave Attachment

1. Sabbatical leave attachment at TNB Research Sdn. Bhd. Bangi Selangor Malaysia.
1st August 2001 – 30th April 2002
Project: HVDC Transmission Project and Electric Vehicle Project
2. Sabbatical leave attachment at Advanced Automotive Technology Laboratory, ITMA, Universiti Putra Malaysia, 1st July – 31st December 2005.
Project: Development of an Electronic Control Unit and its Diagnostic Kit for CNG Direct Injection Engine.

H2 Industry Attachement

1. Industry attachment at DFRAN Research Technologies Sdn. Bhd.
Period: 13 Oct. 2014 – 12 Oct. 2014.
Projects:
 1. Wireless Charging System for Low Power Applications in Vehicle Cabin.
 2. Universal Charging System for Electric Bus and Hybrid Vehicle

I.1 Academic Awards

1. Dean's Commendation List Fall 1985 (George Washington University).
2. Dean's Commendation List Spring 1986 (George Washington University).
3. Dean's Commendation List Fall 1986 (George Washington University).
4. Dean's Honor List Spring 1987 (George Washington University).
5. Dean's Honor List Fall 1987 (George Washington University).
6. Dean's Honor List Spring 1988 (George Washington University).

I.2 Research Awards International Level

1. Best paper presenter Award at ICSNR4 2019, Kota Kinabalu, Sabah, Mohd Najib Ahmad, Abdul Rashid Mohamed Shariff, **Ishak Aris**, Izhal Abdul halin and Ramle Moslim, "A false colour analysis: An image processing approach to distinguish between dead and living pupae of the bagworms, *Metisa plana* Walker (Lepidoptera: Psychidae)", 4th. International Conf. on Science and Natural Resources, Kota Kinabalu, Sabah, 7-8 April 2019.
2. **Honorary Professor**, School of Engineering & Technology, Amity University, Uttar Pradesh, India, 26th. Oct. 2017.
3. Best Presentation Award, "Low Cost Wireless EEG System for Medical and Non Medical Applications", (Siti Munirah Mohamad Yusof, **Ishak Bin Aris**,

Syedehniousha Mousavi, Haider Hussein Ali and Ratna Kalos Zakiah Sahbudin), 5th International Smart City Workshop, UPM, Serdang Malaysia, IEEJ and IEEE SMC, 8 – 10 March 2017.

4. Best Paper Award, “A review of different control methods in Power Electronics”, (A. S. Al-Ogaili, **Ishak Bin Aris**, M. I. Othman, D. Isa, N. Azis and H. F. Abbas), at International Conference on Electrical and Electronic Engineering 2017 (ICE3-2017), Langkawi Island, 8 – 9 May 2017.
5. Best Presenter Award, (Iman Zayer, **Ishak Bin Aris**, Asnor J. I and Hamiruce M.) at International Conference on Energy and Applied Mechanic 2016, “Wireless Energy Monitoring in Biped Robot based on Xbee RF module”, 25-26 March 2016, Kuala Lumpur, IPN.org.
6. SAE International 10-year Member Service Award, 2016.
7. SAE International Member Service Award, 2008.
8. Gold Medal, World Exhibition of Innovation, Research and New Technology 2008, Brussels, Belgium, 23-27 Nov. 2008.
Project: Animated Robotic Language for Children ANROLAN
Ishak Aris and Ho Teng Hoong.
9. Bronze Medal Award of Merit, INPEX 2008, June 11- 14, 2008, Pittsburgh, PA USA.
Project: Electronic Control Unit (ECU) for Compressed natural Gas Direct Injection (CNGDI) Vehicle.
Ishak Aris, M.K. Hassan, Senan Mahmod Abdullah, Roslina Mohd Sidek, K. N. Zainuddin and N. A. Alina.
10. Gold Medal, International Exhibition of Ideas-Inventions-New Products (IENA) 2007, Nuremberg, Germany, 1st – 4th November, 2007.
Project: Software system for detecting defective symbols on micro chip with adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin.
11. Silver Medal, International Exhibition of Ideas-Inventions-New Products (IENA) 2007, Nuremberg, Germany, 1st – 4th November, 2007.
Project: Wire rope sensor.
Dr. Eng. M. Norhisam, H. Noor Hasmiza, H. Ezril, N. Wei Shin, N. mariun, **I. Aris**, Y. Hirama
12. Qualified for the final round at the World Cup of Computer Implemented Inventions, China, 2008.
Project: Software system for detecting defective symbols on micro chip with adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin

13. Gold Medal, Invention & New Product Exposition 2007, INPEX 2007, Category of Automotive, Pittsburgh, USA, 6th – 9th June 2007.
Project: The method and optimazation of Ignition system parameters inside CNGDI Engine.
Norman mariun, Azimah Omar, Nasrulah Khan, **Ishak Aris**
14. Special award from the Association of Polish Inventor, Poland, 55th World Exhibition of Innovation, Research and New Technology 2006 (Eureka-Innova 06), Brussels, Belgium, 23-27 Nov. 2006.
Project: Compressed Natural Gas Direct Injection Passenger Vehicle.
Barkawi Sahari, **Ishak Aris**, Fakhru'l-Razi Ahmadun, Yusoff Ali, Shahrir Abdullah, Masjuki Haji Hassan, Zahari Taha, Luqman Chuah Abdullah, Norman Mariun, Muhd. Adlan Abdullah, V. Chelliah, Ku halim Ku Hamid, Md. Nor Musa, Mohd. Ibrahim Abd. Mutalib, Abd. Rashid Abd. Aziz, Mohd. Fauzy Ahmad
15. Gold Medal with mention, 55th World Exhibition of Innovation, research and new Technology 2006 (Eureka-Innova 06), Brussels, Belgium, 23-27 Nov. 2006.
Project: Compressed Natural Gas Direct Injection Passenger Vehicle.
Barkawi Sahari, **Ishak Aris**, Fakhru'l-Razi Ahmadun, Yusoff Ali, Shahrir Abdullah, Masjuki Haji Hassan, Zahari Taha, Luqman Chuah Abdullah, Norman Mariun, Muhd. Adlan Abdullah, V. Chelliah, Ku halim Ku Hamid, Md. Nor Musa, Mohd. Ibrahim Abd. Mutalib, Abd. Rashid Abd. Aziz, Mohd. Fauzy Ahmad
16. Bronze medal, 33rd International Exhibition of Inventions, New Techniques and Products of Geneva, 6th – 10th April 2005.
Project: Programmable and Portable Painting Robot for Houses and Buildings.
Ishak Aris and Parvez Iqbal
17. Gold medal, Invention & New Product Exposition 2004, INPEX 2004, Category of Industrial Equipment, Pittsburgh, USA, 12th – 15th May 2004.
Project: Robolab
Ishak Aris, Johnny K S P and Jenny
18. Bronze medal, Invention & New Product Exposition 2004, INPEX 2004, Category of Science, Pittsburgh, USA, 12th – 15th May 2004.
Project: Robolab
Ishak Aris, Johnny K S P and Jenny
19. Special award from the Ministry of Rescue Services of Russia in 30th International Exhibition of Inventions, New Techniques and Products of Geneva, 1st – 5th May 2002.
Project: A portable fibre optic base lightning detection system.
Ishak Aris and Goh Hong Keong
20. Silver medal in 30th International Exhibition of Inventions, New Techniques and Products of Geneva, 1st – 5th May 2002.
Project: A portable fibre optic base lightning detection system.
Ishak Aris and Goh Hong Keong

National Level

21. Best Paper Award, International Malaysia Academic Association Congress 2019,
Project: Modelling and Simulation of Battery Electric Vehicle with Consideration of
Propulsion Load and Auxiliary Load
25 – 26 Sept. 2019, Dugun, Terengganu
Tengku Azman Tengku Mohd, **Ishak Aris** and Azura Che Soh
22. Silver medal, **Innovate Malaysia Design Competition 2014**,
Project: Unmanned Aerial Vehicle for Oil Palm Pollination and Inspection
Application, 28 August 2014, Pulau Pinang.
Ishak Aris, Lim Sheng Yu & Farhana Mukhtar
23. Sime Darby Special Award, **Innovate Malaysia Design Competition 2014**,
Project: Unmanned Aerial Vehicle for Oil Palm Pollination and Inspection
Application, 28 August 2014, Pulau Pinang.
Ishak Aris, Lim Sheng Yu & Farhana Mukhtar
24. Panel of Researchers of Ministry of Education Malaysia 2014, 11 Dec. 2014, Sama-
sama Hotel, KLIA.
25. Best fundamental research project award (FRGS 2010) “Analyzing EEG changes to
estimate the level of attention or concentration during different mental tasks”, Ministry
of Higher Education Malaysia, 2013.
26. Silver Medal, Malaysia Technology Expo 2011, Mobile Electrical Generator, Kuala
Lumpur, 2011.
27. Gold Medal, 22nd. International Invention, Innovation & Technology Exhibition ITEX
2011, Spatial Macro Language,
28. Gold Medal, Malaysia Technology Expo 2008, 21 – 23 February 2008, PWTC Kuala
Lumpur.
Project: Electronic Control Unit (ECU) for Compressed natural Gas Direct Injection
(CNGDI) Vehicle.
Ishak Aris, M.K. Hassan, Senan Mahmud Abdullah, Roslina Mohd Sidek, K. N.
Zainuddin and N. A. Alina.
29. Gold Medal, 18th International Invention, innovation & Technology Exhibition, ITEX
2007, Kuala Lumpur, Malaysia, 18th – 20th May 2007.
Project: Software system for detecting defective symbols on micro chip with
adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and
Shamsuddin Mohd Amin.
30. Special Award (Moscow Award, Russia), 18th International Invention, innovation &
Technology Exhibition, ITEX 2007, Kuala Lumpur, Malaysia, 18th – 20th May 2007.

Project: Software system for detecting defective symbols on micro chip with adjustable readability level.

Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin

31. Bronze Medal, 18th International Invention, innovation & Technology Exhibition, ITEX 2007, Kuala Lumpur, Malaysia, 18th – 20th May 2007.
Project: Animated Robotic Language for Children
Ishak Aris and Ho Teng Hoong.
32. Silver Medal, Malaysia Technology Expo 2007, 29-31 March 2007, Kuala Lumpur.
Project: Test Method & Optimization of Ignition System Parameters Inside CNGDI Engine.
Norman Mariun, Nasrullah Khan, **Ishak Aris** and Azimah Omar
33. Henry Goh Award for Environmental Innovation (Renewable Energy), 17th. International Invention, Innovation, Industrial design and Technology Exhibition (ITEX06), 19-21 May 2006.
Project: Compressed Natural Gas Direct Injection Vehicle.
Barkawi Sahari, **Ishak Aris**, Fakhru'l-Razi Ahmadun, Yusoff Ali, Shahrir Abdullah, Masjuki Haji Hassan, Zahari Taha, Luqman Chuah Abdullah, Norman Mariun, Muhd. Adlan Abdullah, V. Chelliah, Ku halim Ku Hamid, Md. Nor Musa, Mohd. Ibrahim Abd. Mutalib, Abd. Rashid Abd. Aziz, Mohd. Fauzy Ahmad
34. Gold Medal, 17th. International Invention, Innovation, Industrial design and Technology Exhibition (ITEX06), 19-21 May 2006.
Project: Compressed Natural Gas Direct Injection Vehicle.
Barkawi Sahari, **Ishak Aris**, Fakhru'l-Razi Ahmadun, Yusoff Ali, Shahrir Abdullah, Masjuki Haji Hassan, Zahari Taha, Luqman Chuah Abdullah, Norman Mariun, Muhd. Adlan Abdullah, V. Chelliah, Ku halim Ku Hamid, Md. Nor Musa, Mohd. Ibrahim Abd. Mutalib, Abd. Rashid Abd. Aziz, Mohd. Fauzy Ahmad
35. Silver medal, International Invention, Innovation, Industrial Design & Technology Competition 2005 (ITEX 2005).
Project: GSM-based vehicle immobiliser and security system.
Ishak Aris and Khairul Kamzani Hamid
36. Excellent Scientist Award of the Ministry of Higher Learning Malaysia, 2005.
Ishak Aris
37. Bronze medal, IPTA R & D Expo 2005. PWTC, 30 Sept – 2 Oct. 2005.
Project: Programmable and Portable Painting Robot for Houses and Buildings.
Ishak Aris and Parvez Iqbal
38. Excellent Scientist Award of the Ministry of Higher Learning, Malaysia, 2004.
Ishak Aris
39. Bronze medal, International Invention, Innovation, Industrial Design & Technology Competition 2004 (ITEX 2004).
Project: Painting Machine for Houses and Buildings.

40. Robotic Design Contest, 2nd May 2002, Sirim, Shah Alam, 5th place.
41. Bronze Medal, International Invention, Innovation, Industrial Design & Technology Competition 2002 (ITEX 2002), 29 – 31 March 2002.
Project: A portable fibre optic base lightning detection system.
Ishak Aris and Goh Hong Keong
42. Best Exhibition Booth, 4th Place, in Exhibition on Innovation and Quality of the Ministry of Education Malaysia, 2002.
43. Innovation Award for Public Services Department of Malaysia 2001
Project: Robolab: Auto-Laboratory Process and Testing Machine.
Ishak Aris and Johnny K S P and Jenny
44. Silver Medal, Expo Science and Technology 2001 – Invention & Innovation Competition – 30 June – 3 July 2001, PWTC, K. Lumpur.
Project: ISVS Robotoy
Ishak Aris and Yong Voon Siew
45. Bronze Medal, Expo Science and Technology 2001 – Invention & Innovation Competition – 30 June – 3 July 2001, PWTC, K. Lumpur.
Project: Robolab II
Ishak Aris and Johnny K S P
46. Gold Medal, International Invention, Innovation, Industrial Design & Technology Competition 2000 (ITEX 2000), 27 – 30 September 2000.
Project: Robolab.
Ishak Aris, Johnny K S P and Jenny

University Level

47. The Best Industrial Networking Project 2020, UPM, Project: “Scale-up prototype of EV Wireless Charging System for MARii”, 2021
48. High Impact Industry Project Award 2020, UPM, Project : “EV Wireless Charging System ”, 2021.
49. Gold medal, Engineering Innovation & Exhibition 2019, Project: “AI-based CNG-Air Mixer for Commercial Vehicle Diesel Dual Fuel Engine”,
Ishak Bin Aris, Abdulwahab A. Abdulrahman Al-saadi, Barkawi Sahari, Mohd Khair Hassan, Nor Mariah Adam, Nuraini Abd. Aziz, Siti Ujilah Masuri, Hassan Sadah, Hazrina binti Mohd Kamal, Siti Sarah binti Emran, Siti Munirah bt. Mohamad Yusof, Saber Mohammed Elnour Fadul and Hussein Adel Mahmood.
50. High Impact Industry Project Award, UPM, Project : ‘Electirc bus restoration and homologation project – Malaysia Automotive Institute’, 2019.
51. Universiti Putra Malaysia’s Excellent Service Award, 2019.
52. Excellent Profesional Service Award, Best Lecturer Award, Faculty of Engineering, UPM, 2018.
53. Universiti Putra Malaysia’s Excellent Service Award, 2018.

54. Universiti Putra Malaysia's Excellent Service Award, 2017.
55. Universiti Putra Malaysia's Excellent Service Award, 2016.
56. Putra Loyal Award (Anugerah Setia Putra) 2016, Universiti Putra Malaysia
57. Gold medal, Wireless EEG system, Seyedeh Niousha and Ishak Aris, Final Year Project Exhibition 28 June, 2016.
58. Universiti Putra Malaysia's Excellent Service Award, 2015.
59. Universiti Putra Malaysia's Excellent Service Award, 2014
60. Innovation Award, 5th Place, UPM, 2013.
61. Universiti Putra Malaysia's Excellent Service, 2013.
62. Best FYP project Award (Control), EEE FYP Open Day 2012- Exhibition, Tay Wei Kiat, Development of portable automated milk filling system for smallholder dairy farm using PLC 2012.
63. Universiti Putra Malaysia's Excellent Service Award, 2012.
64. Gold Medal, PRPI 2012, High Torque Density Brushless DC Permanent Magnet Motor for Oil Palm Electrical Cutter Application,
M. Norhisam, R. N. Firdaus, M Harizam, N. Wei Shin, N. Mariun, **I. Aris**.
65. Silver Medal, PRPI 2012, "A novel high trust density transverse flux linear motor",
M. Norhisam, M. R. Zare, R. N. Firdaus, N. Mariun, **I. Aris**.
66. Best FYP project Award, EEE FYP Open Day 2011- Exhibition, Nurul Basirah Azmi, Development of GUI System for Ground Station of UAV Payload., 18 April 2011.
67. Universiti Putra Malaysia's Excellent Service Award, 2011.
68. Universiti Putra Malaysia's Excellent Service, 2010.
69. Gold Medal, Mobile Electrical Generator, PRPI, 2010.
70. Gold Medal, Development of Macro Language for Robotic Behaviour Representing Spatial Relationship in Natural Language, PRPI, 2010.
71. Excellent Researcher Award, UPM 2008: Patent Incentive Award.
72. Universiti Putra Malaysia's Excellent Service, 2008.
73. Excellent Researcher Award, UPM 2007: Patent Incentive Award.
74. Universiti Putra Malaysia's Excellent Service, 2007.
75. Universiti Putra Malaysia's Excellent Service, 2006.
76. Universiti Putra Malaysia's Excellent Service, 2005.
77. Appriation Certificate from UPM for exhibiting a product in the main gallery in PRPI08.
78. Silver medal, Pertandingan Pameran Reka Cipta, Penyelidikan dan Inovasi UPM 2007, 27- 9 November 2007.
Project: OBD II Driver Information System with MMC Expandable Memory Capability.
Ishak Aris, Mohamad Fauzi Zakaria, Senan Mahmod Abdullah and Roslina Mohd Sidek.
79. Silver medal, Pertandingan Pameran Reka Cipta, Penyelidikan dan Inovasi UPM 2007, 27- 9 November 2007.
Project: New Electronic Control Unit Control Strategy for CNGDI Vehicle.
Ishak Aris, M. K. Hassan, Senan Mahmod Abdullah and Roslina Mohd Sidek, K. N. Zainuddin and N. A. Alina.
80. Excellent Researcher Award 2005 Universiti Putra Malaysia.

81. Bronze medal, Research, Innovation & Commercialization Exhibition, Faculty of Engineering, Universiti Putra Malaysia, 16-17 March 2006.
Project: Software System for Detecting Defective Symbols on Micro Chip with Adjustable Readability Level.
82. Bronze medal, Research, Innovation & Commercialization Exhibition, Faculty of Engineering, Universiti Putra Malaysia, 16-17 March 2006.
Project: Evaporative (Misting Fans) Cooling System for Tropical Greenhouse in Malaysia.
83. Silver medal, Research, Innovation & Commercialization Exhibition, Faculty of Engineering, Universiti Putra Malaysia, 16-17 March 2006.
Project: High-voltage Ignition Circuit for Compressed Natural Gas-Direct Injection (CNG-DI) Engine.
84. Silver medal, Research, Innovation & Commercialization Exhibition, Universiti Putra Malaysia, 22-24 August 2006.
Project: High-voltage Ignition Circuit for Compressed Natural Gas-Direct Injection (CNG-DI) Engine.
85. Silver medal, Research, Innovation & Commercialization Exhibition, Universiti Putra Malaysia, 22-24 August 2006.
Project: Animated Robotic Language for Children.
86. Bronze medal, Research, Innovation & Commercialization Exhibition, Universiti Putra Malaysia, 22-24 August 2006.
Project: . Software System for Detecting Defective Symbols on Micro Chip with Adjustable Readability Level.
87. Silver medal , “Research and Innovation Universiti Putra Malaysia 2005”,
Project: GSM-based vehicle immobiliser and security system.
88. Bronze medal, “Research and Innovation Universiti Putra Malaysia 2005”,
Project: Power System Protection Simulator and Expert System Software.
89. Bronze medal, “Research and Innovation Universiti Putra Malaysia 2005”,
Project: Knowledge-based Power Electronics CAD Tool.
90. Bronze medal, “Research and Innovation Universiti Putra Malaysia 2005”,
Project: Development of a Hybrid Photovoltaic System for Tropical Greenhouse Cooling.
91. Universiti Putra Malaysia’s Excellent Service, 2004.
92. Silver medal, “Research and Innovation Universiti Putra Malaysia 2003”
Project: Automatic House Painting Machine”, 8 – 10 July 2003.
93. Universiti Putra Malaysia’s Excellent Service Award, 2003.

94. Universiti Putra Malaysia's Excellent Service, 2002.
95. Vice Chancellor Fellowship Award 2002 (Excellent in Research).
96. Universiti Putra Malaysia's Excellent Service Award 2002.
97. Dean Special Award 2002.
98. Universiti Putra Malaysia's Excellent Service Award 2001.
99. Excellent Research Award Universiti Putra Malaysia 2000/2001, 2nd October 2001.
100. First Place in the best booth category, Universiti Putra Malaysia Convocation Exhibition, 19 – 23 Julai 2000.
Project: Self Guided Vehicle and Automatic Lighter packaging System.
101. Consolation price (RM300) in Universiti Putra Malaysia Innovation and Research 2000 Award. (8 – 10 April 2000)
Project: RF-based Car Pager System.
102. Consolation price (RM300) in Universiti Putra Malaysia Innovation and Research 2000 Award. (8 – 10 April 2000)
Project: Transformation of an Old PC-486 to an Autonomous Guided Vehicle Using Recycle Components.

I.3 Teaching Award

1. The most caring lecturer; voted by final year students of B. Eng in Electrical and Electronic Engineering 2004/2005.
2. Faculty of Engineering Excellent Teaching Award 2007
3. Faculty of Engineering Excellent Teaching Award 2008
4. Faculty of Engineering Excellent Teaching Award 2009
5. Faculty of Engineering Excellent Teaching Award 2010
6. Faculty of Engineering Excellent Teaching Award 2011
7. Faculty of Engineering Excellent Teaching Award 2012
8. Faculty of Engineering Excellent Teaching Award 2013
9. Faculty of Engineering Excellent Teaching Award 2016
10. Faculty of Engineering Excellent Teaching Award 2017
11. Faculty of Engineering Excellent Undergraduate Teaching Award, 2018/2019
12. Faculty of Engineering Excellent Postgraduate Teaching Award, 2018/2019
13. Faculty of Engineering Excellent Undergraduate Teaching Award, 2019/2020
14. Mr./Mrs Inspiring award; voted by final year students of B. Eng in Electrical and Electronic Engineering 2020.

I.4 Scholarship/Fellowship

1. Federal Scholarship for Junior High School, 1980 - 1981
2. Royal Military College Scholarship for Senior High School, 1982 – 1984.

3. Ministry of Defence Scholarship for B.Sc. studies at the George Washington University, USA, 1984 – 1988.
4. Public Service Department of Malaysia scholarship for M.Sc. and Ph.D. studies at the University of Bradford and Loughborough University of Technology United Kingdom, 1990 – 1995.
5. Visiting Scholar at University of Southampton, Imperial College and University of Surrey under Committee for International Co-operation in Higher Education (CHICHE) Program of the British Council, 1998.
6. UPM's Sabbatical Leave Award at the Malaysia Utility Board Research Centre (TNB Research Sdn. Bhd) –August 2001 – April 2002.
7. UPM's Sabbatical Leave Award at the Advanced Automotive Laboratory, Universiti Putra Malaysia – July 2005 – December 2005.

J.1 Professional Affiliations

1. Chief Editor, SAE International Malaysia Section, International Automotive Engineering and Technology Journal, 2013 – 2015.
2. Advisor of SAE International Malaysia Section, 2011/2013
3. Chairman of SAE International Malaysia for 2009/2011,
4. Vice-Chairman of SAE International Malaysia for 2008/2009
5. Vice Chair Math & Science for SAE International Malaysia group for 2007/2008
6. TAU BETA PI (USA National Engineer Honor Society).
Member (1988 – to date)
7. ETA KAPPA NU (USA Electrical Engineer Honor Society).
Member (1987 – to date)
8. BEM (Board of Engineers Malaysia).
Graduate member (1994 – to date) (Ref. No.: 21852A)
9. IEEE – Member (2000 – to 2008)
Membership No.: 41319651
- Member of IEEE Engineering in Medicine and Biology Society
- Member of IEEE Power Electronics Society
- Member of IEEE Robotics and Automation Society
10. Member of Malaysian Invention and Design Society
Membership No.: 1555.
11. Member of SAE International, USA, (2004 – todate)

Membership No.: 6111680902

J.2 NGO Society

1. Deputy Chairman, Parents, Teachers Association, Sekolah Agama Integrasi Bandar Baru Bangi, 2005 – 2006,
2. Auditor , Parents and Teachers Society, Sekolah Agama Menengah batu 10, Ulu Langat, Cheras, 2012 -2014.
3. Deputy Chairman, Parents and Teachers Society, Sekolah Agama Menengah batu 10, Ulu Langat, Cheras, 2012 -2016.

K. Patents

Patent Granted

1. An Apparatus for Treating Building Surfaces and the Like
MY-127806-A – granted on 29 Dec 2006.
Ishak Bin Aris and A. K. M. Parvez Iqbal
2. A robot for handling hazardous chemicals,
MY-128276-A – granted on 31 Jan. 2007
Ishak Bin Aris, Jenny Teh Cheng Choo and Johnny Koh Siaw Paw
3. A portable lightning detector system using programmable logic controller,
(MY-135780-A) – Malaysia, granted on 30 June 2008.
Ishak Bin Aris and Goh Hong Keong.
4. Radio Frequency Coaxial Resonant Cavity for Compressed Natural Gas Ignition
(MY-142847-A) granted on 2011.
Norman Mariun, Nasrullah Khan, Liyth Ahmed Nissirat and **Ishak Bin Aris**.
5. Livestock Management and Automation System Using Radio Waves
(PCT/MY2012/000296) (WO/2013/085379) **Ishak Bin Aris**, Mahmud Tengku Muda Mohamed, Seyedeh Saeedeh Khoshgoftar Ziabari, Azmi Hassan and Shaibi Nohd Sharif, granted on 13 June 2013.
6. Method for Controlling Multiple-injection of Gaseous Fuel in a Direct Injection Engine.
(MY-164255-A), granted on 30 Nov. 2017.
Ishak Bin Aris, Khairul Nizam Zainudin, Nik Anis Alina Nik Othman and Mohd Khair Hassan.
7. A Multi-Beam Optical Scanning Device
(MY-166713-A)
Ishak bin Aris and Johnny Koh Siaw Paw,
Granted on 18th July 2018.
8. Linear Motor (MY-180482-A)
Ishak Bin Aris and A. K. M. Parvez Iqbal
Granted on 30 Nov 2021

9. Secondary Fuel-Air Mixer for Internal Combustion Engine and Fuel Burner (MY-185740-A),
Nor Mariah Adam, **Ishak Bin Aris**, Barkawi Sahari, Nuraini Abd. Aziz, Siti Ujilah Masuri, Hassan Sadah and Hussein Adel Mahmood,
Granted on 2 June 2021.

Patent Pending

10. Direct Injection of Compressed Natural Gas (CNG) Fuel for Reciprocating Piston Internal Combustion Engine.
(PI20085162)
Barkawi Sahari, **Ishak Bin Aris**, Fakhru'l-Razi Ahmadun, Yusoff Ali, Shahrir Abdullah, Masjuki Haji Hassan, Zahari Taha, Luqman Chuah Abdullah, Norman Mariun, Muhd. Adlan Abdullah, V. Chelliah, Ku halim Ku Hamid, Md. Nor Musa, Mohd. Ibrahim Abd. Mutalib, Abd. Rashid Abd. Aziz, Mohd. Fauzy Ahmad, 2008.
11. A Spray Gun (PI2011005991)
Ishak Bin Aris and A. K. M. Parvez Iqbal, 2011.
12. An Electronic Language Teaching System for Visual-disabled (PI2011006724)
Ishak Bin Aris and Yeoh Sing Hsia, 2011
13. A tuber vegetation harvester (PI 2013701939), Desa Ahmad, Amer Najat Najmaldeen Kakahy, Md. Akhir Hamid, Shamsuddin Sulaiman and **Ishak Bin Aris**, 2013.
14. An electric vehicle charger and a method for controlling thereof (PI 2018700460), **Ishak bin Aris**, Ali Saadon Al-Ogaili, Mohammad Lutfi B. Othman and Norhafiz B. Azis, 6 Feb. 2018.
15. A real-time path planning system for a robot or an autonomous vehicle, **Ishak Bin Aris**, Mohd Khair Hassan, Noor 'Ain Kamsani and Aqeel Abdulazeez Mohammed, (PI2018000597), 2018
16. Method & Apparatus for Detecting & Countering A Bagworm Cencus, Abdul Rashid bin Mohamed Shariff, Mohd Najib Ahmad, **Ishak bin Aris** and Izhal bin Abdul Halin, PI2019006153, 2019.
17. Method of determining maturity of an oil-bearing crop, its oil content and quality thereof, Abdul Rashid bin Mohamed Shariff, Shahrzad Zolfagharnassab, Reza Ehsani, Hawa Ze Jaffar, **Ishak bin Aris**, PI 2021007078, 2021.

SOFTWARE (Statutory Declaration) Copy Right

1. Spatial Macro Language (V 2.0), Abdul Rashid bin Mohamed Shariff and Ishak bin Aris, 2010.

2. Software for Livestock Management and Automation, 2011
Ishak Aris, Mahmud bin Tengku Muda Mohamed and Seyese S. Khoshgoftar Ziabari.
3. Software for Electronic Malay Language Learning Tool for Blind Children, 2011.
Ishak Aris and Yeoh Sing Hsia.
4. Systolic Modified Explicit Group Algorithm, 2011, Mohamed Othman, **Ishak Aris**, Rohaya Latip and Ngoh Jin Yee.
5. Software for Determining the Optimal Parameters, magnetic Field Distribution and Simulating the Behavior of Wireless Energy Transfer System, 29 August 2014, **Ishak Bin Aris**, Radin Zaim Radin Umar and Muhammad Lutfi Othman.
6. Phasor comparator algorithm for power swing blocking in distance protection, 25th August 2015, Muhammad Lutfi Othman, Mohammed Sani Ya'u, **Ishak Aris** and Noor Izzri Abdul Wahab.
7. An image processing algorithm for auto detector & counter of bagworm. 31 May 2019, Mohd Najib Ahmad, Abdul Rashid Mohamed Shariff, **Ishak Aris**, Izhal Abdul Halin and Ramle Moslim. Voluntary Notification of Copyright No. CRLY 00022664.

Trademark

1. Mohd Najib Ahmad, Abdul Rashid Mohamed Shariff, **Ishak Aris**, Izhal Abdul Halin and Ramle Moslim. 2019. Trademark
Filing for Oto-BaC with Trade Mark Number: TM2019033069 under Class 09 on 6 Sept 2019.

Industrial Design

1. Mohd Najib Ahmad, Abdul Rashid Mohamed Shariff, **Ishak Aris**, Izhal Abdul Halin and Ramle Moslim. 2019. Malaysia Industrial Design Application with Application No. 19-01109-0101 under Class 10-04 entitled Measuring Instrument. 10 Sept 2019.

L. Commercialized Product

No	Product	Client	Value	Year
1.	Life Asset Tagging	UPM, Bendahari, Senstech Sdn. Bhd.	RM400,000.00	2011

M. Supervision of students

No.	Prog. Level	Name/Matric No.	Title	Status/ Year graduated	Main supervisor/ Co-supervisor
1.	PhD	Mutasim Ibrahim Noor	Sensorless adaptive fuzzy logic control of	Graduated, 2008	Main supervisor

		(GS06121)	permanent magnet synchronous motors		
2.	PhD	Johnny Koh Siaw Paw (GS13664)	Optimization of two dimensional dual beam scanning system using genetic algorithms	Graduated, 2008	Main supervisor
3.	PhD	Chong Kok Hen (GS13631)	Structure design optimization of digital electronic circuit via artificial intelligent solutions	Graduated, 2009	Main supervisor
4.	PhD	Ibrahim Mat (GS13342)	Design and development of 30G-50G Micro electro-mechanical systems accelerometer	Graduated, 2010	Main supervisor
5.	PhD	A. K. M. Parvez Iqbal (GS12999)	Design and development of linear motor operated mechanism for multiple-spray gun	Graduated, 2011	Main supervisor
6.	PhD	Mohamad Khair Hassan (GS14220)	Development of Control Strategy for ECU of CNGDI Engine	Graduated, 2011	Main supervisor
7.	PhD	Mohammad Lutfi Othman (GS15197)	Discovering decision algorithm of distance protective relay based on rough set theory and rule quality measure	Graduated, 2011	Main supervisor
8.	PhD	Ali Saadon Mtair Al-Ogaili GS34259	Three-level universal electric vehicle charger based on voltage-oriented control and sinusoidal pulse-width modulation	Graduated, 2018	Main supervisor
9.	PhD	Shaker Mahmood Khudher GS38683	Protection scheme of ac-dc converter with passive filter for electric vehicle charging system	Graduated, 2019	Main supervisor
10.	PhD	Aqeel Abdulazeez Mohammed GS43107	An intelligent path planning for autonomous mobile robot using modified A* algorithm with hybrid particle swarm optimization-artificial neural network	Graduated, 2019	Main supervisor

11.	PhD	Saber Mohammed Elnour Fadul (GS31229)	Autotuning algorithm for parameters estimation of induction motor based on vector control for electric vehicle powertrain application	Graduated, 2020	Main supervisor
12.	PhD	Iman Ahmed Zayer (GS39677)	Optimum Hybrid Energy Management System Using Fuzzy Logic for Humanoid Robot	Graduated 2020	Main supervisor
13.	PhD	Ahmad Fairuz bin Muhammad Amin (GS20613)	Wireless optical based communication system in vehicle	Thesis editing	Main supervisor
14.	PhD	Norramlee bin Mohamed Noor	Design and Fabrication of Novel Multi-cylinder linear machine powertrain system for Electric Vehicle	Graduated 2021	Main supervisor
15.	PhD	Siti Munirah bt. Mohamad Yusof GS48826	Therapeutic effect of brainwave (eeg) biofeedback guided prayer or mental and psychiatric disorders.	Thesis editing	Main supervisor
16.	PhD	Siti Sarah binti Emran GS50924	Intelligent Control Algorithm for in-wheel motors drive system for electric bus	On- going	Main supervisor
17.	PhD	Hazrina binti Mohd Kamal GS51057	Intelligent Control Algorithm for Lithium Ion Battery Pack universal charger system for electric bus	On- going	Main supervisor
No.	Prog. Level	Name/Matric No.	Title	Status/ Year graduated	Main supervisor/ Co-supervisor
1	PhD	Eyad Mohd Mohd Radwan (GS03973)	Indirect Rotor Field Oriented Control of Induction Motor with Rotor Time Constant Estimation	Graduated 2004	Co-supervisor
2	PhD	Mohamed Liakot Ali (GS09003)	Design of a System on Chip (SOC) using dynamic reseeding-based mixed-mode	Graduated 2005	Co-supervisor

			technique for low cost IC testing		
3	PhD	Bouketir Omrane (GS05256)	Development of a Knowledge-based for Power Electronics Design Aid System	Graduated 2005	Co-supervisor
4	PhD	Faisal Mohamed Seif Al-Shamiry (GS11500)	Modeling of Evaporative cooling system in naturally-ventilated tropical greenhouse	Graduated 2007	Co-supervisor
5	PhD	Hayder M. A. Ali (GS11472)	Development of Intelligent controller for ball and socket actuator for robotic application	Graduated 2008	Co-supervisor
6	PhD	Ali T. Hassan (GS17149)	Neural Network solution to singular configuration in trajectory tracking of a serial robot	Graduated 2010	Co-supervisor
7	PhD	Nashiren Farzilah bt Mailah (GS15060)	Simulation and development of unified power flow controller using multilevel inverter	Graduated 2010	Co-supervisor
8	PhD	Akorede Mudathir Funsho (GS22664)	Optimal Placement and sizing of DG Sources in power systems using fuzzy-genetic algorithm approach	Graduated 2011	Co-supervisor
9	PhD	Mojgan Hojabri (GS20895)	Available Transfer Capability Calculation for Planning System by Krylov-Algebraic Method	Graduated 2011	Co-supervisor
10	PhD	Mohammad Reza Zare (GS22589) –	Improved-performance high thrust density transverse flux linear motor	Graduated 2012	Co-supervisor
11	PhD	Raja Nor Firdaus Kashfi Raja Othman (GS25379)	Design of a high fundamental torque single phase double stator brushless dc motor	Graduated 2012	Co-supervisor
12	PhD	Chockalingam Aravind (GS22356)	Torque ripple minimization in reluctance machines for servo drive applications	Graduated 2012	Co-supervisor
13	PhD	Amer Najat Najmaldeen	Design and development of an integrated slasher	Graduated 2013	Co-supervisor

		Kakahy GS28436	for sweet potato harvester		
14	PhD	Noor Hasmiza Harun GS30489	Development of Inductive sensor for determining ripeness of oil palm fruit	Graduated 2015	Co- supervisor
15	PhD	Saman Toosi GS32985	Multi-directional Matrix Converter for Low Power Application Using Field- Programmable Gate Array	Graduated 2015	Co- supervisor
16	PhD	Amid Heravi (GS20498)	Development of a robotic weed control system for greenhouses	Graduated, 2018	Co- supervisor
17	PhD	Athraa Ali Kadhem GS40780	Reliability assessment of power system generation adequacy with wind power penetration using population-based intelligent search methods	Graduated 2018	Co- supervisor
18	PhD	Shahrzad Zolfagharnassab GS31888	Thermal Imaging Technique to quantify oil palm fresh fruit maturity oil content and oil quality and oil quality parameters.	Graduated 2019	Co- supervisor
19	PhD	Tengku Azman Tengku Mohd GS37906	Modelling of optimal energy management for battery electric vehicle with load segmentation	Graduated 2020	Co- supervisor
20	PhD	Mohd Najib Ahmad GS46848	Design and development of an automated detector and counter of the bagworms (lepidoptera: psychidae)	Graduated 2020	Co- supervisor
21	PhD	Ali Hussein Humod Al- Jlibawi, GS GS42708	Efficient of soft sensors modelling in advanced control systems for improving the performance of processes and sensors in Advance manufacturing systems by applying hybrid Intelligent data mining technique	Graduated 2021	Co- supervisor

22	PhD	Aker Elhadi emhemed alhaaj ammar	Machine-learning-based adaptive distance protection relay to eliminate zone-3 protection under-reach problem on statcom compensated transmission lines	Graduated 2020	Co- supervisor
23	PhD	Al Rije Mothena Fakhri Shaker, GS59722		In progress, 2021	Co- supervisor
No.	Prog. Level	Name/Matric No.	Title	Status/ Year graduated	Main supervisor/ Co- supervisor
1	Master with thesis	Mu'tasim Ibrahim Noor (GS01433)	Development of Smart Lead-acid Battery Charger for Electric Vehicle Application.	Completed/ 1999	Main supervisor
2	Master with thesis	Ali Omer Elmthnani (GS01014)	Development of a Single-phase PWM- based DC-to-DC Converter for Electric Bicycle.	Completed/ 2000	Main supervisor
3	Master with thesis	Mohamad E. Salem Abozaed (GS00912)	Development of an Electric Vehicle Dashboard Monitoring System Using Microcontroller	Completed/ 2000	Main supervisor
4	Master with thesis	Ali Milad Jarushi (GS1441)	The Development of an Uninterruptible Power Supply for Personal Computers.	Completed/ 2000	Main supervisor
5	Master with thesis	Wagie Allah Ahmed Elobied (GS01431)	Telemedicine: Blood Pressure Monitoring System for Individual Use Through Internet.	Completed/ 2000	Main supervisor
6	Master with thesis	Mohamed Agribi Farhat (GS02033)	Development of DC-to- DC and DC-to-AC Converters for a Single- phase Photovoltaic System Applications	Completed/ 2001	Main supervisor
7	Master with thesis	Johnny Koh Siaw Paw	Development of Scara Robotic Arm and	Completed /2002	Main supervisor

			Control System for Laboratory Automation		
8	Master with thesis	Jenny Teh Cheng Choo	Development of Auto-Laboratory Process and Testing Machine: Robolab	Completed /2002	Main supervisor
9	Master with thesis	Chong Kok Hen	Automated Book Casing Machine for Integrated Circuit Industry Application Using Programmable Logic Controller	Completed / 2002	Main supervisor
10	Master with thesis	Goh Hong Keong	Development of a Fiber Optic-based Lightning Detector System	Completed / 2002	Main supervisor
11	Master with thesis	A. K. M. Parvez Iqbal	Development of a Cartesian painter robot for construction industry.	Completed 2002	Main supervisor
12	Master with thesis	Asnor Juraiza bt. Ishak	Design and Fabrication of Autonomous Entertainment robot	Completed 2003	Main supervisor
13	Master with thesis	Yong Voon Siew (GS10474)	Development of a Remote Control Autonomous Mobile Robot	Completed 2003	Main supervisor
14	Master with thesis	Mohammad Lutfi Othman (GS03971)	Development of Interactive Multimedia courseware for power system protection.	Completed, 2004	Main supervisor
15	Master with thesis	Kwa Chin Kok	Development of a single-degree of freedom Haptic System Handle	Completed, 2004	Main supervisor
16	Master with thesis	Maaspaliza Azri	Development of Software System for Detecting Defective Symbol on IC Chip Using Matrox Imaging Library	Completed, 2004	Main supervisor
17	Master with thesis	Khairul Hamzani b. Hamid	Development of GSM-based Vehicle Anti-Theft System	Completed, 2006	Main supervisor
18	Master with thesis	Mohd Razali bin Daud	Smart Vision System for Car Tire Tread Monitoring	Completed, 2006	Main supervisor

19	Master with thesis	Mohd Azrin bin Mohd Azau	Enhancement of under-exposed and over-exposed images using sigmoid and gamma correction function	Completed, 2007	Main supervisor
20	Master with thesis	Mohamad Fauzi b. Zakaria	Development of Driver Information System Based on On-board Diagnostic II Communication Protocol	Completed, 2007	Main supervisor
21	Master with thesis	Seyedeh Saeedah Khoshgoftar Ziyabari (GS21097)	RFID Animals monitoring system	Completed 2011	Main supervisor
22	Master with thesis	Amir Sharifian (GS21637)	DESIGN AND DEVELOPMENT OF SMART HOME INTEGRATED MONITORING SYSTEM FOR PATIENTS	Completed 2015	Main supervisor
23	Master with thesis	Davood Kalhor (GS21467)	Vision-Based Human Action Recognition Using Time Delay Input Radial Basis Function Networks	Completed 2011	Main supervisor
24	Master with thesis	Haider H A Jabir Alwasiti (GS23778)	Estimation of Concentration Level in Muslim prayer using pattern recognition of brain electroencephalograph (EEG) changes.	Completed 2012	Main supervisor
25	Master with thesis	Thai Seng Choong (GS24980)	Study on Monitoring Cathodic Protection System for Underground Pipeline	Completed 2013	Main supervisor
26	Master with thesis	Yeoh Sing Hsia (GS24688)	Design of AI-based Electronic Malay Language Learning Tool for Visually impaired Children	Completed, 2011	Main supervisor
27	Master with thesis	Radin Za'im Radin Umar (GS31092)	Numerical analysis of a system of wireless energy transfer via resonance of magnetic induction	Completed 2013	Main supervisor

28	Master with thesis	Syed Muhammad Muneer (GS31122)	Design and fabrication of Three-Phase Flux Switching Permanent Magnet Linear Generator for Wave Energy Harvesting	Completed 2016	Main supervisor
29	Master with thesis	Mohammed Yasser Moghrabiah GS34288	A platform for controlling robotic manipulators using cloud computing power	Completed 2019	Main supervisor
30	Master with thesis	Ipshita Zerin GS43167	Converter system for vehicle catalytic converter	Completed 2018	Main supervisor
31	Master with thesis	Abdulwahab A Abdulrahman Alsaadi GS41114	Design and development of embedded system to control motorized cng-air mixer for diesel dual-fuel engine	Completed 2018	Main supervisor
32	Master with thesis	Nurul Izziany bt Ramli GS55910	The study of standard method to analyse the performance effect of inferencing in deep learning applications for different hardware and software used	In progress	Main supervisor
No.	Prog. Level	Name/Matric No.	Title	Status/ Year graduated	Main supervisor/ Co-supervisor
1	Master with thesis	Eyad Moh'd Radwan	Design and Construction of a DC-to-DC Converter for Electric Vehicle Application.	Completed/ 1998	Co-supervisor
2	Master with thesis	Yousif Abbaker Adam	Knowledge Extraction for KBES in Development of Variable Power Supply.	Completed/ 1999	Co-supervisor
3	Master with thesis	Mohamed Mohamed Z. Edardar	DC-to-AC Inverter Design for Photovoltaic System.	Completed/ 1999	Co-supervisor
4	Master with thesis	Malik Taysir Al-Qdah	Autonomous Mobile Robot Power Management System.	Completed/ 1999	Co-supervisor

5	Master with thesis	Mohd Amir Abas	PWM Inverter for Electric Drive Train Application.	Completed/ 1999	Co-supervisor
6	Master with thesis	Ahmad D. Y. Zahran	Development of a Power Electronic Circuits Database for Knowledge Base System.	Completed/ 2000	Co-supervisor
7	Master with thesis	Ghassan Mohammed Shaheen	Development of Power Semiconductor Devices Database for Knowledge-based Systems	Completed/ 2000	Co-supervisor
8	Master with thesis	Majdi Taysir Al-Qdah	Security Study and Encryption / Decryption Method	Completed/ 2000	Co-supervisor
9	Master with thesis	Chan Chee Meng	Harmonics Analysis and Design of Passive Filter for Low Voltage Power Distribution System.	Completed/ 2000	Co-supervisor
10	Master with thesis	Muhammad Murtadha bin Othman	Application of Differential Protective Relay (DPR) to 33/11 kV Delta-Wye Transformer Using Saber Software Simulator	Completed/ 2000	Co-supervisor
11	Master with thesis	Ng Kwan Ti	Internet Based Electrocardiogram Monitoring System	Completed/ 2001	Co-supervisor
12	Master with thesis	Jeremy Yeak Nai Jin	Modelling of Propagation of Laser in Air	Completed/ 2002	Co-supervisor
13	Master with thesis	Indra Nisja	Design of single switch rectifier using multi resonant zero current switching for electric vehicle battery charger application.	Completed/ 2002	Co-supervisor
14	Master with thesis	Hamad Saad Hussien	Development of single phase induction motor adjustable speed control using M68HC11E9 Microcontroller	Completed 2004	Co-supervisor

15	Master with thesis	Mohammad Karimadini	Development of a crisp fuzzy-like controller using formula-based an vectorized approaches	Completed, 2006	Co-supervisor
16	Master with thesis	Liyath Ahmad Nissirat	Development of Inductive Quarter Wave RF Coaxial Resonant Cavity for a Compressed natural Gas Ignition	Completed, 2006	Co-supervisor
17	Master with thesis	Rizal Mat Jusoh (GS14539)	Development of a vision-based mobile robot navigation system for golf ball detection and location	Completed, 2007	Co-supervisor
18	Master with thesis	Azimah binti Omar (GS15466)	High Voltage Ignition Circuit for CNGDI Engine	Completed, 2008	Co-supervisor
19	Master with thesis	Mubashar M. B. Qassim (GS15590)	Global system for mobile-base data acquisition for monitoring of Power Distribution System.	Completed, 2008	Co-supervisor
20	Master with thesis	Noor Hasmiza Harun (GS16377)	Analysis of Head Length Effect of Wire Rope sensor on output voltage	Completed, 2008	Co-supervisor
21	Master with thesis	Raja Nor Firdaus kashfi Raja Othman (GS17730)	Development of Moving Magnet Linear Oscillatory Actuator	Completed, 2009	Co-supervisor
22	Master with thesis	Norafiza Masruni, (GS19232)	Design and analysis of a single and double stator of single-phase slot less Permanent Magnet Generator	Completed, 2009	Co-supervisor
23	Master with thesis	Hur A. Al-Reda Hassan,	Design of a 1.8V successive approximation register ADC with low flicker noise.	Completed, 2010	Co-supervisor
24	Master with thesis	Solmaz Rastegar Moghaddam Mansouri (GS20935)	SOC for ECU drive system	Completed 2011	Co-supervisor
25	Master with thesis	Siti Khodijah bt. Mazalan (GS24090)	Multi-type Interior Permanent Magnet Motor Drive	Completed 2011	Co-supervisor

26	Master with thesis	Sharifah Sakinah bt. Tuan Othman (GS24575)	Neutral-Point-Clamped Multilevel Inverter Development For Total Harmonic Distortion (THD) Reduction	Completed, 2014	Co-supervisor
27	Master with thesis	Suhairi Rizuan Che Ahmad	Design of three phase double stator permanent magnet generator	Completed, 2012	Co-supervisor
28	Master with thesis	Mohammed Sani Ya'u (GS35244)	Improvement of power swing blocking scheme in distance protection relay.	Completed 2015	Co-supervisor
29	Master with thesis	Ami Nurul Nazifah binti Abdullah (GS23636)	High Torque three phase brushless DC motor	Completed 2011	Co-supervisor
30	Master with thesis	Amad Ud Din (GS23618)	A study on standard cmos building blocks for Range Pixcels	Completed 2011	Co-supervisor
31	Master with thesis	Ali Saadon Mtair Al-Ogaili (GS22690)	Reduction of harmonic of three –phase rectifier using harmonic injection technique	Completed 2012	Co-supervisor
32	Master with thesis	Muhammad Kamil Roslan (GS38122)	Development of Magnetic Imaging System for Shape identification based on Gmr sensor array	Completed 2017	Co-supervisor
33	Master with thesis	Nor Aziana bt Aliteh (GS44943)	Use of Triple Flat-Type Air Coil Inductive Resonance as an Oil Palm Fruit maturity Sensor	Completed, 2018	Co-supervisor
34	Master with thesis	Azimi bin Che Soh	Intelligent permanent magnet generator network control by compactrio embeded system for SHRE turbine	Completed 2019	Co-supervisor
35	Master with thesis	Nisa Syakirah binti Kamal Azhar	Basic characteristic of fruit battery based oil palm maturity sensor	Completed 2021	Co-supervisor
36	Master with thesis	Luqman bin Mohd Saini (GS56322)	Development of Transverse Flux Interior Permanent Magnet Magnatic Gear	On going	Co-supervisor

37	Master with thesis	Nur Amira bt. Ibrahim (GS58433)	Prototyping Magnetically Geared High power Density Generator for Vertically Axis Wind Turbine under Low Speed Terrain	On going	Co-supervisor
No.	Prog. Level	Name/Matric No.	Title	Status/ Year graduated	Main supervisor/ Co-supervisor
1	BEng Thesis	Suryadi bin Ishak (40218)	PC-based Spectrum Analyser.	Completed/ 1997	Main supervisor
2	BEng Thesis	Chan Boon Hong (38117)	Development of a Computer-based Electronic Lab.	Completed/ 1997	Main supervisor
3	BEng Thesis	Mohd Norzaidee bin Muhammad (38860)	Development of a High Quality PWM Audio Amplifier.	Completed/ 1997	Main supervisor
4	BEng Thesis	Yong Voon Siew (43644)	Microprocessor-based Autonomous Mobile Platform.	Completed/ 1998	Main supervisor
5	BEng Thesis	Tang Wooi Khuang (39626)	Prototype of Vehicle Overloading Detection System.	Completed/ 1998	Main supervisor
6	BEng Thesis	Lim Wei Tien (38411)	Prototype of RF Approach Early Warning Monitoring System for National Grid Network.	Completed/ 1998	Main supervisor
7	BEng Thesis	Faizul Zainal Abidin (42328)	Multimedia Application in Power Engineering Education (Asynchronous Machine).	Completed/ 1999	Main supervisor
8	BEng Thesis	Zainon bt. Mohd Hussain (43657)	Multimedia Application in Power Machine Education (Synchronous Machine).	Completed/ 1999	Main supervisor
9	BEng Thesis	Rosshada bt. Mohd Lazim (44630)	Multimedia Application in Power Machine Education (DC Machines).	Completed/ 1999	Main supervisor
10	BEng Thesis	Lai Kwang Fatt (46375)	Multimedia Application in Power Engineering Education (Transformer).	Completed/ 1999	Main supervisor

11	BEng Thesis	Chandran a/l Krishnan (47398)	Optimal Design of Three-phase Oil-Cooled Distribution Transformer.	Completed/ 1999	Main supervisor
12	BEng Thesis	Gangatharan Sreedharan (51818)	Modification of Pulsemaster Software for Automated Relay Testing (RELZ100 Distance Type Relay) Using Pulsar Test Set.	Completed/ 1999	Main supervisor
13	BEng Thesis	Kalaiselvey a/p Rethinam (39100)	Monitoring System of Water Treatment Plant.	Completed/ 1999	Main supervisor
14	BEng Thesis	Kang Chin Tat (45611)	Development of a Vehicle Security System.	Completed/ 1999	Main supervisor
15	BEng Thesis	Lai Mun Lin (43710)	Thyristor Triggering Circuit.	Completed/ 1999	Main supervisor
16	BEng Thesis	Khor Sook Fong (45997)	Prototype of Baby Incubator Monitoring System.	Completed/ 1999	Main supervisor
17	BEng Thesis	Wah Joon Lai (46755)	Prototype of Syringe Micropump.	Completed/ 1999	Main supervisor
18	BEng Thesis	Lim Tun Chyuan (42294)	Input/Output Card.	Completed/ 1999	Main supervisor
19	BEng Thesis	Chua Woei Seng	Design of Uninterruptable +5V Power Supply.	Completed/ 1999	Main supervisor
20	BEng Thesis	Bong Chong Sar (55011)	Maze-Solving Micromouse Mouse: Hardware Design and Testing.	Completed/ 2000	Main supervisor
21	BEng Thesis	Liau Hui Voon (54934)	Development of a Maze Mouse II.	Completed/ 2000	Main supervisor
22	BEng Thesis	Subbah Rao Subramaniam (62313)	Development of Electronic Engineering Dictionary. Using a Multimedia Approach	Completed/ 2000	Main supervisor
23	BEng Thesis	Vinothani Ramasamy (54983)	Development of the TNB Load Forecasting Model.	Completed/ 2000	Main supervisor
24	BEng Thesis	Shahrul Azman bin Husin (54852)	Development of DC-to-DC Converter for a Solar-based Public Telephone System.	Completed/ 2000	Main supervisor

25	BEng Thesis	Johnny Siaw (55098)	Koh Paw	Development of XYZ Cartesian Robotic Arm for Industrial Applications: Part I.	Completed/ 2000	Main supervisor
26	BEng Thesis	Jenny Cheng (54999)	The Choo	Development of XYZ Cartesian Robotic Arm for Industrial Applications: Part II.	Completed/ 2000	Main supervisor
27	BEng Thesis	Ku Day Chyi (55479)		Development of a Step-up Chopper Using a Natural PWM Switching Scheme for a PLC-based Traffic Light System Controller	Completed/ 2000	Main supervisor
28	BEng Thesis	Yogeetha Vengadasalam (62454)		Development of a Solar-based Traffic Light Controller II.	Completed/ 2000	Main supervisor
29	BEng Thesis	Choong Chee Yee (56128)		Development of a Battery Charger for a Solar-based Electric Bicycle.	Completed/ 2000	Main supervisor
30	BEng Thesis	Chung Lai Ling (54980)		Development of a PLC-based Overhead Gantry Robot for an Automatic Storage System – Software Development.	Completed/ 2000	Main supervisor
31	BEng Thesis	Yee Bee Chen (54987)		Development of a PLC-based Overhead Gantry Robot for an Automatic Storage System – Hardware Development.	Completed/ 2000	Main supervisor
32	BEng Thesis	Lau Kim Boon (55271)		Development of an Efficient Audio Amplifier.	Completed/ 2000	Main supervisor
33	BEng Thesis	Tang Chee Yew (55107)		Tele-Control Switch System.	Completed/ 2000	Main supervisor
34	BEng Thesis	Lee Shou Sing (55122)		Development of a Speed Controller for Model Airplane Engine Using Microcontroller.	Completed/ 2000	Main supervisor
35	BEng Thesis	Chong Kok Hen (54897)		Development of an Automated Book Casing	Completed/ 2000	Main supervisor

			for IC Industrial Using PLC – Software Development.		
36	BEng Thesis	Lim Chong Seng	Development of an Automated Book Casing for IC Industrial Using PLC – Hardware Development.	Completed/ 2000	Main supervisor
37	BEng Thesis	Sharulnizam bin Mohd Mukhtar (59750)	Development of a Self-guided Vehicle Using PESONA 16 – Software Development	Completed/ 2001	Main supervisor
38	BEng Thesis	Shahrol Hisham bin Baharom (53631)	Development of a Self-guided Vehicle Using PESONA 16 – Hardware Development	Completed 2001	Main supervisor
39	BEng Thesis	Chew Choon Sang (66843)	Web-based Controller for Industrial Automation	Completed 2001	Main supervisor
40	BEng Thesis	Soh Chee Guan (67502)	Robocom II	Completed 2001	Main supervisor
41	BEng Thesis	Chung Kuok Shiong (67497)	Solar-based Pedestrian Road Lighting System	Completed 2001	Main supervisor
42	BEng Thesis	Rohana binti Sapawi (65563)	Hearing Aid System	Completed 2001	Main supervisor
43	BEng Thesis	Liyana binti Shahril (64371)	PC-Based Hearing Analyser	Completed 2001	Main supervisor
44	BEng Thesis	Victor Choo Ching Yii (62251)	Robocom I	Completed 2001	Main supervisor
45	BEng Thesis	Ling Seng Wee	Head-up-display Information System in Automobiles	Completed, 2002	Main supervisor
46	BEng Thesis	Norazlin bt. Nakim	Water Parameters Recorder System	Completed 2003	Main supervisor
47	BEng Thesis	Nor Jamilah b. Abdul Ghafar	Development of a portable auto water sampler system	Completed 2003	Main supervisor
48	BEng Thesis	Zainab bt. Hassan	Detection of Defective Symbols Printed on the Integrated Circuit Chip Using Optical Character Recognition Approach	Completed 2003	Main supervisor
49	BEng Thesis	Ho Teng Hoong	Development of Controlling and	Completed 2004	Main supervisor

			Interfacing programs for soccer robot		
50	BEng Thesis	Rabiatuladawiah Ahmad	Development of microcontroller-based car window controller with obstacle avoidance capability	2004/2005 Completed	Main supervisor
51	BEng Thesis	Muhd. Firdaus bin Abd Halim	Development of microcontroller-based motorised internal combustion engine	2004/2005 Completed	Main supervisor
52	BEng Thesis	Eng Joo Soon	RFID-based patient management system	Completed 2006/2007	Main supervisor
53	BEng Thesis	Chuah Siong Teng	RFID-based livestock management system	Completed 2006/2007	Main supervisor
54	BEng Thesis	Alias bin Mohamad	Harmonic analysis of multilevel inverter	Completed 2006/2007	Main supervisor
55	BEng Thesis	Tan Chor Hann	Development of Signal Emulator for Electronic Control Unit (ECU)	Completed 2006/2007	Main supervisor
56	BEng Thesis	Mohd Khairul bin Haromi	Modelling and simulation of electronic throttle body for internal combustion engine using Matlab	Completed 2006/2007	Main supervisor
57	BEng Thesis	Tay Choo Gean	Development of LED-based screen for patient Communication System	Completed 2007/2008	Main supervisor
58	BEng Thesis	Hisyam Mohd Jamaludin	Development of Electronic Throttle Body Using PID Controller	Completed 2008/2009	Main supervisor
59	BEng Thesis	Yeoh Sing Hsia	Development of Learning Tool for Blind children	Completed 2008/2009	Main supervisor
60	BEng Thesis	Mohd Syahazid	Development of Water sampler system	Completed 2008/2009	Main supervisor
61	BEng Thesis	Saidatul Amirah Mohd Nadzar	Remote control system for autonomous helicopter system	Completed 2009/2010	Main supervisor
62	BEng Thesis	Maznah Kamaruddin	Payload system for autonomous helicopter	Completed 2009/2010	Main supervisor
63	BEng Thesis	Fong Kah Lai	Auto pilot system for autonomous helicopter	Completed 2009/2010	Main supervisor
64	Industrial Attachment program	Shahnaaz Mustakim, National Inst. Of Technology, Durgapur, India	Ground station command centre for UAV	19 May – 12 July 2010	Main supervisor

65	BEng Thesis	Puvararaj a/l Pariyadan (142866)	Enhancement of UAV Power Train Control System	Completed, 2010/2011	Main supervisor
66	BEng Thesis	Nurul Basirah Azmi (142566)	Development of GUI System for Ground Station of UAV Payload. Best Project	Completed, 2010/2011	Main supervisor
67	BEng Thesis	Tay Wei Kiat (148027)	Development of portable automated milk filling system for smallholder dairy farm using PLC Best Project	Completed, 2011/2012	Main supervisor
68	BEng Thesis	Syed Muhammad Nashriq bin Syed Yahaya (149210)	Milk Storage Refrigeration System for small dairy farm	Completed, 2011/2012	Main supervisor
69	BEng Thesis	Lim Sheng Yu	Design and Fabrication of Unmanned Aerial Vehicle (UAV) Power Train and Platform for inspecting pollinated palms	Completed 2013/2014	Main supervisor
70	BEng Thesis	Farhana Mukhtar	Unmanned Aerial Vehicle (UAV) for inspection of pollinated palms: Design of Payload Vision System	Completed 2013/2014	Main supervisor
71	BEng Thesis	Syedehniousha Mousavi (170382)	Wireless EEG system for monitoring brainwave signals Gold medal	Completed 2015/2016	Main supervisor
72	BEng Thesis	Syed Khairil Bin Syed Khairuddin	Design and development of an automated LED lighting system for electric scooter	Completed 2016/2017	Main supervisor
73	BEng Thesis	Mohammad haneef bin roslan 177386	Spot cooling system for vehicle	2017/2018 Completed	Main supervisor
74	BEng Thesis	Muhamad Aiman Noor bin Whakiddin 183401	Design and development of an automated LED	2018/2019 Completed	Main supervisor

			lighting and signalling system for motorcycle		
75	BEng Thesis	Ahmad Murzani Bin Ahmad Nazeri (189014)	Design and development of battery pack system for e-bike	2020/2021	Main supervisor

N. Consultant Work

No	Title	Level	Sponsor	Status
1.	Evaluation Panel for Diploma in Electronic Engineering for Federal Institute of Technology, Kuala Lumpur, 29 th . December 1998.	National	National Accreditation Board (LAN)	Completed 1998
2.	ISO9000 Quality Manual (Teaching) for Universiti Putra Malaysia, 1998.	National	Universiti Putra Malaysia	Completed 1998
3.	Evaluation Panel for Diploma in Electrical Engineering for Federal Institute of Technology, Kuala Lumpur, 17 th . December 1998.	National	National Accreditation Board (LAN).	Completed 1998
4.	Evaluation Panel for Diploma in Electronic Engineering for Federal Institute of Technology, Petaling Jaya, 29 th . December 1998.	National	National Accreditation Board (LAN).	Completed 1998
5.	Accreditation Evaluation Panel for Certificate in Degree Foundation Studies in Science and Engineering for Sepang Institute of Technology, Klang, 29 th . December 1998.	National	National Accreditation Board (LAN).	Completed 1998
6.	Modification of Pulse Master Software for Automated Relay Testing (RELZ100 Distance Type Relay) Using PULSAR Test Set, 1998	National	Tenaga Nasional Berhad (TNB)	Completed 1998
7.	Prototype of vehicle overloading detection system, 1998	National	Dept. of Civil Engineering, UPM.	Completed 1998
8.	Evaluation Panel for Diploma in Electrical Engineering for Federal Institute of Technology, Petaling Jaya, 23 rd . December 1998.	National	National Accreditation Board (LAN).	Completed 1998
9.	Evaluation Panel for Bachelor of Engineering in Electrical and Electronic Engineering for Inti College, Nilai, 12 th . July 1999.	National	National Accreditation Board (LAN).	Completed 1999

10.	Evaluation Panel for Curriculum for MLVK (NOSS) Level 5 (Bachelor of Technology) Programmes in Tooling Engineering Technology and Mechatronics Engineering Technology, 16 th . – 19 August 1999.	International	German-Malaysian Institute	Completed 1999
11.	Accreditation Evaluation Panel for Bachelor of Engineering (Hons) in Electronics and Computing for Kolej Bandar Utama, Jan. 2000.	National	National Accreditation Board (LAN).	Completed 2000
12.	Accreditation Evaluation Panel for Diploma in Electrical and Electronics Engineering for Institut Informasi Teknologi Cosmopect, 1 st . April 2000	National	National Accreditation Board (LAN)	Completed 2000
13.	Accreditation Evaluation Panel for Bachelor of Engineering (Hons) in Microelectronics Engineering for Kolej Sedaya National, 24 th . April 2000.	National	National Accreditation Board (LAN)	Completed 2000
14.	Accreditation Evaluation Panel for Diploma in Electrical and Electronics Engineering for Universiti Industri Selangor, 13 th June 2000.	National	National Accreditation Board (LAN)	Completed 2000
15.	Accreditation Evaluation Panel for Diploma in Electronic Technologies (Industries) for Pahang Skilled Development Centre, 21 Feb 2001	National	National Accreditation Board (LAN)	Completed 2001
16.	Evaluation Panel for Vocational/Technical Degree and Diploma Programs, 29 th June 2000.	National	National Accreditation Board (LAN)	Completed 2000
17.	Accreditation Evaluation Panel for Diploma in Electronic Technologies (Industries) for PSDC, National Accreditation Board (LAN), 21 Feb 2001.	National	National Accreditation Board (LAN)	Completed 2001
18.	Accreditation Evaluation Panel for BTEC Higher National Diploma in Electrical and Electronic Engineering for Linton College, Ipoh, National Accreditation Board (LAN), 16 th Oct. 2001.	National	National Accreditation Board (LAN)	Completed 2001
19.	Accreditation Evaluation Panel for Diploma in Electrical and Electronic Engineering for Inti College, Sarawak”, National Accreditation Board (LAN), 16 th Oct. 2001.	National	National Accreditation Board (LAN)	Completed 2001
20.	Evaluation Panel for Electrical and Electronic BEng Program for Prime College, 2002 under JUMPA	University	UPM	Completed 2002
21.	HVDV Transmission Project (2001-2002)	National	National Utility Board (TNB Research)	Completed 2002
22.	Development of communication protocol for lorries and motorcycles. (2002-2003)	National	Advanced Interconnection Technologies Sdn. Bhd.	Completed 2003

23.	Accreditation Evaluation Panel for BTEC Higher National Diploma in Electrical and Electronic Engineering for Linton College, Ipoh, National Accreditation Board (LAN) 15 April – 16 April 2002	National	National Accreditation Board (LAN)	Completed 2002
24.	Accreditation Evaluation Panel for Diploma in Electrical and Electronic Engineering for Inti College, Sarawak”, National Accreditation Board (LAN), 16 July – 17 July 2002	National	National Accreditation Board (LAN)	Completed 2002
25.	Technical Panel Chairman for Industrial Research Grant Scheme (Project: Development of Electronic Sensorless Closed Loop Temperature Controller, 2002)	National	Ministry of Science, Technology and Environment	Completed 2002
26.	Developing Postgraduate Diploma in Biomedical Engineering Program	University	Faculty of Medical and Health Sciences	Completed 2002
27.	Accreditation Evaluation Panel for B.Eng (Hons) in Electrical and Electronic Engineering for Sedaya College Report, National Accreditation Board (LAN), 2 nd Sept. 2003- 3 Sept. 2003.	National	National Accreditation Board (LAN)	Completed 2003
28	Consultation on Lightning problems at Tower Building of Engineering Complex UPM, 4 Feb. 2003	Universiti, UPM	Faculty of Engineering	Completed
29	Accreditation Evaluation Panel for B.Eng (Hons) in Electrical and Electronic Engineering for Sedaya College Report, National Accreditation Board (LAN), 22 nd Sept. 2003	National	National Accreditation Board (LAN)	Completed
30.	Multimedia Super Corridor Research and development Grant Scheme (MGS) Technology Assessment Consultant - Technology Assessment Report for Paracorp Technology Sdn Bhd – Enterprise Telemetry Application (ETA), Multimedia Development Corporation, 9 Oct. 2003.	National	Multimedia Development Corporation	Completed 2003
31.	Reviewer for Sepang Institutes of Technology Diploma in Electronic Program, 3 Oct. 2003	National	Sepang Institutes of Technology	Completed 2003
32.	Evaluation Panel for Diploma in Elektrical & Electronic Eng. – Institut Eksekutif, Sarawak, 10 Oct. 2003.	National	National Accreditation Board (LAN)	Completed 2003
33.	End of the project visit, Technical Panel Chairman for Industrial Research Grant Scheme (Project: Development of Electronic Sensorless Closed Loop Temperature Controller, 2004) Bukit Mertajam, P. Pinang	National	Ministry of Science, Technology and Environment	Completed 2004
34.	Evaluation Panel for Diploma in Electrical Eng. (Power) – L&G-Twintech Institute of Technology, 29 March 2004.	National	National Accreditation Board (LAN)	Completed 2004

35.	Evaluation Panel for Diploma in Engineering Technology (Electrical Instrumentation and Installation) – Universiti Kuala Lumpur, 5 April 2004.	National	National Accreditation Board (LAN)	Completed 2004
36.	Accreditation Evaluation Panel for Diploma in Technology Electronic (Industry) – Kolej Negeri, 3 June 2004.	National	National Accreditation Board (LAN)	Completed 2004
37.	Evaluation Panel for Diploma in Electrical and Electronic – UCSI, 14 Ogos 2004.	National	National Accreditation Board (LAN)	Completed 2004
38.	Accreditation Evaluation Panel for MSc in Electrical and Electronics – Universiti Teknologi Petronas, 30 Oktober 2004.	National	National Accreditation Board (LAN)	Completed 2004
39.	Evaluation Panel for Diploma in Electrical and Electronics – Kolej Prime, 2 November 2004.	National	National Accreditation Board (LAN)	Completed 2004
40.	Evaluation Panel for Diploma in Electronic Engineering – Multimedia Universiti, Melaka, 28 November 2004.	National	National Accreditation Board (LAN)	Completed 2004
41.	Evaluation Panel for Diploma in Electrical and Electronic Engineering – Institut Teknologi RIFA, Taiping), 1 Dec. 2004.	National	National Accreditation Board (LAN)	Completed 2004
42.	Evaluation Panel for Diploma in Electrical and Electronic Engineering Universiti Industri Selangor, 2. 12. 2004.	National	National Accreditation Board (LAN)	Completed 2004
43.	Accreditation Evaluation Panel for MSc in Electrical and Electronics – Universiti Teknologi Petronas, 6. 1. 2005.	National	National Accreditation Board (LAN)	Completed 2005
44.	Accreditation Evaluation Panel for MEng (Hons) Electrical and Electronic Engineering (A 1052), The University of Nottingham, Malaysia Campus, 21. 7. 2005.	National	National Accreditation Board (LAN)	Completed 2005
45.	Accreditation Evaluation Panel for MEng (Hons) Electronic Engineering (A 1052), The University of Nottingham, Malaysia Campus, 21. 7. 2005.	National	National Accreditation Board (LAN)	Completed 2005
46.	Accreditation Evaluation Panel for BTEC HND in Electrical and Electronics Eng. (A 1310), Institut Teknologi Pertama, 6. 8. 2005.	National	National Accreditation Board (LAN)	Completed 2005
47.	Technical Evaluation Team Members for Program 03-99-02-0000 PR0024/04 “Design, Development and Implementation of Production Prototype Linear Generator (LG) for Hybrid	National	Ministry of Science, Technology and Innovation	Completed 2005

	Vehicle or Other Applications” 23 – 25 August 2005.			
48.	Accreditation Evaluation Panel for B Eng (Hons) in Electronics & Computing (A 1314), KBU International College, Petaling Jaya, 4. 9. 2005.	National	National Accreditation Board (LAN)	Completed 2005
49.	Accreditation Evaluation Panel for Diploma in Electrical and Electronic Eng. Universiti Industri Selangor, 25. 10. 2005.	National	National Accreditation Board (LAN)	Completed 2005
50.	Evaluation Panel for Diploma in Electrical Engineering (KA6848), Kolej Universiti Teknologi Antarabangsa Twintech, 16. 12. 2005	National	National Accreditation Board (LAN)	Completed 2005
51.	Accreditation Evaluation Panel for Diploma in Electrical and Electronic Eng. Kolej TAFE, Seremban, LAN, 17-18. 1. 2006.	National	National Accreditation Board (LAN)	Completed 2006
52.	Accreditation Evaluation Panel for Diploma in Engineering Technology (Electrical Instrumentation and Installation) (A1482), Universiti Kuala Lumpur: MFI, LAN, 28. 2. 2006.	National	National Accreditation Board (LAN)	Completed 2006
53.	Accreditation Evaluation Panel for Master of Electrical Engineering (A1187), Universiti Tenaga Nasional, LAN, 6. 5. 2006.	National	National Accreditation Board (LAN)	Completed 2006
54.	Evaluation Panel for Bachelor of Technology in Electronics (KA7214), Kolej Universiti Terbuka Wawasan, Pulau Pinang, LAN, 11. 5. 2006.	National	National Accreditation Board (LAN)	Completed 2006
55.	Accreditation Evaluation Panel for Bachelor of Technology in Electrical Engineering Universiti Kuala Lumpur: BMI, LAN, 12. 5. 2006.	National	National Accreditation Board (LAN)	Completed 2006
56.	Accreditation Evaluation Panel for Diploma in Electrical and Electronic Eng. Kolej Selatan, Skudai, Johor LAN, 28. 5. 2006.	National	National Accreditation Board (LAN)	Completed 2006
57.	Chairman of Evaluation Panel for Research Project Proposal RMK9, Eng. Faculty and ITMA (Sector Industry) 9-11 Jun, 2006, Hotel Pan Pacific, KLIA,	Universiti	Faculty of Engineering	Completed 2006
58.	Evaluation Panel for University research policy	Universiti	Deputy Vice Chancellor's (Research and Innovation) office	Completed 2006
59.	Accreditation Evaluation Panel for Diploma in Mektronik Eng. Kolej Maxwell, Ipoh, Perak LAN, 1. 8. 2006.	National	National Accreditation Board (LAN)	Completed 2006
60.	Evaluation Panel for Bachelor of Technology in Electrical and Electronics (KA7490), Kolej Universiti Teknologi	National	National Accreditation Board (LAN)	Completed 2006

	dan Pengurusan, Shah Alam, LAN, 23. 7. 2006.			
61.	Accreditation Evaluation Panel for Diploma in Mekatronic Eng. Kolej Maxwell, Ipoh, Perak LAN, 25. 8. 2006.	National	National Accreditation Board (LAN)	Completed 2006
62.	Accreditation Evaluation Panel for Diploma in Technology Electronic (Industry) (A1661), Kolej PSDC, Kuantan, Pahang, LAN, 13. 8. 2006.	National	National Accreditation Board (LAN)	Completed 2006
63.	Evaluation Panel for Program in Eng. Pra-University Rusia – Universiti Kuala Lumpur, 5 Sept. 2006.	National	National Accreditation Board (LAN)	Completed 2006
64.	Sciencefund ICT Cluster Technology Assessment Consultant, 14 Sept. 2006	National	Multimedia Development Corporation Sdn. Bhd.	Completed 2006
65.	Sciencefund ICT Cluster Technology Assessment Consultant, 19 Sept. 2006	National	Multimedia Development Corporation Sdn. Bhd.	Completed 2006
66.	External Examiner for Universiti Kuala Lumpur – Malaysia France Institute	National	Universiti Kuala Lumpur	2006 – 2008 Completed
67.	Member of Evaluation Committee of Fundamental Research Grant Scheme, UPM	University	UPM	2007 Completed
68.	Accreditation report for Certificate in Electrical and Electronic Eng. Pusat Teknologi dan Pengurusan lanjutan, Seremban	National	National Accreditation Board (LAN)	Completed 2007
69.	Evaluation report on Diploma in Mecatronic Eng., Kolej WIT, Port Klang Selangor	National	National Accreditation Board (LAN)	Completed 2007
70.	Evaluation report on Diploma in Embedded System, Mc Orange Institute.	National	National Accreditation Board (LAN)	Completed 2007
71.	Accreditation report for Diploma in Industrial Electronics (Mechatronics), German Malaysian Institute -	National	National Accreditation Board (LAN)	Completed 2007
72.	Accreditation report for Diploma in Electrical & Electronic Engineering, Kolej Selatan, Johor - Chairman	National	National Accreditation Board (LAN)	Completed 2007
73.	Accreditation report for Diploma in Electrical & Electronics Engineering, Institute Teknologi Riam, Miri, Sarawak - Chairman	National	National Accreditation Board (LAN)	Completed 2007
74.	Accreditation report for Diploma in Electrical & Electronics Engineering, Kolej Segi, Subang Jaya	National	National Accreditation Board (LAN)	Completed 2007
75.	Accreditation report for Diploma in Industrial Technology and Education, Kolej Teknologi dan Profesional Indera Kayangan, Perlis - Chairman	National	National Accreditation Board (LAN)	Completed 2007
76.	Examiner Report for Diploma in Electrical & Electronic Engineering, Institute Megatech, Kuala Lumpur - Chairman	National	National Accreditation Board (LAN)	Completed 2007
77.	Evaluation report for PhD program Engineering Technology	National	National Accreditation Board (LAN)	Completed 2007

	Elektrik/Elektronik Universiti Kuala Lumpur - Member			
78.	Evaluation report for Certificate in Technology Studies, Institute Teknologi & Pengurusan Lebu Victoria, Pulau Pinang - Member	National	National Accreditation Board (LAN)	Completed 2007
79.	Accreditation report for Doctor of Philosophy (Engineering), Multimedia Universiti - Member	National	National Accreditation Board (LAN)	Completed 2007
80.	Accreditation report before visit for BTEC Higher National Diploma in Electrical and Electronic Engineering, Kolej Linton Mantin, Negeri Sembilan	National	National Accreditation Board (LAN)	Completed 2007
81.	Accreditation report before visit for Diploma in Electrical and Electronic Engineering, University College Sedaya International, K. L.	National	National Accreditation Board (LAN)	Completed 2007
82.	External Examiner for SEGi College – Engineering Program	National	Segi College	2007 – 2009 Completed
83.	Accreditation report for Diploma of Electrical and Electronic Engineering in Technical Japanese (A6455), Universiti Industri Selangor, 21 Dec 2007 -Member	National	Malaysian Qualification Agency	2007, Completed
84	Evaluation panel for FRGS research proposal	UPM	UPM	2007 Completed
85	Evaluation panel for Science Fund research proposal	UPM	UPM	2007 Completed
86	Accreditation chairman report for BTEC Higher National Diploma in Electrical and Electronic Engineering, Kolej Linton Mantin, Negeri Sembilan	National	Malaysian Qualification Agency	Completed 2008
87.	Accreditation report for Diploma in Electrical and Electronic Engineering, University College Sedaya International, K. L. Member	National	Malaysian Qualification Agency	2008, Completed
88.	Chairman Evaluation report of MSc in Integrated Circuit design program for Malaysia University of Science and Technology (MUST), Kelana Jaya, Selangor.	National	Malaysian Qualification Agency	2008, Completed
89.	Accreditation Evaluation report of Doctor of Philosophy (Engineering) for Multimedia University, Cyberjaya, Selangor - Member	National	Malaysian Qualification Agency	2008, Completed
90.	Evaluation report for Bachelor of Engineering Technology (Honours) Mechatronics, Kolej Universiti TATI, Terengganu - Member	National	Malaysian Qualification Agency	2008, Completed
91.	Accreditation Evaluation report for Diploma in Electrical and Electronic Engineering, Pusat Teknologi dan Pengurusan Lanjutan (PTPL), Sentral, Kuala Lumpur - Chairman	National	Malaysian Qualification Agency	2008, Completed
92.	Accreditation Evaluation report for Certificate in Electrical and Electronic Engineering, Pusat Teknologi dan	National	Malaysian Qualification Agency	2008, Completed

	Pengurusan Lanjutan (PTPL), Sentral, Kuala Lumpur – Chairman			
93.	Consultation on Upgrading of Wiring and lighting system for Sultan Salahuddin Abdul Aziz Shah UPM Art and Cultural Centre T57/2008	University	Development and Asset Management Office, UPM	2 Dec 2008
94.	Develop theory and practical questions of Mobile Robot for MYSKILLS 2009 Competition	National	Ministry of Human Resource	24-26 Nov. 2008
95.	Evaluation panel for Malaysian Qualifications Agency	National	Malaysian Qualifications Agency	2008 - 2010
96	Consultation on Nanotechnology lab of UTHM	National	Pro Arrow Holding Sdn Bhd	7 August 2008
97	Evaluation panel for FRGS research proposal 1/2008, 7 April 2008.	UPM	UPM	2008
98	Development of 8 House wiring modules for teaching lab of Department of Electrical and Electronic Engineering, Dec 2008 Worth RM60,000.00, Free service and consultant work to UPM	UPM	Department of Electrical and Electronic Eng., UPM	Dec 2008
99	Evaluation report for Diploma in Petroleum Technology, Institute of Petroleum Technology Petronas, Kuala Terengganu. Member	National	Malaysian Qualification Agency	10 Jan 2009, Completed
100.	Accreditation Evaluation report for Pra Russiaan Universiti Engineering Program, Universiti Kuala Lumpur, Malaysian Institute of Aviation Technology, Dengkil - Chairman	National	Malaysian Qualification Agency	7 Jan 2009, Completed
101	Project Title: Unmanned Ariel Vehicle (UAV) I-VIII Research Contract: RM52,500.00	International and National	Asmara Aerospace Sdn. Bhd and Institute of King Abdul Aziz City for Science and Technology, Saudi Arabia (KACST)	2009 Completed
102	Chairman's Report for Accreditation of for BTECH HND in Electrical / Electronic Eng, KBU International College	National	Malaysian Qualifications Agency	2009 Completed
103	Accreditation Report for BEng (Hons) Electronic Engineering, University of Nottingham, Malaysia Campus - Member	National	Malaysian Qualifications Agency	2009 Completed
104	Chairman's Report for Accreditation of BEng (Hons) Electrical and Electronic Engineering, University of Nottingham, Malaysia Campus	National	Malaysian Qualifications Agency	2009 Completed
105	Accreditation Report for BEng (Hons) Mechatronic Engineering University of Nottingham, Malaysia Campus - Member	National	Malaysian Qualifications Agency	2009 Completed
106	Chairman's Report for Accreditation of Certificate in Electrical and Electronic Eng. Pusat Teknologi dan Pengurusan Lanjutan (PTPL), Sentral, K.L.	National	Malaysian Qualifications Agency	2009 Completed
107	Chairman's Report for Accreditation of Diploma in Electrical and Electronic	National	Malaysian Qualifications Agency	2009 Completed

	Eng., Pusat Teknologi dan Pengurusan Lanjutan (PTPL), Sentral, K.L.			
108	Evaluation report of Advanced Diploma in Electronic Engineering (Medical), Politeknik Sultan Salahuddin Abdul Aziz Shah, Shah Alam - Member	National	Malaysian Qualifications Agency	2009 Completed
109	Accreditation Report for Master of Engineering Technology (Mechatronic Engineering), Kolej Universiti TATI, Kemaman, Terengganu - Member	National	Malaysian Qualifications Agency	2009 Completed
110	Accreditation Report for Master of Engineering in Embedded System, Multimedia Universiti, Melaka. - Member	National	Malaysian Qualifications Agency	2009 Completed
111	External Assessor for Sciencefund research proposal of Universiti Teknologi Malaysia	National	Universiti Teknologi Malaysia	2009 Completed
112	Accreditation Report for Bachelor of Education (Electrical Engineering), Open University Malaysia - Chairman	National	Malaysian Qualifications Agency	2009 Completed
113	Interviewer for Post Doctoral Research Scheme, Ministry of Science, Technology and Innovation, 1 st . July 2009.	National	Ministry of Science, Technology and Innovation, 1 st . July 2009.	2009 Completed
114	Assessor for Research Proposal, Post Doctoral Research Scheme, Ministry of Science, Technology and Innovation, 2 nd . April 2009.	National	Ministry of Science, Technology and Innovation, 2 nd . April 2009.	2009 Completed
115	Evaluation for B ENG (HONS) ELECTRICAL AND ELECTRONIC ENGINEERING, Institut Megatech (Kuala Lumpur) - Member	National	Malaysian Qualifications Agency	2010 Completed
116	Accreditation evaluation for Diploma in Mechatronics Engineering, University College Inti, Nilai, Negeri Sembilan - Chairman	National	Malaysian Qualifications Agency	2010 Completed
117	Evaluation for Master of Electronics and Systems Engineering, Universiti Tenaga Nasional - Member	National	Malaysian Qualifications Agency	2010 Completed
118	Accreditation evaluation for Diploma in Electrical Engineering, International University College Twintech - Chairman	National	Malaysian Qualifications Agency	2010 Completed
119	Consulting service of domain expert on Green Technology for SIRIM	National	SIRIM Berhad	2010, On going
120	Accreditation evaluation for Diploma in Electrical Engineering, Poly-tech College MARA Kuantan Campus Branch - Chairman	National	Malaysian Qualifications Agency	2010 Completed
121	Accreditation Re-Visit, Twintech International College University, Diploma in Electrical Engineering - Chairman	National	Malaysian Qualifications Agency	2010 Completed
122	Accreditation Visit for Universiti Malaysia Perlis, B Eng (Hons) in Communication Eng.- Member	National	Malaysian Qualifications Agency	2010 Completed
123	Accreditation Visit for Universiti Malaysia Perlis, B Eng (Hons) in Electronic Eng.- Chairman	National	Malaysian Qualifications Agency	2010 Completed

124	Accreditation Visit for Universiti Malaysia Perlis, B Eng (Hons) in Electrical System Eng.- Chairman	National	Malaysian Qualifications Agency	2010 Completed
125	Accreditation Visit for Universiti Malaysia Perlis, B Eng (Hons) in Mechatronics Eng.- Member	National	Malaysian Qualifications Agency	2010 Completed
126	Accreditation Visit for Universiti Malaysia Perlis, B Eng (Hons) in Industrial Electronic Eng.- Member	National	Malaysian Qualifications Agency	2010 Completed
127	RFID animal tagging Project at Taman Pertanian Universiti UPM. Collaborates with Senstech Sdn. Bhd. RM400,000.00	University and private company	Senstech Sdn. Bhd. and Taman Pertanian Universiti	2010, completed.
128	Testing of SP-BIO Product-Dyno Test & CV Test, RM34,000.00	University and private company	SteamPro Conservation Sdn Bhd	2010, Completed
129	Accreditation Visit for BEng in Electrical and Electronic Eng in collaboration with Herdfordshire University, International Technology College HELP Kelang Selangor	National	Malaysian Qualifications Agency	2010 Completed
130	Accreditation Visit for BEng in Electrical and Electronic Eng in collaboration with Northumbria University, KDU	National	Malaysian Qualifications Agency	2010 Completed
131	Accreditation Visit for BEng technology in industrial automation and robotic, MFI, UniKL	National	Malaysian Qualifications Agency	2010 Completed
132	Road Safety Plan of Malaysia 2011-2020,	National	MIROS	24 May 2011
133	Green Technology Roadmap – Phase 1	National	Malaysian Green Technology Corporation	2011
134	Makmal industri automotif	National	Kementerian Perdagangan Antarabangsa dan Industri	13-17 Jun 2011
134	Makmal Pengurusan Nilai – Proj: Fleet Test Vehicle	National	Kementerian Perdagangan Antarabangsa dan Industri dan Unit Perancang Ekonomi	24 Oct. – 28 Oct. 2011
135	Technical Committee for Proton Green Mobility Challenge 2011	National	Proton Holdings Berhad	2011 – 2012
136	Bengkel Penawaran Program sarjana Muda Teknologi Kejuruteraan Elektrik	National	UTeM	7 – 8 Jan 2011
137	Bengkel Penulisan Akademik siri 2/2011	Fakulti	UPM	2-4 Dec 2011
138	Accreditation Visit for Bac. Of Technology in Applied Automotive, KLIUC	National	Malaysian Qualifications Agency	2011 Completed
139	Accreditation Visit for Diploma in Electrical and Electronic Eng, AIMST University	National	Malaysian Qualifications Agency	2011 Completed
140	Accreditation Visit for Master of Eng. In Microelectronic, MMU	National	Malaysian Qualifications Agency	2011 Completed
141	Accreditation Visit for Master of Science in Electrical Eng, UCSI University	National	Malaysian Qualifications Agency	2011 Completed
142	Accreditation Visit for Bac. Of Technology in Electronics, Wawasan Open University	National	Malaysian Qualifications Agency	2011 Completed

143	Member of Technical Committee on Petroleum Lubricants	National	SIRIM	2010 -2013
144	Accreditation Visit for MSc in Electronics Systems Eng., UTP	National	Malaysian Qualifications Agency	2012
155	Accreditation Visit for Diploma in Electrical (Power) Eng. And Diploma in Electronic Eng, KUIM and UTM	National	Malaysian Qualifications Agency	2012
156	Evaluation of Program Diploma in solar technology, KRM, Terengganu,	National	Malaysian Qualifications Agency	2012
157	Evaluation for Bac. Of Technology in Applied Automotive, KLIUC	National	Malaysian Qualifications Agency	2012
168	Auto switch off sensor for lighting system at Faculty of Engineering UPM	University	UPM	2012
169	Wireless power transfer	National	DFRAN Research Technologies Sdn. Bhd RM11,000.00	2013
170	Chairman of Evaluation committee for MSc. Of Instrumentation and Control Engineering, Universiti Teknologi Mara	National	Malaysian Qualifications Agency	2013
171	Evaluation committee for Pearson BTEC Level 5 HND Diploma in Electronic Engineering.	National	Malaysian Qualifications Agency	2013
172	Evaluation committee for MSc. Of Microelectronic Engineering, Universiti Teknologi Mara	National	Malaysian Qualifications Agency	2013
173	D2O Booster Additive Oil Vehicle Test	National	D2 Resources Sdn. Bhd. RM	2014
174	Electric bus and Charging station.	National	SYNC R&D SDN BHD (735511-D)	2014 -2015
175	Mega Science Project 3.0 (2015 -20150) Automotive Industry Sector – Expert panel	National	Academy of Sciences Malaysia, Malaysian Automotive Institute	2015-2016
176	Development of national Occupational Skill Standard (NOSS) For ELV – Recycling Level 1, 2, and 3	National	Malaysian Automotive Institute	26 – 28 August 2016
177	Development of Occupational Area in the Automotive Industries	National	Malaysian Automotive Institute	21 – 23 Oct 2016
178	Automotive workshop for Mega Science 3.0 for Sabah and Sarawak	National	Malaysian Automotive Institute	15 – 17 Feb 2016
179	Accreditation Visit for bachelor of Engineering Technology in Electronic (Industry Automation) Universiti Tun Hussein Onn Malaysia	National	Malaysian Qualifications Agency	14 – 15 Mac 2016
180	Expert panel to evaluate application for R, D and C grant Ministry of Science	National	Ministry of Science	2016 – 2019
181	Evaluation of ScienceFund application – industry 3/2016	National	Ministry of Science	5 April 2016
182	Evaluation of ScienceFund application – Science and Tech 3/2016	National	Ministry of Science	28 April 2016
183	Panel member in development of national occupational skill standard (noss) for motorcycle servicing & maintenance level 1 - 3.	National	Malaysian Automotive Institute	16 April 2015 - 23 July 2017

184	Auditor Swaakreditasi, Universiti Kuala Lumpur – Malaysia France Institute, Malaysian Qualifications Agency	National	Malaysian Qualifications Agency	1 April 2015 – 10 August 2017
185	Senior Evaluation Panel for Malaysian Qualifications Agency,	National	Malaysian Qualifications Agency	1 July 2017 - 1 July 2020
186	Evaluation Panel for University Program	University	UPM	1 May 2016 – 30 April 2018
187	Malaysian Driving Cycle (MDC) Technical Committee	National	Malaysia Automotive Institute (MAI)	2018
188	Electric bus restoration and homologation project, Project Leader RM850,000.00 MAI/TRDC/UPM/2018-01	National	Malaysia Automotive Institute (MAI)	15 March 2018 – 14 March 2019
189	Electric vehicle wireless charger project RM500,000 MARii/ATD/UPM/2019-01	National	Malaysia Automotive, Robotics & IoT Institute (MARii)	1 Oct 2019 – 31 March 2020
190	Scale-up prototype of EV wireless charger, RM400,000 MARii/ATD/UPM/2020-01	National	Malaysia Automotive, Robotics & IoT Institute (MARii)	1 June – 30 Nov 2020
191	AI Bench: Towards scalable and comprehensive datacenter AI benchmarking RM180,850	International	IOTG Customer Engineering Group, INTEL MICROELECTRONICS (M) SDN. BHD. BAYAN LEPAS FREE INDUSTRIAL ZONE PENANG	29 July 2019 – 28 Jly 2021
192	Battery management system (bms) and integration with electric light commercial vehicle (e-lcv) project. Battery pack for energy harvesting with BMS system RM1,000,000.00 UPMH/UPMCS/C/ Lantikan/2021-0044/1225	National	MALAYSIA AUTOMOTIVE ROBOTICS AND IoT INSTITUTE (MARii) THROUGH MARii's PROJECT MANAGEMENT OFFICE, ORS TECHNOLOGIES SDN BHD (ORS)	1 Jan 2021 – 31 March 2022

O. PUBLICATIONS

O.1 Thesis

- I. B. Aris, BSc Final Year Project** (George Washington University, USA) “Development of IC-based Audio Amplifier”, 1988.
- I. B. Aris, “Inverter High Quality Audio Amplifier”**, MSc Dissertation, University of Bradford, UK, 1991.

3. **I. B. Aris**, “*Application of Artificial Intelligence to Power Electronic Circuit Design and Fault Diagnosis*”, PhD Dissertation, University of Bradford, UK, 1995.

O.2 Journals Papers

Citation Indexed Journal:

1. **Ishak Aris**, A. A. E Wagie, Norman Bin Mariun and A. B. E. Jammal, “An Internet-based Blood Pressure Monitoring System for Patients”, Journal of Telemedicine and Telecare, Royal Society of Medicine Press, United Kingdom, Vol. 7, No. 1, 2001: pp 51-53. (Impact factor = 2.229), Q1. <https://doi.org/10.1258/1357633011936147>
2. N Khan, N Mariun, **Ishak Aris** and J Yeak, “Laser Triggered Lightning Discharge”, New Journal of Physics, Vol: 4, 2002, pp. 61.1-61.20. (Impact factor = 3.773), Q1.
3. Liakot Ali, Roslina Sidek, **Ishak Aris**, Bambang Sunaryo Suparjo and Mohd. Alauddin Mohd. Ali, “Challenges and Directions for Testing IC”, Integration, the VLSI Journal, Elsevier, Vol.37, 2004, pp 17-28. (Impact factor = 1.15), Q3.
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12. E. Radwan, N. Mariun, **I. Aris**, S. M. Bash and A. H. Yatim, "Indirect Rotor Flux Orientation Control Induction Motor with Rotor Time Constant Estimation Modelling and Simulation", The International Journal for Computation and Mathematics in Electrical and Electronic Engineering, Emerald UK, Vol. 24, No. 4, 2005, pp. 1093-1119. (Impact factor = 0.705) Q3
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197. Amer N. N. Kakahy, D. Ahmad, MD. Akhir, S. Sulaiman, Ishak A., "Effects of Cutting Speeds and Knife Angles of a Mower Knife with Serrated Edges on the Pulverization of Sweet Potato Vines", 11th International Annual Symposium on Sustainability Science and Management (UMTAS 2012). 9 – 11th July 2012 Ri-Yaz Heritage Marina Resort & Spa, Kuala Terengganu, Malaysia.
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199. Amer N. N. Kakahy, D. Ahmad, MD. Akhir, S. Sulaiman, Ishak A., "Pulverization of Sweet Potato Vine using Different Blade Angles and Mower Speeds", International Conference on Agricultural and Food Engineering for Life (Cafei2012), 26-28 November 2012. Putrajaya, Polman.Malaysia.

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201. Aravind CV, M. Norhisham, I. Aris, M. H. Marhaban, M. Nirei, "Static Characteristics of the double rotor switched reluctance motor", International Conf. on power and Energy (PECON 2012) 2 – 5 Dec. 2012, Kota Kinabalu, Malaysia.
202. A. Boretti, A. Osman and **I. Aris**, "Design of Rankine Cycle Systems to Deliver Fuel Economy Benefits over Cold Start Driving Cycles", SAE 2012 International Powertrains, Fuels & Lubricants Meeting, Malmo, Sweden, September 18-20, 2012. SAE P. 2012-01-1713.
203. Noor hasmiza harun, M. Norhisam, Y.K. lee, **I. Aris**, R. M. Sidek and I. M. Abidin, "Improvement in Sensitivity of Oil Palm Fruit Sensor", International Symposium on Applied Engineering & Sciences, UPM-Kyushu Institute of Technology, 30th. Sept – 1st. Oct. 2013, p. 15.
204. **Ishak Aris**, Saber M. E. Fadul, M. Norhisam, Izhal Abdul Halin and I. Parvez, "Oscillatory Motion of Tubular Linear Permanent Magnet Motor in Spray Application", International Symposium on Applied Engineering & Sciences, UPM-Kyushu Institute of Technology, 30th. Sept – 1st. Oct. 2013, p. 17.
205. R. N. F. R. Othman, M. Norhisam, N. Mariun, **I. Aris**, I. H. Wakiwaka and M. Nirei, "Improvement of Torque Density in Single Phase Brushless DC Motor", International Symposium on Applied Engineering & Sciences, UPM-Kyushu Institute of Technology, 30th. Sept – 1st. Oct. 2013, p. 28.
206. Saman Toosi, M. Norhisam, T. hanamoto, **I. Aris**, and A. M. Radzi, "Development of Multi Directional Converter for Stand-Alone Power Plant", International Symposium on Applied Engineering & Sciences, UPM-Kyushu Institute of Technology, 30th. Sept – 1st. Oct. 2013, p. 28.
207. Nashiren F. Mailah, S. S. T. Othman, **I. Aris**, A. M. Radzi, M. Norhisam, T. Hanamoto and H. Yamada, "Determination of Triggering Angle through Graphical Method Analysis", International Symposium on Applied Engineering & Sciences, UPM-Kyushu Institute of Technology, 30th. Sept – 1st. Oct. 2013, p. 30.
208. **Ishak Aris**, Sharina Shariff and Harlisya Harun, "Development of UAV Simulator", International Symposium on Applied Engineering & Sciences, UPM-Kyushu Institute of Technology, 30th. Sept – 1st. Oct. 2013, p. 31.
209. Davood Kalhor, **Ishak Aris**, Izhal Abdul Halin and Trifa Moaini, "A Fast Approach for Human Action Recognition", Fifth IEEE International Conference on Intelligent Systems, Modelling and Simulation 2014, Langkawi Island, 27 – 29 January 2014, pp 266 – 272.

210. Fakhrul Zamani Rokhani and **Ishak Aris**, “Embedded Systems Curriculum at UPM – Gearing Towards Internet of Things (IoT)”, Intel Asia Innovation Summit 2014, Regent Hotel, Taipei, Taiwan, 18-19 Nov 2014.
211. **Ishak Bin Aris**, Ratna Kalos Zakiah Sahbudin and Ahmad Fairuz Mohammad Amin, “Impacts of IoT and Big data to Automotive Industry”, Proceeding of IEEE 10th Asian Control Conference 2015, Kota Kinabalu, 31st May – 3rd June 2015, pp.1577 – 1581.
212. Siti Maisarah Mohd Pital, **Ishak bin Aris**, M Madani Sahari, Cho Chee Seng, Shahrul Nizam bin Bukhari, Nor Faiza bt. Mansor and Mohd Firdaus bin Mohd Munir, “Moving Towards Sustainable Human Capital Development for Malaysian Automotive Industry”, Proceeding of IEEE 10th Asian Control Conference 2015, Kota Kinabalu, 31st May – 3rd June 2015, pp. 1999 -2002.
213. Abdulwahab A. Abdulrahman Al-Saadi and **Ishak Bin Aris**, “CNG-Diesel Dual Fuel Engine: A review on emission and alternative fuels”, Proceeding of IEEE 10th Asian Control Conference 2015, Kota Kinabalu, 31st May – 3rd June 2015, pp. 730 -733.
214. Iman Ahmad, **Ishak Bin Aris**, Mohammad Hamiruce Marhaban and Asnor Juraiza Ishak, “Power consumption rate analysis of bioloid humanoid robot”, Proceeding of IEEE 10th Asian Control Conference 2015, Kota Kinabalu, 31st May – 3rd June 2015, pp. 2432 – 2437.
215. **Ishak Bin Aris**, Ratna Kalos Zakiah Sahbudin and Ahmad Fairuz Muhammad Amin, “Impacts of IoT and Big Data to Smart Cities”, 4th. International SmartCity Workshop, 2nd – 3rd Sept. 2015, Universiti Putra Malaysia, pp. 10.
216. Iman Ahmed , **Ishak b. Aris**, Mohammad Hamiruce Marhaban, Asnor Juraiza Ishak, “Energy Consumption Analysis Procedure for Robotic Applications in different task motion”, 4th. International Conference on Electronic Devices, Systems and Applications (ICEDSA), September 14 – 15, 2015, pp.12.
217. A. Boretti and **I. Aris**, Regenerative Braking of a 2015 LMP1-H Racing Car, SAE Brake Colloquium & Exhibition - 33rd Annual, October 4-7, 2015 Charleston, South Carolina, USA. 15BC-0023/2015-01-2659.
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218. Tengku Azman Tengku Mohd, Mohd Khair Hassan, **Ishak Aris**, Babul Salam Ksm Kader Ibrahim and Mohd Kamal Hat, “ Simulation based Study of Electric Vehicle Parameters”, International Conference on Electrical and Electronic Engineering, 10 – 11 August 2015 , Melaka.
219. Ali Saadon Al Ogaili, **Ishak bin Aris**, Mohammad Reza Maghami, Mohammad Lutfi Othman and Norhafiz Azis, “The Method of Third Harmonic Injection Feedback to Input of Three Phase Bridge Rectifier to Improve the Input Current”, International Conference on Advanced Mechanics, Power and Energy, 5 Dec 2015, Shah Alam., pp. 1-9.
220. Mohd Khair Hassan, **Ishak Bin Aris**, Azura Che Soh and Babul Salam, “A Review of Energy Management System in Battery Electric Vehicle with Hybrid Electrical Energy Source”, FEIIC-International Conference on Engineering Education and

- Research 2015, Madinah, Kingdom of Saudi Arabia, 19-21 December 2015, pp. 285-289.
221. Davood Kalhor, **Ishak Aris**, Izhal Abdul Halin and Trifa Moaini, "A Fast Approach for Human Action Recognition", Proceedings - International Conference on Intelligent Systems, Modelling and Simulation, ISMS, Volume 2015-September, 28 September 2015, Article number 7280919, Pages 266-272.
 222. Iman Ahmed Zayer, **Ishak Bin Aris**, Mohammad Hamiruce Marhaban and Asnor Juraiza Ishak, "Wireless Energy Monitoring in Biped Robot based on Xbee RF module", International Conference on Energy and Applied Mechanic 2016, 25-26 March 2016, Kuala Lumpur, IPN.org. (**Best Presenter Award**).
 223. Ishak Aris "Moving Towards Intelligent Energy Efficient Vehicle (IEEV) and Robotic System", International Symposium for Realization of Ultra-low Carbon Society and Design of Environmental Technology to Bridge of Asian Area, 26 – 28 Sept. 2016, pp. 19, Kitakyushu Science and Research Park, Japan., pp. 19 -21.
 224. A.N.N. Kakahy, D. Ahmad , M.D. Akhir, S. Sulaiman and A. Ishak, "Effects of cutting speeds, moisture contents and sweet potato varieties on tractor fuel consumption, International Conference on Agricultural and Food Engineering (Cafei2016), 23 – 25 August 2016, UPM, Serdang. Pp. 66-70.
 225. Shaker M. K., **Ishak Bin Aris**, Mohammad Lutfi Othman, Nashiren Farzilah Mailah and Ratna Kalos Zakiah Sahbudin, "Analysis of AC to DC uncontrolled converters harmonics for electric vehicle application", International Conference on Electrical and Electronic Technology, Serdang, 22 – 26 August 2016, pp. 31.
 226. M. K. Roslan, Norhisam M., **Ishak A.**, M. Nizar H. and K. Tashiro, "Metal Shape Evaluation with Giant Magneto-Resistance Sensor Magnetic Imaging (GMR-i) System", International Conference on Electrical and Electronic Technology, Serdang, 22 – 26 August 2016, pp. 15.
 227. Ali Saadon Al-Ogaili, **Ishak bin Aris**, Mohammad Reza Maghami, Mohammad Lutfi Othman and Norhafiz Azis, "New Technique for Decreasing of Total Harmonic Distortion of Three Phases Bridge Rectifier by using the Method of Harmonic Injection", IEEE Conference on Systems, Process and Control 2016, 16 – 18 December 2016, Melaka Malaysia, pp. 249 – 254. ISBN: 978-1-5090-1180-3.
 228. **Ishak Bin Aris**, "Intelligent Energy Efficient Vehicle", 5th. Asia Automobile Institute Summit 2016 (AAIS), 28 -29 November 2016, Hotel Bangi Putrajaya & Sepang International Circuit.
 229. Athraa Ali Kadhema, N. I. A. Wahaba, **Ishak Bin Aris**, Jasronita bt Jasniah and Ahmed N. Abdallab, "Effect of Wind Energy Unit Availability on Power System Adequacy", Proceedings of the International Conference on Green Computing and Engineering Technologies 2016, 18-20 August 2016, Aalborg University Esbjerg Denmark, Gyancity International Publishers ISBN- 978-81-938900-1-1, p. 58.
 230. Saber M. E. Fadul, **Ishak Aris**, Norhisam Misron, Izhal A Halin and A.K.M. Parvez Iqbal, "Modelling and Simulation of Electric Drive Vehicle Based on Space Vector Modulation Technique and Field Oriented Control Strategy", IEEE International Conference on Communication, Control, Computing, and Electronics Engineering (ICCCCEE), Khartoum, Sudan, 16 – 18 Jan 2017. IEEE Explorer.
 231. Saber M. E. Fadul, **Ishak Bin Aris**, Norhisam Misron, Izhal A Halin and A.K.M. Parvez Iqbal, "Modelling and Simulation of Power–train System for Electric Car", 2nd International Conference on Sustainable Mobility, 12- 13 July 2017, Kuala Lumpur.
 232. Ali Saadon Al-Ogaili, **Ishak bin Aris**, Hashim Hizam, Mohammad Lutfi b. Othman, Yap Hoon, Dino Isa, Norhafiz B. Azis and Hamzah Fadhil Abbas. "A Review of Different Control Methods in Power Electronic", International Conference on Electrical

- and Electronic Engineering 2017, Langkawi Island, Nabu Research Academy Sdn. Bhd., 8 – 9 May 2017. **(Best Paper Award)**.
233. **Ishak Bin Aris**, Siti Munirah Mohamad Yusof, Seyedehniiousha Mousavi, Haider Hussein Ali and Ratna Kalos Zakiah Sahbudin, “Low Cost Wireless EEG System for Medical and non Medical Applications”, 5th International Smart City Workshop, IEEEJ IEEE SMC, UPM Serdang, Malaysia, 8 -10 March 2017. **(Best Presentation Award)**.
 234. **Ishak Bin Aris**, Ipshita Zerine, Nashireen Farzilah Binti Mailah and Saber M E Fadul, “Design and fabrication of an electrically preheated catalytic converter (ephcc) system for smartcity sustainable environment”, 6th. International Smart City Symposium 2018, 16 – 17 Oct. 2018, Palm Garden Hotel, Putrajaya, Malaysia, pp. 1 - 4.
 235. NM Noor, **Ishak Bin Aris**, S Arof, Parveziqbal A K M, M Norhisam, “ Design and Analytical Study of Tubular Linear Electromagnetic Pulsing Motor as an alternative for Electric Vehicle”, 3rd. International Conference on Automotive Innovation and Green Energy Vehicle, 2018, Seri Manja Boutique Hotel, Universiti Malaysia Pahang, 25th July 2018 pp. 1 – 10.
 236. Mohd Najib Ahmad, Abdul Rashid Mohamed Shariff, **Ishak Aris**, Izhal Abdul Halin and Ramle Moslim, “Development of an automated detection and counting system for the bagworms, *Metisa lanna* Walker (Lepidoptera: Psychidae) Census ”, Proceeding of the 19th. International Oil Palm Conference 2018: Nurturing people and protecting the planet. Cartagena, Colombia. 26-28 Sept. 2018.
 237. Mohd Najib Ahmad, Abdul Rashid Mohamed Shariff, **Ishak Aris**, Izhal Abdul halin and Ramle Moslim, “A false colour analysis: An image processing approach to distinguish between dead and living pupae of the bagworms, *Metisa plana* Walker (Lepidoptera: Psychidae)”, 4th. International Conf. on Science and Natural Resources, Kota Kinabalu, Sabah, 7-8 April 2019. **Best paper presenter at ICSNR4 2019, Kota Kinabalu, Sabah.**
 238. Ali Saadon Al-ogaili, **Ishak Bin Aris**, Agileswari Ramasamy, Ahmad H. Sabry, Marayati Marsadek, Mohd Zainal Abidin Ab-Kadir and Ammar Ahmed Al-Kahtani, “ Design of Three Levels Electric Vehicle Charger Integrated PV System”, 5th International Conference on Energy & Environment ICEE 2019, Bangi Resort Hotel, 10-11 July 2019, (Paper ID:1570552660).
 239. Tengku Azman Tengku Mohd, Mohd Khair Hassan, **Ishak Aris** and Azura Che Soh, “Modelling and Simulation of Battery Electric Vehicle with consideration of Propulsion Load and Auxiliary Load”, International MAAC Symposium 2019, Politeknik Sultan Mizan Zainal Abidin, Terengganu, Malaysia. 25-26 September 2019, pp. 113 – 122. **Best Paper Award**, International Malaysia Academic Association Congress 2019,
 240. Al-Jlibawi, A., bin Othman, M. L., Al-huseiny, M. S., **Ishak bin Aris**, and Bahari, S. “The efficiency of soft sensors modelling in advanced control systems in oil refinery through the application of hybrid intelligent data mining technique”, 1st Int. cof. On computing, information science and engineering 2020, Kota Baharu, Malaysia, Jan 2020.

241. Siti Sarah Emran, **Ishak Bin Aris**, Norhisam Misron and Izhal Abdul Halin, "Modeling and Simulation of Electric Bus with Dual Motor", 8th. International Symposium on Applied Engineering and Sciences (SAES2020), Virtual Conference, Kyushu Institute of Technology, Kitakyushu, Japan, 12th. –19th. December 2020.
242. Siti Munirah M.Yusof, **Ishak Bin Aris**, Mohammad Lutfi Othman, Syed Abdul Rahman Al-Haddad and Wan Alia Wan Sulaiman, "Alpha Wave Analysis for Stress Related Disease among Student during Pandemic", 8th. International Symposium on Applied Engineering and Sciences (SAES2020), Virtual Conference, Kyushu Institute of Technology, Kitakyushu, Japan, 12th. –19th. December 2020.
243. Hazrina Mohd Kamal, **Ishak Bin Aris**, Noor Izzri A. Wahab and Mohammad Lutfi Othman, "Online-computation Li-Ion Battery Configuration", 8th. International Symposium on Applied Engineering and Sciences (SAES2020), Virtual Conference, Kyushu Institute of Technology, Kitakyushu, Japan, 12th. –19th. December 2020.
244. Nur Amira Ibrahim, Norhisam Misron, Nisa Syakirah Kamal Azhar, Mohd Nizar Hamidon and **Ishak Aris**, "Effect of Charging Parameter on Fruit Battery-based Oil Palm Maturity Sensor", 8th. International Symposium on Applied Engineering and Sciences (SAES2020), Virtual Conference, Kyushu Institute of Technology, Kitakyushu, Japan, 12th. –19th. December 2020.
245. Siti Munirah Binti Mohamad Yusof, **Ishak Bin Aris**, Mohammad Lutfi Othman, Syed Abdul Rahman Al-Haddad and Wan Aliaa Wan Sulaiman, "A Low-Cost Bluetooth EEG Wearable Wireless system by using smartphone Application", Smart City Conference 2021, Indian Institute of Technology Madras Chennai India, 26 - 27th. March 2021.
246. Hazrina Binti Mohd Kamal, **Ishak Bin Aris**, Noor Izzri A. Wahab and Mohammad Lutfi Othman, "Online-computation Li-Ion Battery Configuration", Smart City Conference 2021, Indian Institute of Technology Madras Chennai India, 26 - 27th. March 2021.
247. Siti Sarah Emran, **Ishak Aris**, Norhisam Misron and Izhal Abdul Halin, "Modelling and Simulation of Electric Bus with Dual-Motor Drive", Smart City Conference 2021, Indian Institute of Technology Madras Chennai India, 26 - 27th. March 2021.
248. Kar Kar Yiam, Prof. Dr. Syed Abdul Rahman and **Prof. Dr. Ishak Bin Aris**, "Electroencephalogram (EEG) Imagined Speech Recognition using Deep Learning Approach of Convolutional Neural Network", Smart City Conference 2021, Indian Institute of Technology Madras Chennai India, 26 - 27th. March 2021.

O.4 Malaysian Standard Publication (SIRIM) (panel Expert)

1. Brake Fluids - Test Method – Part 1: Equilibrium reflux boiling point (ERBP) (Second revision) MS1077-1:2012.
2. Brake Fluids - Test Method – Part 2: Wet equilibrium reflux boiling point (Wet ERBP) (Second revision) MS1077-2:2012.
3. Brake Fluids - Test Method – Part 3: pH value (Second revision) MS1077-3:2012.

4. Brake Fluids - Test Method – Part 4: Fluid Stability (Second revision) MS1077-4:2012.
5. Brake Fluids - Test Method – Part 5: Corrosion (Second revision) MS1077-5:2012.
6. Brake Fluids - Test Method – Part 6: Fluidity and appearance at low temperature (Second revision) M1077-6:2012.
7. Brake Fluids - Test Method – Part 8: Water tolerance (Second revision) MS1077-8:2012.
8. Brake Fluids - Test Method – Part 9: Compatibility (Second revision) MS1077-9:2012.
9. Brake Fluids - Test Method – Part 10: Resistance to oxidation (Second revision) MS1077-10:2012.
10. Brake Fluids - Test Method – Part 11: Effect on SAE SBR WC cups (First revision) MS1077-11:2012.
11. Brake Fluids - Test Method – Part 12: Stroking properties (First revision) MS1077-12:2012.
12. Brake Fluids – Motor Vehicles – Specification (Third revision) MS119:2012
13. Automotive Gear Lubricating Oils – Specification (First Revision), MS913:2012

O.5 NATIONAL OCCUPATIONAL SKILL STANDARD (panel Expert)

1. LEVEL 1 VEHICLE MAINTENANCE & SERVICE
TP-333-1:2014. Department of Skills Development (DSD)
2. LEVEL 2 EEV-HYBRID SYSTEM-INSPECTION SERVICE
TP-332-2:2014. Department of Skills Development (DSD)
3. LEVEL 3 EEV-HYBRID SYSTEM-DIAGNOSE SERVICE
TP-332-3:2014 Department of Skills Development (DSD)
4. LEVEL 1 MOTORCYCLE - MAINTENANCE & SERVICE 2017
Department of Skills Development (DSD)
5. LEVEL 2 MOTORCYCLE - REPAIR SERVICE 2017
Department of Skills Development (DSD)
6. LEVEL 3 MOTORCYCLE - DIAGNOSE SERVICE 2017
Department of Skills Development (DSD)

O.6 Government Policy

1. Mega Science 3.0, Automotive Industry Sector, Malaysia Automotive Institute and Akademi Sains Malaysia, Ministry of Science, Technology and Innovation, 2018.

O.7 Books or Chapters in Book

1. **Ishak Aris** “Programmable and Portable Painting Robot for Houses and Buildings”, in Research and Development Excellence from Malaysian Universities, Universiti Teknologi Malaysia, 2007, ISBN 978-983-52-0414-2
2. Md. Liakot Ali, **Ishak Aris** and Roslina Sidek , “Verilog HDL : An easy approach for beginner”, VDM Publishing Group, 2010, 112 pages, ISBN 978-3-639-26791-4, <https://www.amazon.com/Verilog-HDL-Easy-Approach-Beginners/dp/3639267915>.
3. **Ishak Aris**, Johnny S. P. Koh, C. K. Ho, S. M. Bashi “Design and Performance Optimization of a Traveling Algorithm”, in Genetic Algorithms Theories and Applications, LAP Lambert Academic Publishing, ISBN-10: 3848447088, ISBN-13: 978-3848447084, pp. 205 - 210, 22 March, 2012.
4. **Ishak Aris** , K. H. Chong, and S. M. Bashi, “Application of Evolutionary Algorithm in Optimization Digital Structure Design”, in Genetic Algorithms Theories and Applications, LAP Lambert Academic Publishing, ISBN-10: 3848447088, ISBN-13: 978-3848447084, pp. 123-130, 22 March, 2012.
5. Muhammad Lutfi Othman and **Ishak Aris**, “Inconsistent Decision System: Rough Set Data Mining Strategy to Extract Decision Algorithm of a Numerical Distance Relay – Tutorial, in Advances in Data Mining Knowledge Discovery and Applications, INTECH, Chapter 5, pp.117-142, 2012. https://books.google.com.my/books/about/Advances_in_Data_Mining_Knowledge_Discov.html?id=xeiPDwAAQBAJ&printsec=frontcover&source=kp_read_button&hl=en&redir_esc=y#v=onepage&q&f=false, ISSN: 978-953-51-0748-4.
6. Mohammad Lutfi Othman, **Ishak Aris** and Thammaiah Ananthapadmanabha, “Novel Rule Base Development from IED-Resident Big Data for Protective Relay Analysis Expert System”, in Big Data on Real-World Applications, In Tech, pp. 1 – 22, Chapter 1 , ISBN 978-953-51-2490-0, Print ISBN 978-953-51-2489-4,. INTECH, 2016., <https://www.amazon.com/Data-Real-World-Applications-Sebastian-Ventura/dp/9535124897>.
7. Noor N.M., **Aris I.**, Arof S., Ismail A.K., Shamsudin K.A., and Norhisam M., “Analytical Study of a Cylindrical Linear Electromagnetic Pulsing Motor for Electric Vehicles”, In: Abu Bakar M., Mohamad Sidik M., Öchsner A. (eds) Progress in Engineering Technology: Automotive, Energy Generation, Quality Control and Efficiency. Advanced Structured Materials, vol 119. pp 67-82, Springer, Cham, 2019, ISBN online: 978-3-030-28505-0, ISBN print: 978-3-030-28504-3, DOI https://doi.org/10.1007/978-3-030-28505-0_6.

O.8 Keynote Speaker / Guest speaker / Facilitator

1. **Invited speaker**, “Seminar on Biomedical and Other Research Activities in the Department of Electrical and Electronics Engineering, Universiti Putra Malaysia”, Institute of Sound & Vibration Research Signal Processing & Control Group, University of Southampton, United Kingdom, 14th. Oct. 1998.

2. **Guest Speaker**, “Overview of Vocational / Technical Program at Diploma and Bachelor Degree Levels”, Lembaga Akreditasi Negara, Petaling Jaya, 29th. July 2000.
3. **Keynote Speaker**, “*Latest Technology to Combat Car Theft*”, Seminar Towards Zero Car Theft”, Subang Jaya, 15th. August 2000.
4. **Guest Speaker**, “Motivation Lecture to Shcool Students” at Sport Hall Complex, Kepala Batas, Seberang Prai, organised by Academy Sciences Malaysia and National Science Centre, 3rd. August 2001.
5. **Guest Speaker**, “Research Enhancement as an Academician Towards Commercialisation: Part I”, Workshop on Lab management and Research 2001, 2-4 November 2001, Hotel Seri Malaysia, Port Dickson.
6. **Guest Speaker**, “Effective Management of Research Projects”, Workshop on Lab Management, Experiment Manual and Research 2003, Universiti Putra Malaysia, 26th – 27th May 2003.
7. **Guest Speaker**, “Smart Facility Control System”, Installation and Public Security Seminar: Towards a Safer and Secure Community, Bintulu, Sarawak, 24th – 27th June 2003.
8. **Guest Speaker**, “Development of a painter robot for construction industries”, Malaysia – Japan Seminar on Artificial Intelligence Applications in Industry, Kuala Lumpur, CDROM-Id-86, 24th – 25th June 2003.
9. **Guest Speaker**, “Smart Facility Control System”, Installation and Public Security Seminar: Towards a Safer and Secure Community, Serdang, 18th – 21st July 2003.
10. **Guest Speaker**, “Instrumentation and Measurements in Research Problems”, Research Methodology Course (SLAB), International Islamic University of Malaysia, 30th July 2003
11. **Guest Speaker**, “Software Development for the EMS”, Direct Injection Technology & EMS Development Workshop”, Hotel Residence, Uniten, 23-24 Sept. 2003.
12. **Guest Speaker**, “Instrumentation and Measurements in Research Problems”, Research Methodology Course (SLAB), International Islamic University of Malaysia, 11th. March 2004.
13. **Guest Speaker**, “Latest Technology in Robotic”, Workshop on Robotic 2004, Faculty of Engineering, Universiti Putra Malaysia, 7th August 2004.
14. **Guest Speaker**, “Development of ECU and its Diagnostic Kit for CNG/DI Engine”, 24-27 March 2006, Penang Island, CNG/DI Engine & Transmission Retreat 2006.
15. **Guest Speaker**, “Development of ECU and its Diagnostic Kit for CNG/DI Engine – Final Retreat”, 6th - 8th March 2007, Equatorial Hotel Bangi, CNG/DI Engine & Transmission End of Project 2007.

16. **Guest Speaker**, “Research Proposal and Data Analysis”, Putra Sarjana 2007, Universiti Putra Malaysia, 26 Oct. 2007.
17. **Guest Speaker**, “Writing Techniques of High Impact Factor Journal Paper”, Academic Writing Workshop, ITMA, Cyberview Lodge Resort, Cyberjaya, 7 Nov. 2007.
18. **Guest Speaker**, “Regulations, operation and expectation on postgraduate study and research in ITMA”, Welcome ceremony for new postgraduate students 07, 18th July 2007.
19. **Guest speaker**, Experience in Design Compressed Natural Gas Direct Injection Vehicle, Malaysian Invention and Design Society (MINDS), 15 March 2008.
20. **Keynote speaker**, The Experience of Designing and Fabrication Compressed Natural Gas Direct Injection Vehicle, 2nd. International Power Engineering and Optimization Conference, PEOCO 2008, 4-5 June 2008, Co-sponsor WSEAS, Shah Alam, Malaysia.
21. **Facilitator**, Finishing School for Faculty of Management, UPM, 1 & 2 Mac 2008.
22. **Facilitator**, Finishing School for Faculty of Forestry, UPM, 2 & 3 August 2008
23. **Guest Speaker**, “Research Proposal and Data Analysis”, Putra Sarjana 2008, Universiti Putra Malaysia, 13 August 2008.
24. **Guest Speaker**, “Regulations, operation and expectation on postgraduate study and research in ITMA”, Welcome ceremony for new postgraduate students 08, 1 August 2008.
25. **Guest Speaker** for short course “Verilog, HDL for Modern Approach of Digital Design and FPGA Applications”, 15 – 17 Dec. 2008. Institute of Advanced Technology.
26. **Guest Speaker** for short course, “UAV Systems, Integration and Operations”, 17th – 28 Nov, 2008, Institute of Advance Technology.
27. **Guest Speaker**, Promotion of Research Product (A Multi-beam optical scanning device), 16 Disember 2008.
28. **Facilitator**, Finishing School 5, for Faculty of Science, UPM, 7 & 8 Mac 2009.
29. **Facilitator**, Finishing School 6, for Faculty of Medicine, UPM, 2 & 3 August 2009.
30. **Keynote Speaker**, “The experience of Designing and Fabricating Green Technology Vehicle”, IEEE Student Conference on Research and Development, 16-18 Nov, 2009, Universiti Putra Malaysia.
31. **Guest Speaker**, “Development of Electronic Control Unit and its diagnostic for CNGDI vehicle using MPC555”, Freescale, Petaling Jaya, 16 Dec 2009.

32. **Keynotes speaker**, “Electronic Control Unit for automotive engine”, Automotive Research Centre, Universiti Kebangsaan Malaysia, 17 Feb 2010.
33. **Facilitator**, Finishing School 7, for Faculty of Human Ecology, UPM, 13 & 14 Mac 2010.
34. **Keynotes Speaker**, Compressed Natural Gas Direct Injection Vehicle: Collaboration between Malaysian Universities, Malaysian Government and Industries”, SAE International Conference on Sustainable Mobility, 1st – 3rd. Dec 2010,
35. **Invited speaker**, Jugdes Summary Shell Eco Marathon 2010 Best Malaysian team Prize Giving Ceremony, 15th Nov. 2010.
36. **Guest speaker**, “Advances in Green Technology”, Automechanika 2011 – Green: prospect and Future potential for automotive Industry”, KLCC, 31st. March – 2nd. April 2011.
37. **Keynotes Speaker**, “Moving towards high income, sustainable and developed nation by 2020: Challenges, Strategies and Opportunities”, 26th International Conference on CAD/CAM, Robotics and Factories of the Future 2011, 26th – 28th July, Kuala Lumpur.
38. **Keynotes Speaker**, “Role of Electrical, Electronic and Computer Technologies in Energy Efficient Vehicle for Sustainable Mobility”, IEEE International Conference on Electrical, Electronic and Computer Technologies, 21 & 22 March 2012, Noorul Islam University, Kumaracoil, Kanyakumari District, Tamilnadu, India.
39. **Keynotes Speaker**, “Sustainable Computing and Communication Technologies for Energy Efficient Vehicle”, 2nd. International Conference on Computing and Communication Technology, ICCCT2013, 1st. and 2nd. March 2013, Immanuel Arasar JJ College of Engineering, Nattalam, Marthandam, Kanyakumari, Tamil Nadu, India.
40. **Invited Speaker**, “Intelligent and Safer Sustainable Mobility”, SAE 2013: Southeast Asia Safer Mobility Symposium”, 21st. Oct. 2013, Melaka.
41. **Keynotes Speaker**, “Sustainable Energy Efficient and Intelligent Vehicles”, IEEE International Conference on Renewable Energy and Sustainable Energy 2013, Karunya University, Coimbatore, Tamil Nadu, India, 5th. – 6th. Dec. 2013.
42. **Keynotes Speaker**, “Green Computing and Intelligent Networks for Smart Grid Applications”, IEEE International Conference on Green Computing, Communication and Conservation of Energy 2013, R. M. D. Engineering College, Chennai, Tamil Nadu, India, 12th Dec – 14th Dec 2013.
43. **Invited Speaker**, “Research Proposal Writing and Literature Review Writing”, Putra Sarjana 2013, 23rd. Oct. 2013.
44. **Invited Speaker**, “Finishing school”, UPM, 17 March 2013.
45. **Invited Speaker**, “Advancement in Vehicle data Communication System”, Quartely Engineering Technical Session, Proton, Shah Alam, 9 April 2013.

46. **Invited speaker**, “Impacts of IoT and big data to Advanced power electronic research”, Faculty of Engineering, Universiti Teknikal Malaysia Melaka, 26 November, 2014.
47. **Invited Speaker**, “Research Proposal Writing and Literature Review Writing”, Putra Sarjana 2014, 19th May 2014
48. **Invited Speaker**, “Careers in Electrical and Electronic Engineering”, Minggu Perkasa Putra, 3rd Sept. 2014.
49. **Invited Speaker**, “Impacts of IoT and Big Data to Smart Cities”, 4th. International SmartCity Workshop, 2nd – 3rd Sept. 2015, Universiti Putra Malaysia.
50. **Panel Discussion** in 4th. International SmartCity Workshop, 2nd – 3rd Sept. 2015, Universiti Putra Malaysia.
51. **Keynotes Speaker**, “Impacts of IoT, ICT and Big Data to Automotive Industry”, International Seminar on Emerging Trends in Electrical Engineering, Vidya Academy of Science and Technology, Thrissur, India, 8 April 2016.
52. **Invited tutorial session**, “Introduction to Edison Programming” , International Conference on Electrical and Electronic Technology 2016, 22nd. August 2016, UPM, Serdang Selangor.
53. **Invited speaker**, “Moving Towards Intelligent Energy Efficient Vehicle (IEEV) and Robotic System”, International Symposium for Realization of Ultra-low Carbon Society and Design of Environmental Technology to Bridge of Asian Area, 26 – 28 Sept. 2016, Kitakyushu Science and Research Park, Japan.
54. **Invited speaker**, “CAPER/UPM-Japanese-University Research & Collaboration Culture”, CAPER-KYUTECH Joint Seminar on Power & Energy, UPM Serdang, 11 Oct. 2016.
55. **Invited speaker**, “Intelligent Energy Efficient Vehicle”, 5th. Asia Automobile Institute Summit 2016 (AAIS), 28 -29 November 2016, Hotel Bangi Putrajaya & Sepang International Circuit.
56. **Invited speaker**, “ Theory on Power Converter Design”, Intel Malaysia –MDEC-USM Edison Curriculum Development Workshop”, 5 – 7 Dec. 2016, USM Penang.
57. **Invited speaker**, “How to Control the Power Converter Using Edison (Lab Session)”, Invitation to Intel Malaysia – MDEC-USM Edison Curriculum Development Workshop”, 5 – 7 Dec. 2016, USM Penang.
58. **Keynotes Speaker**, “Intelligent Energy Efficient Vehicle for Smart Cities Application”, 5th International Smart City Workshop, IEEJ IEEE SMC, UPM Serdang, Malaysia, 8 -10 March 2017.
59. **Keynotes speaker**, “Intelligent Energy Efficient Vehicle for Sustainable Mobility”, IEEE International Conference on Circuit, Power and Computing Technologies

(ICCPCT -2017), Baseliros Mathews II College of Engineering, Kollam, Kerala, India, 20th. – 21st. April 2017.

60. **Keynotes speaker**, “Moving towards Intelligent Energy Efficient Vehicle for Smart City Application”, International conference on Electrical and Electronic Engineering 2017, Langkawi Island, Malaysia, 8th -9th May 2017.
61. **Invited speaker**, “Current Automotive Projects in UPM, Engine Workshop, Proton, Shah Alam, 13th July 2017.
62. **Invited speaker**, “Preparing for Sustainable and Successful Future”, National Science Challenge, Prime Minister’s Challenge Trophy 2017, 18 July 2017, UPM, Serdang.
63. **Keynotes speaker**, “Enterprise IoT: Global Strategies and Engineering Management”, International Conference on Computer Network and Bio Information, Bali, Indonesia, 3-4 August 2017.
64. **Keynotes speaker**, “Impacts of IoT and ICT to Current and Future Intelligent Energy Efficient Vehicle”, IEEE International Conference on Recent Developments in Control Automation and Power Engineering RDCAPE 2017, Amity University, Uttar Pradesh, Noida, India. 26th. - 27th. October 2017.
65. **Keynotes speaker**, “Challenges, Research and Business Opportunities in Sustainable Smart City Applications”, 4th IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics, GLA University, Mathura, India, 26th. -28th. October, 2017.
66. **Moderator and invited speaker**, “Malaysia’s Plan for Autonomous, who is in charge?”, ASEAN NCAP: TOWARDS AUTONOMOUS SEMINAR, MIROS, 19th. Dec 2017.
67. **Invited speaker**, “The Roles of Intelligent Robotics and Automation in Industrial Revolution 4.0”, 4th International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT 2018), Military Institute of Science and Technology Mirpur Cantonment, Dhaka-1216, Bangladesh, 13 – 15 Sept. 2018.
68. **Keynotes speaker**, “The Roles of Intelligent Robotics and Automation in Industrial Revolution 4.0”, International workshop on Embedded System / IoT Design and Development, Institute of Information and Communication Technology, Bangladesh University of Engineering and Technology (BUET), 15 – 17 Sept. 2018.
69. **Keynotes speaker**, “Brain Computer Interface (BCI)” International Workshop on Smartcity Symposium 2018, UPM, 15 Oct. 2018.
70. **Panelist**, “Autonomous driving: issues, challenges and development”, Towards autonomous technologies conference 2018 - Embracing future innovations, Malaysia Investment Development Authority (MIDA), Kuala Lumpur, 21 March 2018.

71. **Moderator, Industry Forum on** Autonomous Vehicle: Technology, Policy and Safety, 2019 IEEE 89th Vehicular Technology Conference, 30 April 2019, Kuala Lumpur, Malaysia.
72. **Keynotes speaker**, “Applications of Deep Learning in Industry Revolution 4.0”, 3rd IEEE International Conference on Recent Developments in Control Automation and Power Engineering RDCAPE 2019, Amity University, Uttar Pradesh, Noida, India. 10th. - 11th. October 2019.
73. **IEEE Expert Talk**, “Roles of Deep Learning in Industry Revolution 4.0”, GLA University, Mathura, Uttar Pradesh, India, 11 Oct. 2019.
74. **Distinguished Lecture Series 2019, Eminent Speaker, IEEE Special Interest Group on Humanitarian Technology (SIGHT)**, “Challenges, Research and Business Opportunities in Sustainable Smart City Applications”, KIET Group of Institutions, Ghaziabad, India, 12 Oct. 2019.
75. **Keynotes speaker**, “Applications of AI in Power Electronic System for Industrial Revolution 4.0”, 3rd International Conference on Intelligent Circuits and Systems (ICICS) 2020, Lovely Professional University Phagwara, Punjab, India, 26th. – 27th. June 2020. On-line keynotes presentation.
76. **Expert Lecture**, “Moving Towards Industrial Revolution 4.0: R & D & C Opportunities”, Amity University, Noida, Uttar Pradesh, India 9th. July 2020, On-line lecture presentation.
77. **Keynotes speaker**, “Challenges, Research and Business Opportunities in Sustainable Smart Mobility”, IEEE Virtual International Conference on Innovative Applications of Computational Intelligence on Power, Energy and Controls with their impact on Humanity (VCIPECH-2020), KIET Group of Institutions, Ghaziabad, Uttar Pradesh, India, 06-07 November 2020.
78. **Invited speaker**, “New Linear Machine for Electric Vehicle Propulsion System”, Smart City Conference 2021, Indian Institute of Technology Madras Chennai India, 26 - 27th. March 2021.
79. **Invited speaker**, “Electric Vehicles: The Malaysian Future In Your Hands”, IEEE EV Webinar, IEEE UPM Student Branch, 29th April 2021.
80. **Keynotes speaker**, “The Universal EV Charging Station”, 4th. IEEE International Conference on Recent Developments in Control Automation and Power Engineering RDCAPE 2021, Amity University, Uttar Pradesh, Noida, India. 7th. - 8th. October 2021.
81. **Invited speaker**, “Challenges, Research and Business Opportunities in Next Generation Vehicle (NxGV)”, Virtual Research Focus Talk 2021, DRB-HICOM University of Automotive Malaysia (DHU), 22 Nov 2021.
82. **Invited speaker**, “Professional Career Talk to third year EE students on Power Engineering”, Option Talk, IEEE UPM, Student Branch, 6 Dec 2021.

83. **Esteemed speaker**, “Innovation and Entrepreneurship Opportunities in Smart and Electric Mobility”, 4th edition of International Conference on Entrepreneurship, Innovation and Leadership (ICEIL 2022), Amity University, Noida, Uttar Pradesh, India 20 – 22 Jan 2022.

O.7 Newspaper Publication / TV Appearance

1. Nur Aida Mustaffa, “UPM recognises R & D with awards”, New Straits Time, Monday 17th. April 2000.
2. Utusan Malaysia, “UPM ke Pertandingan Reka Cipta Sains di Geneva”, 29 September 2000.
3. Marzita Abdullah, “Kenderaan Robot daripada Bahan Buangan Komputer”, Utusan Malaysia, 9 Oktober 2000.
4. Marzita Abdullah, “Alat Kelui Kereta Anti-pencuri”, Utusan Malaysia, 9 Oktober 2000.
5. HM Rusdy, “I-Tex 2000 8 Pingat Milik UPM”, Tribun Putra, 1 November 2000.
6. Malaysia Hari Ini, TV3, 25 June 2001, Robotic Development in Malaysia: Past, Present and Future (Talk Show)
Robolab Project was shown on TV3.
7. Utusan Malaysia “Robolab nyahkan risiko kecederaan di makmal” , Arshad Khan, 9 Ogos 2001.
8. Selamat Pagi Malaysia, RTM1, 29 November 2001

Product: Robotoy – Research Exhibition, UPM.
9. Buletin Utama, TV3, 2 July 2001

Product: Robotoy, Science and Technology Expo 2001.
10. Afternoon News, TV3, 26 March 2002.
Product: Robotoy II
11. Berita Perdana, Radio Television Malaysia (RTM1), 29 March 2002, ITEX 2002,

Product: Robotoy II and Portable Fibre-optic based Lightning Detector System
12. Berita Perdana, Radio Television Malaysia (RTM1), 23 May 2002, Geneva 2002,
Product: Portable Fibre-optic based Lightning Detector System
Silver medal and special award from the Ministry of Rescue Services and Emergency Situations of Russia. Both of these awards were won in Geneva.

13. Utusan Malaysia, “Menghasilkan robot buatan sendiri”, Marzita Abdullah, Ruangan Semasa, pp. 7, 3 April 2002.
14. Utusan Malaysia, “Saintis UPM menang tujuh pingat di AS” – Section Dalam Negeri, pp. 14, 30 May 2002.
15. Berita Harian, “UPM menang 5 pingat ciptaan antarabangsa”, pp 3, 30 May 2002.
16. Sarawak Tribune, “Outstanding Achievement”, pp. 1, 30 May 2002.
17. Astroria, Edisi Bernama, 30 May 2002.
18. Utusan Malaysia, UPM wujudkan anugerah fellowship naib cancellor, 25 Jun 2002.
19. Berita Harian, UPM lancar pelan strategi 2001-2010. 21 Jun 2002.
20. Berita Harian, Penyelidik UPM menyerlah pada peringkat antarabangsa, 8 Jun 2002.
21. Utusan Malaysia, 185 staf UPM terima anugerah Khidmat Cemerlang, 14 Jun 2002.
22. Berita Harian, 185 kakitangan UPM terima anugerah Khidmat cemerlang, 13, Jun 2002.
23. Tribunputra, Pelan Strategi UPM 2001-2010 Rangka Universiti Bertaraf Dunia, Mei – Jun 2002
24. Tribunputra, 3 pasangan antara penerima anugerah, Mei – Jun 2002.
25. Tribunputra, Lima menanag anugerah fellowship pertama, Mei – Jun 2002.
26. Tribunputra, Robotoy, Mei – Jun 2002.
27. Tribunputra, Ratnasamy sumbang emas berganda, Mei – Jun 2002.
28. “Anak Penoreh Menjadi Saintis Bertaraf Dunia”, Dewan Kosmik, Okt. 2002, pp. 56-57.
29. “ITEX 2002: 6 Penyelidik UPM Menang 7 Pingat”, Tribunputra, Mac/April 2002.
30. Tribunputra, Gerai UPM terbaik antara IPT, Sept/Oct. 2002.
31. “Penyelidik UPM menang sembilan anugerah di Amerika”, Berita Harian, 3 Jun 2004, B7.
32. “I-TEX 2004”, Tribun Putra, Mei – Okt. 2004, p. 37.
33. “UPM menang 8 anugerah di Amerika”, Tribun Putra, Mei – Okt. 2004, p. 40 “I-TEX 2004”, Tribun Putra, Mei – Okt. 2004, p. 37.
34. Painting Robot for Houses and Buildings, Synthesis, UPM R&D Digest, Issue 6, Sept. 2004, page 6.

35. UPM bolot 13 pingat reka cipta Geneva 2005, Berita Harian, 13 April 2005.
36. Penyelidikan UPM Raih tarikan antarabangsa di Geneva, Utusan Malaysia, Pendidikan, pp. 1 and 6., 15 April 2005.
37. Our firms not keen on local inventions, New Straits Times, 14 April, 2005.
38. UPM gigih buat kajian, Variasai Metro, Harian Metro, 19 Mei 2005, pp.2-3.
39. Utusan Malaysia, Mega, pp. , 27 Jun 2005.
40. Penggera Kereta, UPM bangunkan system berasas telekomunikasi, Utusan Malaysia, Mega, pp. 22 &23, 13 Julai 2005.
41. Pameran Antrabangsa Reka Cipta, Inovasi, Reka Bentuk Industri dan Teknologi, Menang 31 pingat, Tribunputra, Mac-Mei 2005, pp. 1 & 3.
42. UPM menang 13 pingat di Geneva, Tribunputra, Mac-Mei 2005, pp. 2.
43. Painting Robot for Houses and Buildings, Tribunputra, Mac-Mei 2005, pp. 2.
44. “Sistem Pengesan Kilat Berasaskan Optik Gentian Mudah Alih”, Perintis, pp. 7, Jilid 2, Bil.4, Okt. – Dis 2005.
45. Pameran Penyelidikan IPTA 2005, 29 pingat milik UPM, Tribunputra, Januari 2006, pp. 8.
46. Kerajaan hargai saintis cemerlang, Tribunputra, Januari 2006, pp. 3.
47. “Gelombang antenna tarik panahan petir”, Berita Harian, 27 April 2006.
48. Penggambaran Rancangan TV RTM-Unggul, 23 Jun 2006.
49. UPM komersial produk R&D, Mega pp. 13, Utusan Malaysia, 26 Mac 2008.
50. UPM rangkul enam anugerah di INPEX USA, pp. 16, Utusan Malaysia, 25 Jun 2008.
51. Kecemerlangan Penyelidikan UPM, pp. 6, 7, Berita Minggu, 29 Jun 2008.
52. TV3, 8.00 pm Main News, Multi-head laser system for treating skin, 25 Dec. 2008.
53. TV3, 1.30pm News, Multi-head laser system for treating skin, 27 Dec. 2008.
54. KOSMO, Multi-head laser system, pp. 11, 17 Disember 2008.
55. Utusan Malaysia, Mega, “Teknologi AI Hasilkan system imbasan berbilang pancaran”, pp. 12, 15 jan. 2009.
56. Berita Harian, “Penyelidik UPM harumkan nama Negara di Belgium”, 28 Nov. 2008.

57. Berita Harian, “Penyelidik UPM unggul pingat ekspo teknologi”, 27 Feb. 2008.
58. Radio Best 104, “Sustainable Mobility”, 4 Nov. 2010.
59. RTM Channel 1, Selamat Pagi Malaysia, Sustainable Mobility on Geen Technology and SAE International Conference on Sustainable Mobility, 15 Nov. 2010.
60. Astro Awani, Vantage Point, “Green Mobility Technology”, 16 Dec. 2010.
61. Bernama TV, Biz Talk, Independant Power Provider Industry in Malaysia, 27 April 2013.
62. TV3, Buletin Utama, Energy Efficient Vehicle, 24 March 2017.
63. Berita Harian, TNB wajar tetap kadar bil rata 3 bulan, 18 Jun 2020, ms. 15.
64. ASTRO AWANI, Agenda AWANI Asia, “Cabaran dan hala tuju industri kenderaan elektrik serantau”, 29th. May 2021, 9pm.
65. EduChannel Malaysia, ECM TALK - Electric Vehicles (EV)? : Can Malaysia Keep Up?, 1st. July 2021.

O. 8 Short Courses Conducted / organised

1. **Speaker**, “Short Course on HVDC: Theory, Design and Its Implementation”, TNBR, 8 Nov 2001.
2. **Speaker**, “Development of ECU for CNG/DI Transmission Engine”, 23rd – 24th September 2003, Kuala Lumpur.
3. **Speaker**, Research Methodology Course, IIUM, 11 March 2004.
4. **Organiser**, Modeling and Control of Drive-by-wire automotive throttle control systems, 18 August 2006, ITMA (Prof. Robert Loh, Oakland University, Rochester, Michigan, USA).
5. **Speaker**, Product Presentation: GSM- RFID based motorcycle immobiliser and security system. Modenas, Gurun Kedah, 13 June 2006 .
6. **Organiser**, The Rebuild Vehicle Industry in Malaysia, Boon Koon Vehicle Industries Sdn. Bhd., SAE Malaysia Technical Seminar, UPM, 9 April 2008.
7. **Organiser**, New Trends in Automotive Manufacturing, Ford Malaysia, SAE Malaysia Technical Seminar, UPM 30 January 2008.
8. **Organiser**, UNECE R66 Rollover Test Using Computer Simulation, SAE Malaysia Technical Seminar, UPM, 20 August 2008.

9. **Organiser**, “Embracing the Lean Manufacturing Practices in the Automobile Sector to Gain Competitive Advantage”, SAE Malaysia Technical Seminar, UPM, 5 Dec 2008.
10. **Coordinator/ speaker**, “Verilog, HDL for Modern Approach of Digital Design and FPGA Applications”, 15 – 17 Dec. 2008. Institute of Advanced Technology, UPM.
11. **Coordinator/speaker**, “UAV Systems, Integration and Operations”, 17th – 28 Nov, 2008, Institute of Advanced Technology, UPM.
12. **Facilitator**, Finishing school III, 1 and 2 March 2008, Faculty of Economy and Management.
13. **Facilitator**, Finishing school IV, Faculty of Forestry, UPM, 2 & 3 August 2008.
14. **Facilitator**, Finishing school V, Faculty of Forestry, UPM, 7 & 8 March 2009.
15. **Speaker**, PIC Microcontroller Course for Final Year Students and Post Graduate Students, 8, 11 Dec 2009.
16. **Organiser**, SAE Technical Seminar, “Electric vehicle towards engine downsizing”, UTM, 30 September 2009.
17. **Coordinator/speaker**, “UAV Design, Fabrication and Technology Implementation”, 2 -13 Feb 2009, Institute of Advanced Technology.
18. **Coordinator/speaker**, “UAV Design, Fabrication and Technology Implementation”, 23 Feb – 6 March 2009, Institute of Advanced Technology.
19. **Coordinator/speaker**, “UAV Avionics Embedded System Design and Practical Training”, 16-27 March 2009, Institute of Advanced Technology.
20. **Coordinator**, “UAV Composite Course”, 19 Oct – 30 Oct 2009, Institute of Advanced Technology.
21. **Coordinator/speaker**,. “UAV Design, Fabrication and Technology Implementation Part I”, 2 – 13 Nov 2009, Institute of Advanced Technology
22. **Organiser**, SAE technical seminar, “A novel combustion cycle involving oxygen and water”, UPM, 13 May 2009.
23. **Organiser**, SAE technical seminar, “Proton Exora – The Making”, UPM, 15 July 2009.
24. **Organiser**, SAE technical seminar, “Iron Triangle”, Dr. Michael Quah and Paul Mark, Lockheed Martin USA, UPM, 15 August 2009.
25. **Organiser**, SAE Technical Visit to Proton Car Manufacturing Complex, Tanjung Malim, Perak, 10 Dec 2009.
26. **Organiser**, SAE technical seminar, “The first passenger car outdoor crash test in Malaysia”, UniKL- Malaysian Institute of Aviation technology (MIAT), 25 Feb. 2010.

- 27. Organiser**, SAE Technical Seminar, “Design and Fabrication of Air Agitation Tanker”, UPM, 20 April 2010.
- 28. Facilitator**, Finishing School 7 for Faculty of Ecology , Pusat Kokurikulum UPM, 13-14 Mac 2010.
- 29. Facilitator**, Finishing School 8 for Faculty of Ecology , Pusat Kokurikulum UPM, 13-14 Mac 2010.
- 30. Facilitator**, Finishing School 8 for Faculty Education Study, Pusat Kokurikulum UPM, 23-24 Oct 2010.
- 31. Speaker**, Title: Electric Vehicle (EV) Webinar - Module 1: Basic Training on EV Powertrain & EV Charging Station for academia, 9 Sept 2021 9:00:00 am – 4.30pm.
- 32. Speaker**, Title: Electric Vehicle (EV) Webinar - Module 1: Basic Training on EV Powertrain & EV Charging Station for industry, 15 Sept 2021 9:00:00 am – 4.30pm.
- 33. Speaker**, Title: Electric Vehicle (EV) Webinar - Module 1: Basic Training on EV Powertrain & EV Charging Station for industry, 2 November 2021 9:00:00 am – 4.30pm.

P. Courses and Workshops Attended

1. “Modern logic design and programmable logic design”, USM, Kampus Cawangan Perak, Tronoh, Perak, 26-30 March 1990.
2. “MOTIF and graphics programming course”, Rutherford Appleton Laboratory, Reading, United Kingdom, 16-17 Feb. 1993.
3. “Graphical Application Development Using Object-Oriented Techniques”, AI International Limited, Manchester, United Kingdom, 18 May 1993.
4. “From robotics automation to agile manufacturing”, Malaysia Centre for Robotics and Industrial Automation, Ipoh, 25-27 Oct. 1995.
5. “Techniques of thinking”, Universiti Sains Malaysia, Pulau Pinang, 4-6 Dec. 1995.
6. “Video Conferencing (VTEL)”, USM, 5-6 march96.
7. Workshop, “Writing Module”, USM, 25-26 March 96.
8. Seminar “Real-World Solutions for Real-Time Software Development”, MIMOS, Kuala Lumpur, 15 April 96.
9. Workshop, “Orientation for new staff”, USM, 26-28 June 96.
10. “Malaysia’s Int. Fibre Optics Exhibition & Convention, K. Lumpur, 17-19 Sept. 96.
11. “Techniques of public speaking”, UPM, 16 Oct. 96.

12. Seminar "Using IT to build a better future" - Preparing Malaysia for the Multimedia Super Corridor", 5 Nov. 96.
13. "Short Course on DC to DC Converter", UPM, 3-4. Dec. 96.
14. "Induction course for new academic staff", UPM, 9-11. Dec. 96.
15. Bengkel "On the Establishment of the National Energy Centre", Ministry of Energy, Telecommunications & Posts, 23. Dec.96.
16. "From teleoperation toward mechanical medium", Dr. Yasuyoski Yokohohji, UPM, 26 March 97.
17. "Real-time system: issues and technologies", Prof. P.K. Cande, UPM, 27 March 97.
18. "ATM applications towards 2000", Sunway Lagoon, Petaling Jaya, 21-22 April 97.
19. "Evaluation in academic course", UPM, 19-20 May 97.
20. "Distributed multimedia resources for data-intensive applications", Dr. Amitabh Saran, UPM, 29 May 97.
21. "Present and future trends in multimedia and associated technology", Dr. R. J. Green, UPM, 15 July 97.
22. "Research activities in electronic imaging and media communication unit", Dr. R. J. Green, UPM, 18 July 97.
23. Seminar "The important of good behaviour", Ust. Mokhyi Hj. Mohd Omar, UPM, 30, July 97.
24. "Common power quality problems and best practice solutions", Marti Martin, Shangri-La Hotel, Kuala Lumpur, 14 August 97.
25. "Publishing scientific (journal) papers – some practical tips", Ms. Sumangala, UPM, 27 August 97.
26. "Axion's 4TQ integrated process management system", UPM, 28 August 97.
27. "Workshop on ISO9000", Port Dickson, 7-9 September 97.
28. "Induction course SSB 1997", UPM, 29 Sept. – 25 Oct. 97.
29. "Motor Vehicle Emissions Control: Past Achievements, Future Prospects", Prof. John B Heywood, Royal Lake Club, Kuala Lumpur, 4 Nov. 97.
30. "Seminar on Biomedical and Other Research Activities in the Department of Electrical and Electronics Engineering, Universiti Putra Malaysia", Institute of Sound & Vibration

Research Signal Processing & Control Group, University of Southampton, United Kingdom, 14th. Oct. 1998.

31. “CICHE Visit to University of Southampton, University of Surrey and Imperial College of Science, Technology and Medicine, London”, 10th. Oct. –23rd. Oct. 1998, CICHE/UPM Program 1998/1999, P541: Biomedical Sciences.
32. Seminar on “How to become professional engineers ”, IEM, 14th. Jan. 1998, UPM.
33. Workshop on “Academic Program evaluation and accreditation procedures”, Lembaga Akreditasi Negara, Petaling Jaya, 17th. Mac 1998.
34. Seminar On “Management I”, Fakulti Kejuruteraan, 25th. Mac 1998.
35. Short Course on “Electromagnetic Compatibility: Theory and Practice”, Prof. Dr. Christos Christopoulos, University of Nottingham, UK, UPM, 25th. June 1998.
36. Seminar On “Management II”, UPM, 12th. August 1998.
37. Seminar On “Management IV”, UPM, 27th. April 1999.
38. Curriculum Workshop for MLVK Level 5 (Bachelor of Technology) Programmes in Tooling Engineering Technology and Mechatronics Engineering Technology, German-Malaysian Institute, 16th. – 20 August 1999.
39. Workshop on ISO 9000 (Intermediate), Universiti Putra Malaysia, 11th. – 13th. May 1999.
40. Post Graduate Seminar, UPM, 13th. July, 1999.
41. Curriculum Workshop for MLVK Level 5 (Bachelor of Technology) Programmes in Tooling Engineering Technology and Mechatronics Engineering Technology, German-Malaysian Institute, 16th. – 20 August 1999.
42. Cigre Symposium: Power System Issues in Rapidly Industrialising Countries, Kuala Lumpur, 20 – 23 September 1999.
43. Training on Power System Simulator PST2200, Electrical Machine Drive and SCADA, Terco Technical Education Worldwide, Stockholm, Sweden, 18th. Oct. – 22nd. Oct. 1999.
44. LAN workshop for Electrical and Electronic Engineering program specification, Bengkel, PJ Hilton, 1st. Nov. 1999.
45. Workshop on “How to conduct a good research”, UPM, 12th. Nov. 1999.
46. Electrical and Electronic Engineering Department Post-graduate Seminar, UPM. 11 Dec.1999.
47. Workshop “Implementation of ISO9000 (Teaching Scope), Mahkota Century Hotel, Melaka, 17 Dis. – 19 Dis. 1999.

48. Teaching Methodology Course, Faculty of Educational Studies, UPM, 16-18 October 2000.
49. Seminar on Malaysian Standards on Electrical Installations of Buildings, 3rd. Oct. 2000, Sirim, Shah Alam.
50. Internal Quality Audit ISO9000 Course, QAI Sdn. Bhd., 25-26 April 2000, UPM.
51. Internal Quality Audit ISO9000 Course, Compact Resources Sdn. Bhd., 28 Nov. 2000, Engineering Faculty.
52. Program Teambuilding, Ayer Keroh, Melaka, 28-30 Julai 2000 – Tempat Kedua.
53. Seminar on IP, 18 Julai 2000, UPM.
54. Sabbatical leave at Tenaga Nasional Research Development, 1st. August 2001 – 30 April 2002.
55. **Guest Speaker** “Motivation Talk to School Students” at Dewan Kompleks Sukan Kepala Batas, Seberang Prai, organised by Academy Sciences Malaysia and National Science Centre, 3rd. August 2001.
56. **Speaker**, “Research Enhancement as an Academician Towards Commercialisation: Part I”, Workshop on Laboratory Management 2001, 2-4 November 2001, Hotel Seri Malaysia, Port Dickson.
57. **Speaker**, “Short Course on HVDC: Theory, Design and Its Implementation”, TNBR, 8 Nov 2001.
58. **Speaker** “Application of High Temperature Superconductors in the Design of Surge Current Arrester System”, Engineering Research Conference and Exhibition, UPM, pp. 225-232, Oct. 2001.
59. Advance HVDC Course, TNBR, 27 Feb. – 8 March 2002.
60. Special session with LAN management and evaluation panel., Hotel Singgahsana, 24 Jan. 2002.
61. Workshop on academic adviser 2002, 16 Mei 2002.
62. Workshop on Government and Industry Collaboration on Innovation, 21-23 June 2002, Hotel Equatorial, Bangi.
63. Workshop on academic timetable, Sem. Nov. 02/23, UPM, 11 July 2002.
64. A specialized Course on Image Processing and Vision Systems by Prof. Osamu Ono and Dr. Setsuo Tsuruta, 13 Sept. – 16 Sept. 2002, UTM, K. Lumpur.
65. Workshop on Implementation of CNG/DI Engine and Transmission, 20 – 22 September 2002, Regency Hotel, Port Dickson.

66. Workshop on Electrical and Electronic Engineering program evaluation, LAN, Petaling Jaya, 5 Nov. 2002.
67. Short Course on Image Processing by Prof. Maria Petrou, 11 and 12 Dec 2002, K. Lumpur.
68. BEM Course – Code of Ethics/Regulations, 12-13 March 2003, Kelana Jaya.
69. “Printed Circuit Board Design Techniques for Signal Integrity and EMC Compliance”, 7th – 8th April 2003, EEM Advancement Centre Pte Ltd., P. Pinang.
70. “Engine Control Module Development”, Orbital Engine Corporation, 4th – 18th June 2003, Perth, Australia.
71. “PIC Programming Course”, BritzLogic, Kuala Lumpur, August 2003.
72. CADSTAR Training Course (Multilayer PCB), Zuken Singapore Pte Ltd, 20-23 Oct. 2003.
73. Motorola MPC500 Family Training Course, 10 – 12 Nov 2003, Motorola Inc, Semiconductor Product Sector (USA), Petaling Jaya.
74. DI CNG SINGLE CYLINDER ENGINE DESIGN, ORBITAL ENGINE COMPANY, Perth , Australia, 26-30 Jan 2004.
75. OSEK Course, Metrowerks Jermany, 11-13 Feb. 2004, ITMA.
76. Shortcourse on CAN, Intrepid Control Systems, USA, 1 March – 5 March 2004, ITMA.
77. IC Design Opportunity and Challenges for Multimedia Super Corridor, 25 March 2004.
78. PTK6 course, Residance Hotel, Uniten, 5-17 April 2004 (**Pass**).
79. TPU Microcoding for MPC555 short course, Motorola USA, ITMA, 21 June – 24 June 2004.
80. Workshop on IP and Commercialization, 30 June – 1 July 2004, UPM.
81. TPU Microcoding Course, Freescales, Michigan, USA, 4 – 10 Septmber 2004.
82. Patern Drafting Workshop, 4 – 6 Feb. 2005.
83. Workshop on OBE (Outcomes Based Education), 24-26 Mei 2005.
84. Matlab Fundamentals & Programming Techniques, 5 & 6, July 2005.
85. Simulink for Dynamic System Modeling Course, 1 –2 August 2005, Activemedia, Kelana Jaya.

86. NGV Safety Training Workshop, Kuala Lumpur, 28 July 2005.
87. MPC5500 Course, Freescale, Petaling Jaya, 23rd – 25th November 2005.
88. MoTeC M800 ECU Course, Hiper Racing, Petaling Jaya, June - September, 2005.
89. Team Building Course, Eco Tourism Resort, Pahang, 20 –22 Jan. 2006.
90. Learning Outcomes Initiative I and II, Feb. – Jun 2006, UPM.
91. Intensive PCB design Workshop (Protel), 4, 7 July 2006, Bizchip Sdn. Bhd.
92. Training on the operation, service and maintenance of FR1418 BGA reworks system, LPKF protoplace semi-automatic pick and place machine, LPKF reflow RO4 Oven, 20-21, 27-28 July 2006, Hakko, ITMA, UPM.
93. Textronic Logic Analyser, ITMA. 7th. Nov. 2006.
94. Traininig on LPKF MiniContac RS and Quickstart ProMask, Hakko, UPM, 7-8 Dec. 2006.
95. Workshop on University policy on research, Palm Garden, 25 Julai 2006.
96. Chief of evaluation panel, Workshop for research proposal evaluation RMK9, Faculty of Engineering and ITMA (Sector Industry) 9-11 Jun, 2006, Hotel Pan Pacific, KLIA.
97. Workshop on University Research policy, Legal Section, UPM, 12 Disember 2006.
98. Bosch Scan Tool , Robert Bosch, Petaling Jaya, Selangor, 31 May 2006.
99. Code Test, ITMA, 15 March 2006 and 17 May 2006.
100. RFID SAE Seminar, Wisma FMM, 5 April, 2006.
101. Workshop on Supervision of postgraduate students and Thesis Examination, UPM, 5 Dec 2006.
102. IEEE Seminar on Wireless Communication: System on chip, Faculty of Engineering, UPM, 12 Dec 2006.
103. Seminar on OBE Teaching, 21 December 2006.
104. Workshop on Management of Faculty, Tiara Beach Resort, Port Dickson, 13 Julai – 15 Julai 2007.
105. Workshop on Postgraduate Studies, Le Paris Hotel, Port Dickson, 29 – 30 Jun 2007.
106. HCS12 Dragon 12 Development Board, Harel Technologies Sdn. Bhd., 16 April 2007.
107. First- Pass- Silicon Radio Technology for B3G Wireless Terminals Tutorial given by Prof. Mohammed Ismail, Ohio State University, USA, 19 January 2007.

108. Training on LPKF PROTOMAT, LPKF PROTOPLACE, PLKF PROTOFLOW, LPKF PROCONDUCT and curcuitcam & boardmaster software, 11-14, 24 – 25 March 2008, UPM.
109. Training of Trainers for Finishing School, 28-29 Jun 2008, Hotel Equatorial, Bangi.
110. Training of Trainer Workshop for Finishing school, Hotel Marriot, Putrajaya, 24 May 2008.
111. Introductory Training for GT-power Engine Simulation, Virtual Tech Consulting Sdn. Bhd., Kelana Jaya, 26-27 August 2008.
112. Training Engine Design Optimization Using GT-power & Modefrontier, Virtual Tech Consulting Sdn. Bhd., Kelana Jaya, 8 OCT. 2008.
113. Workshop on Preparing Exam Questions for MYSKILLS Competition, Ministry of Human Resource, Port Dickson, 24 – 26 November 2008.
114. Workshop on Postgraduate ISO procedures, Hotel Pan Pacific, KLIA, 19 & 21 Disember, 2008
115. Workshop on Preparing Exam Questions for MYSKILLS Competition, Ministry of Human Resource, Port Dickson, 27 Jan 2008.
116. Workshop on Academic Writing 2008 ITMA, 22nd. 2008, A Famosa Resort, Melaka.
117. Training on Verilog and FPGA, Altera, Multimedia University, 3 Nov – 7 Nov 2008.
118. Workshop on ITMA KPI, Cyberview Lodge Resort, Cyberjaya, 10 Nov. 2008.
119. Training for Trainers 4, Co-curriculum Centre, UPM, Hotel Marriot Putrajaya, 24 Mei 2008.
120. Training for Trainers 5, Co-curriculum Centre, UPM, Hotel Marriot Putrajaya, 17-18 Jan. 2009.
121. Dynojet Model 224XLC 2WD CAR Dynamometer Training, 29-30 June, 19 – 20 Aug 2009, UPM.
122. PowerPC MPC555x Training Course, Freescale, Petaling Jaya, 9-10 Dec, 14-16 Dec 2009.
123. Multi layer PCB Board Training, UPM, 2009.
124. Automatic Transmission System, UNIKL, MFI, 22, 29 May, 4 July 2009.
125. Embedded Linux: Developing Embedded Solutions with Industry-Standard Open Source Tools -Arm processor, Dream Catcher, Penang, 28 – 30 Oct. 2009.

126. Workshwop for MQA evaluator on COPPA, 27-28 July 2009, Hotel Legend, Kuala Lumpur.
127. Finishing school Training for Trainers 6, Co-curriculum Centre, UPM, Cyberview Lodge, Cyberjaya, 15-16 Jun. 2009.
128. Micontroller MPC55XX Course, 9-10, 14-16 Dec 2009.
129. Five Disciplines of innovations, SRI International, Pullman, Putrajaya Lakeside, 21 – 22 July 2009.
130. SAE 2011 World Congress, Cobo Centre, Detroit, Michigan, USA, 12 April – 14 April, 2011.
131. SAE 2011 High Efficiency IC Engines Symposium, Westin Book Cadillac Hotel, Detroit, Michigan, USA, 10 April – 11 April 2011.
132. Embedded Design on FPGA, Symmid Corporation Sdn. Bhd., 28 March 2012.
133. All programmable Training Summit, Xilinx, 16 Oct. 2012.
134. AAIBE-Penjanabebas Executive Talk, “Electricity Economics, Reform and Regulation, 13 September 2012, Impiana KLCC.
135. Yaskawa motorman robot SK120/MRC operation & maintenance training, 21 -22 Sept. 2012, UPM.
136. Konvensyen Pendidikan Nasional 2012, 14-15 Sept. 2012, PWTC, KL.
137. Intel Asia Academic Forum 2012, 5-6 Nov. 2012, Penang.
138. MSC Malaysia – Intel Malaysia: Intelligent Systems Curriculum Development Workshop 2013, 9 – 13 Sept 2013, Intel Malaysia, Penang.
139. Introduction to ANSYS Maxwell, 26 -27 Sept. 2013, CAD-IT Consultants (Asia) Pte. Ltd .
140. Intel Malaysia Embedded board Training, UTM, 21-23 Jan2013.
141. Xilinx Embedded system Design, 6-7 November 2013, Kuala Lumur.
142. Introduction to the Synq All Programmable SoC Architecture, 14 and 16 November 2013., Kuala Lumpur.
143. Designing with Freescale Seminar, 13-14 June 2013, Eastin hotel, Penang.
144. Intel Internet of Things and Galileo Curriculum Development Workshop, 25 -27 August, 2014, Intel Penang.

145. Training for Trainer Embedded Systems Development with LabVIEW (Part 2), 8 – 10 Dec 2014 and 17 – 18 Dec, 2014, National Instruments Academy and Innovation Nucleus, Bukit Jalil.
146. Designing with Freescale seminar : Kinetics and IMX Solutions based on Arm Technology, 6 Nov 2014, Holiday Vila Hotel, Subang Jaya.
147. Workshop on Energy Efficiency for Urban Transportation: Policy, Technology and Innovation, Temasek Foundation International and Singapore Cooperation Enterprise, MITI, Putrajaya, 8 – 10 Nov. 2017.
148. Basic Training on Fujikura 70S Fusion Splicing Machine, Optik Prima, 18 July 2017, UPM.
149. Intel Software Tools Hand – on Training, Intel, Penang, 4th. Sept. 2018.
150. Intel Movidius Deep Learning Workshop, Intel, Penang, 2nd. July 2018.
151. Intel AI Training for Trainer workshop, MDEC, ADAX, Bangsar South, 13-14 Dec 2018.
152. International Forum on Global Energy Landscape, 16 July 2019.
153. Special Talk on Electric Vehicles (EVs) & Hybrid Electric Vehicles (HEVs), Kuala Lumpur, 2 August 2019.
154. IoT programming using Arduino Create with up squared platform, Intel, Penang, 5 August 2019.
155. Oracle Modern Cloud Forum, 8 August 2019, Kuala Lumpur.
156. Intel AI From the Data Center to the Edge, ADAX, Bangsar South, Kuala Lumpur, 28 Nov 2019.
157. ERD 2020, “National Research Highlights, Collaboration & Funding Opportunities in Slovakia”, EURAXESS, 22 Oct 2020.
158. ERD 2020, “Increasing your global footprint: How to get published in a peer reviewed journal”, EURAXESS, 23 Oct 2020.
159. ERD 2020, “European research partners in Focus: the Netherlands”, EURAXESS, 21 Oct 2020.
160. Designing 5G & mm-Wave Components Using the SynMatrix-HFSS Design Platform, CADFEM SEA Pte. Ltd. Singapore, 10th December, 2020.
161. FPGA virtual workshop my universities, Intel PSG, Penang, 30 June 2020.
162. Virtual Workshop: Heterogenous Parallel Programming using oneAPI, Intel Corporation, 2200 Mission College Blvd., M/S RNB4-145, Santa Clara, CA 95054 USA, 22 April 2020.

Q. Conference / Seminar/ Exhibition Attended

1. **Presenter**, “Fault Detection of an Inverter by Digital Signal Processors and Knowledge Base Approach”, Departmental Seminar, University of Bradford, U.K., 1993.
1. **Presenter**, “Selection of Power Devices for a Power Electronic Expert System”, The 28th. Universities Power Engineering Int. Conference, United Kingdom, 21st. – 23rd. September 1993.
2. **Presenter**, “Fault Detection of an Inverter Circuit by Digital Signal Processing and Knowledge Base Approach”, The 29th. Universities Power Engineering Int. Conference, Galway, Ireland, 14th. – 16th. September 1994.
3. **Presenter**, “A Knowledge-Based System for On-Line Fault Diagnosis of Power Inverter Circuits for AC Machine Drive”, The 6th European Conference on Power Electronics and Applications, Sevilla, Spain, 19th. – 21st. Sept. 1995.
4. **Presenter**, “A Microprocessor-based On-line Fault Diagnosis System for Power Inverter Circuits”, The 11th. International Conference of the Electricity Power Supply Industry, Kuala Lumpur, Malaysia, 21st. – 25th. October 1996.
5. **Presenter**, “Estimation of Power MOSFET Model Parameters by a Curve-Fitting Optimisation Technique”, The 2nd. International Conference on Robotics, Vision and Parallel Processing for Industrial Automation, Ipoh, Malaysia, 28th. – 30th. Nov. 1996.
6. **Presenter**, “Development of an On-line PC-based Three-phase Current Transducer System Using Object-Oriented Programming Language”, The 2nd. International Con. On The Application of Numerical Methods in Engineering, UPM, Serdang, Malaysia, 23rd.-25th. June 1997.
7. **Presenter**, “The Roles of Information Technology (IT) and Computers in Promoting and Creating Awareness in Malaysian Engineering Education”, International Conf. On Global Challenges in Engineering Education: Role of Islamic Countries, Kuala Lumpur, Malaysia, 8th.-10th. July 1997.
8. **Organising Committee**, “Short Course on DC to DC Converter”, UPM, 3rd.-4th. Dec. 96.
9. **Session Chairman**, 2nd. Int. Conf. On The Application of Numerical Methods in Engineering, UPM, Serdang, Selangor, 23rd.-25th. June 1997.
10. **Presenter**, “Safety lecture for first year Electrical, Electronic and Communication Engineering students”, UPM, 13th. June 97 and 16th. June 97.

11. **Presenter**, “Implementation of ISO9000 at the Faculty of Engineering, UPM: Teaching”, Seminar on Q-day, UPM, 19th. Nov. 97.
12. **Presenter**, “A PC-based on-line fault diagnosis system for power inverter circuits”, Faculty of Engineering Seminar, UPM, 23rd. July 97.
13. **Presenter** “Biomedical and other research activities in the Department of Electrical and Electronics, UPM”, Seminar at the Institute of Sound and Vibration Research Signal Processing and Control Group, University of Southampton, United Kingdom, 14th. October 1998.
14. **Presenter** “Using Curve-Fitting Optimisation Technique to Estimate Power MOSFET Model Parameters for PECT II System”, IEEE 1998 International Conference on Semiconductor Electronics (ICSE '98), Bangi, Malaysi, 24th. – 25th. Nov 1998.
15. **Presenter** “Development of a Pulse-Width Modulated Power MOSFET-Based Audio Amplifier”, IEEE 1998 International Conference on Semiconductor Electronics (ICSE '98), Bangi, Malaysia, 24th. – 25th. Nov 1998.
16. **Organising Committee**, “Hari Q Fakulti Kejuruteraan, UPM”, 19th. – 16th. Dec.1998.
17. **Session Chairman**, “2nd. Annual Distribution Network & Substation Automation”, Kuala Lumpur, 9th. and 10th. March 1999.
18. **Presenter** “Development of a Three-phase Pulse-Width-Modulated Inverter System Using Space Vector Modulation Strategy”, World Engineering Congress (WEC '99), Subang, Malaysia, 19th. – 22nd. July 1999.
19. **Member of Organising Committee**, “World Engineering Congress (WEC '99)”, Subang, Malaysia, 19th. – 22nd. July 1999.
20. **Presenter** “Design Considerations in a 20-Watts High Quality Pulse-Width-Modulated Audio Amplifier”, International Conference on Robotics, Vision and Parallel Processing for Automation (ROVPIA '99), Ipoh, Malaysia, 16th. – 18th. July 1999.
21. **Presenter** “Development of an On-line PC-Based Three-Channel Current Probe System Using Smalltalk-80”, International Conference on Robotics, Vision and Parallel Processing for Automation (ROVPIA '99), Ipoh, Malaysia, 16th. – 18th. July 1999.
22. **Session Chairman**, “International Conference on Robotics, Vision and Parallel Processing for Automation (ROVPIA '99)”, Ipoh, Malaysia 16th. – 18th. July 1999.
23. **Evaluation panel**, “Curriculum Workshop for MLVK Level 5 (Bachelor of Technology) Programmes in Tooling Engineering Technology and Mechatronics Engineering Technology”, organised by German-Malaysian Institute and German Agency for Technical Cooperation, 16th. –20th. August 1999.
24. **Presenter**, “Telemedicine: Blood Pressure Monitoring System for Individual Use Through Internet”, International Medical Imaging & Instrumentation Technology

- Conference & Exhibition (IMIIT '99), Kuala Lumpur, Malaysia 27th. – 29th. August 1999.
25. **Session Chairman**, “Telemedicine: Blood Pressure Monitoring System for Individual Use Through Internet”, International Medical Imaging & Instrumentation Technology Conference & Exhibition (IMIIT '99), Kuala Lumpur, Malaysia 27th. – 29th. August 1999.
 26. **Presenter** “ISO9000: The Procedures”, Faculty of Engineering, UPM, 2nd. June 2000.
 27. **Presenter** Kursus Intermediate (Kedua) – ISO9000, Fakulti Kejuruteraan, 28-29 Mac 2000.
 28. **Presenter** Taklimat ISO, Bahagian II, III dan IV, Fakulti Kejuruteraan, 13, Okt. 2000.
 29. **Moderator**, International Advanced Technology Forum 2000: Frontiers of Knowledge for Industrial Excellence, 7-8 Nov. 2000, Shah Alam.
 30. **Presenter**, Pre-Sitting bengkel 2 ISO 9000, Bagan Lalang, 20-23 Jan 2000.
 31. **Presenter**, Program Bengkel 2 (Port Dickson) – Perlaksanaan Cubaan ISO 9000 (Pengajaran), 11 –13 Feb. 2000.
 32. **Presenter** “Modification of Pulsemaster Software for Automated Relay Testing Using Pulsar Test Set”, Proceedings of Regional Conference on Energy and Environment, Universiti Tenaga Nasional, Kajang, Malaysia, 15-16 February 2000.
 33. **Presenter** “Development of a Courseware on Transformer Using Multimedia Approach”, Proceedings of Regional Conference on Energy and Environment, Universiti Tenaga Nasional, Kajang, Malaysia, 15-16 February 2000.
 34. **Presenter** “Latest Technology to Combat Car Theft”, Seminar Towards Zero Car Theft”, Subang Jaya, August 2000.
 35. **Presenter** “Development of a Transformer Courseware Using Scala MM200”, International Conference on Towards Digital Universiti, Universiti Putra Malaysia, May 2000.
 36. **Presenter** “Development of a Battery Charger for a Solar-Based Electric Bicycle”, Seminar on Advances in Malaysian Energy Research 2000, Shah Alam, Oct. 2000.
 37. **Presenter** “Development of a Single-phase PWM-based DC-to-DC Converter for Electric Bicycle”, Seminar on Advances in Malaysian Energy Research 2000, Shah Alam, Oct. 2000.
 38. **Presenter** “Penerangan Berkaitan Program Vokasional/Teknikal Peringkat Diploma dan Ijazah Sarjana Muda”, Lembaga Akreditasi Negara, Petaling Jaya, 29th. July 2000.

39. **Guest Speaker** “Syarahan Kerjaya dan Motivasi Sains Kepada Pelajar Sekolah” at Dewan Kompleks Sukan Kepala Batas, Seberang Prai, organised by Academy Sciences Malaysia and National Science Centre, 3rd. August 2001.
40. **Speaker**, “Research Enhancement as an Academician Towards Commercialisation: Part I”, Bengkel Pengurusan Makmal dan Penyelidikan 2001, 2-4 November 2001, Hotel Seri Malaysia, Port Dickson.
41. **Speaker**, “Short Course on HVDC: Theory, Design and Its Implementation”, TNBR, 8 Nov 2001.
42. **Speaker**, “Simulation of HVDC Converter Station Using PSCAD Version 3”, TNBR Colloquium, 23rd March 2002.
43. Participated in an International Invention, Innovation, Industrial Design & Technology Exhibition ITEX, 29 March – 31 March 2002.
44. Participated in the 30th. International Exhibition of Inventions, New Techniques and Products, (Fiber Optic-based Lightning Detector System), Geneva, 29 April 2002 – 6 May 2002.
45. Participated in Robocon National Robotic Design Contest, 4th May 2002, Sirim, Kuala Lumpur.
46. Participated in Ministry of Education Malaysia Innovation Exhibition 2002 – Fiber optic-based Lightning Monitoring System , 22-24 October 2002.
47. **Participant**, “Bengkel Pembentukan Outcome Kriteria Spesifik Bidang Kejuruteraan Elektrik dan Elektronik”, Lembaga Akreditasi Negara, Kuala Lumpur, 5 November 2002.
48. **Participant**, “Bengkel Persediaan Program Pengajian Siswazah dan Penyelidikan ke arah ISO 9001”, 20-21 November 2002, UPM.
49. **Participant**, “Course on Image Processing”, C T Nexus Technology Transfer, 11 & 12 December 2002, Kuala Lumpur.
50. **Participant**, “Course on Computer Repair Workshop Electronics and Digital Workshop”, 15th – 16th Jan 2003, Kuala Lumpur.
51. **Participant**, “Code of Ethics / Regulations”, 12th – 13th Mac 2003, IEM Training Centre.
52. **Participant**, “Printed Circuit Board Design Techniques for Signal Integrity and EMC Compliance”, 7th – 8th April 2003, EEM Advancement Centre Pte Ltd., P. Pinang.
53. **Participant**, “Research Management”, 28th – 29th April 2003, UPM, Cyberjaya.
54. **Participant**, “Engine Control Module Development”, Orbital Engine Corporation, 4th – 18th June 2003, Perth, Australia.

55. Jury, Research and Innovation 2003 Exhibition, Universiti Kebangsaan Malaysia, 3-5 July 2003.
56. Participated in Invention & New Product Exposition, INPEX 2004, Pittsburgh, USA, 9 – 18 May 2004 (Robolab, Won Gold and Bronze Medals).
57. Participated in International Invention, Innovation, Industrial Design & Technology Competition 2004, ITEX 2004, (Programmable and Portable Painting Robot for Houses and Buildings) (Won bronz medal).
58. New Curriculum for BEng in EE, CyberJaya 14- 15 June 2004.
59. Exhibition Kegemilangan Penyelidikan, (Programmable and Portable Painting Robot for Houses and Buildings) UPM, 20 July 2004.
60. Department retreat, Melaka Water City Resort, 24 – 26 Dis. 2004.
61. Exhibition for “Panel Penilai Anugerah Kualiti Negeri Selangor”, (Programmable and Portable Painting Robot for Houses and Buildings), 7 Jan. 2005.
62. Exhibitor in ‘Star Education Fair 2005, Kuala Lumpur, 8th. – 9th. Jan. 2005.
63. Participant, Patern Drafting Workshop, Port Dickson, 4 – 6 Feb. 2005.
64. Exhibitor, Expo Harta Intelek 2005, Melaka, 3rd. – 6th. March 2005
Projek: A portable fibre optic base lightning detection system.
65. Exhibitor, Pameran Rekacipta, Penyelidikan dan Inovasi UPM, 9 – 10 March 2005.
(GSM-based vehicle immobiliser and security system) Silver medal.
(Power System Protection Simulator and Expert System Software) Bronze medal.
66. Delegation Leader, 33rd. International Exhibition of Inventions, New Techniques and Products, Geneva, Switzerland, 6th – 10th April 2005, (Programmable and Portable Painting Robot for Houses and Buildings), Bronze medal.
67. Exhibition Sempena Majlis Anugerah Pameran Rekacipta, Penyelidikan & Inovasi 13 Mei 2005, (GSM-based vehicle immobiliser and security system) Silver medal.
68. Participated in the International Invention, Innovation, Industrial Design & Technology Competition 2005, ITEX 2005, 19th May – 21st. May 2005 (GSM-based vehicle immobiliser and security system) Silver medal.
69. Participated in Invention & New Product Exposition, INPEX 2005, Pittsburgh, USA, 5 – 14 Jun, 2005 (GSM-based vehicle immobiliser and security system).
70. Convocation Expo 2005 (GSM-based vehicle immobiliser and security system), 29 July – 2 August 20005.
71. Participated in IPTA R & D Expo 2005. PWTC, 30 Sept – 2 Oct. 2005.
Project: Programmable and Portable Painting Robot for Houses and Buildings.

Bronze medal

72. Participated in ANGVA 2005 Exhibition, Kuala Lumpur Convention Centre, 26-28 July 2005 (CNG/DI Prototype Car).
73. Paper Presenter, International Conference on Robotics, Vision, Information and Signal Processing, 20 –22 July 2005, P. Pinang (Development of a Low Cost Portable Automatic Water Sampler System).
74. Paper Presenter, “Development of GSM-based Motorcycle Anti-theft System”, CD Proc. of International Advanced Technology Congress 2005: Conf. On Automotive Technology, Dec 6-8, 2005, Putrajaya.
75. Session Chairman, International Advanced Technology Congress 2005: Conf. On Automotive Technology, Dec 6-8, 2005, Putrajaya.
76. Deputy Chairman, International Advanced Technology Congress 2005: Conf. On Automotive Technology, Dec 6-8, 2005, Putrajaya.
77. Organizing Committee, 9th. International Conference on Mechatronics Technology 2005, 5-8 December 2005, Putrajaya.
- 78.** National Advisory Committee, 3rd. International Conf. on Artificial Intelligence in Engineering and Technology 2006, UMS, Sabah, 22-24 Nov. 2006.
79. Reviewers, 3rd. International Conf. on Artificial Intelligence in Engineering and Technology 2006, UMS, Sabah, 22-24 Nov. 2006.
80. Session Chairman, 3rd. International Conf. on Artificial Intelligence in Engineering and Technology 2006, UMS, Sabah, 22-24 Nov. 2006.
81. Exhibitor (Main Attraction: Compressed Natural Gas Direct Injection Vehicle), Showcase Inovasi, Anugerah Inovasi Negara 2006, 3rd. -4th. December 2006.
82. Exhibitor (Compressed Natural Gas Direct Injection Vehicle), 55th. World Exhibition of Innovation, Research and New Technologies Eureka Innova 2006, 2006, 23rd. -27th. November 2006, Brussels, Belgium.
83. IEEE Seminar on Power Electronic and Motor Drives: Prof. Bimal K. Bose, UPM, 22 June 2006.
84. IEEE Seminar on Mechatronics in 21st Century: Prof. Okay kaynak, Selangor Human Resource Development Centre, Shah Alam, 16, 8. 2007.
85. Seminar on Becoming a Successful Journal Author, UPM –Elsevier Publishing Seminar, 24 July 2008, Faculty of Engineering, UPM.
86. Seminar on Renewable Energy Systems and Distributed Generation, UKM, 22 Feb. 2008, UKM.

87. Exhibition, 2007, 9 April 2008, Hotel Equatorial, Painter Robot.
88. Exhibition PRPI2008, 29 – 31 Julai 2008, UPM.
89. Symposium towards strengthening academic profession in Malaysia, 14 Feb. 2008, KLIA.
90. D-8 Business Forum, Hilton Kuala Lumpur Hotel 3rd. July 2008.
91. Seminar on Telecommunication in the Economic Age, 16 July 2008, SKMM, Cyberjaya.
92. Seminar “Peranan Institusi Kekeluargaan dalam membentuk organisasi cemerlang”, ITMA, 28 Mei 2008.
93. Seminar on Postgraduate ITMA, 30 April 2008.
94. Deputy Chairman, International Advanced Technology Congress, PWTC, Kuala Lumpur, 3-5th Nov. 2009.
95. Reviewer for Conference on Intelligent Systems and Robotics 2009.
96. Session Chairman, for Conference on Renewable Energy, ”, International Advanced of Technology Congress, PWTC, Malaysia, Nov. 3-5, 2009.
97. Technical Chairman, IEEE SCORed, 2009.
98. Keynote speaker, IEEE SCORed, 2009.
99. Workshop on mid-year achievement of ITMA, 27 May 2009, Puchong Selangor.
100. MQA workshop on programme standards for engineering and engineering technology, Petaling Jaya, 23 Feb, 2010.
101. UPM Strategic Plan 2011-2015, Melaka, 1-3 Mac 2010.
102. **Chairman of Organising Committee**, International Conference on Sustainable Mobility 2010, SAE International Malaysia Section, 1st. -3rd December 2010, Kuala Lumpur.
103. **Chairman of Technical Committee**, International Conference on Sustainable Mobility 2010, SAE International Malaysia Section, 1st. -3rd December 2010, Kuala Lumpur.
104. Participant, First Malaysian-German Sustainable Automotive Mobility Conference, 18 Oct. 2011, Kuala Lumpur.
105. Participant, National Seminar for MQA Panel of Assessors, Kuala Lumpur, 22 November 2011.

106. SAE 2011 High Efficiency IC Engines Symposium, Detroit, Michigan USA, 10-11 April 2011.
107. SAE World Congress, 12-14 April 2011, Detroit, Michigan USA.
108. SAE Seminar on Vehicle Safety, 14 Sept. 2011.
109. Moderator, National Automotive Technology and Digital Eng. Symposium 14-15 May 2012.
110. Participant, LNG Malaysia Forum 2013 Conference, 20-21st. March 2013, Intercontinental Hotel, Kuala Lumpur.
111. Faculty of Engineering KPI Workshop, 13 Feb. 2013, Hotel Marriott, Putrajaya.
112. E-Mobilia World Conference 2013, 26-27 March 2013, Hilton Kuala Lumpur.
113. E-Mobilia World Conference 2014, 8 -9 April 2014, Grand Millenium Kuala Lumpur.
114. APAC Smart Grid International Conference, 11 – 12 March 2014, Royal Chulan, Kuala Lumpur.
115. Malaysia IEEE microwave seminar 20117 series, National Instrumentation Academy and Innovation Nucleus Malaysia, 19 July 2017.
116. Malaysia IEEE microwave seminar 20117 series, TM Innovation Centre, Cyberjaya, 21 Sept 2017.
117. Participated in Malaysia Auto Show 2018, Exhibiting the following products, AI-based Pre-heating Catalytic Converter (PHCC) System for Vehicle Exhaust Emission and AI-based CNG – Air Mixer For Diesel Dual Fuel Engine, 26 – 29 April 2018, MAEP, Serdang Selangor.
118. Intel IoT Summit 2018, Penang, 10 and 11 July 2018.
119. Intel AI From the Data Center to the Edge, ADAX, Bangsar South, Kuala Lumpur, 28 Nov 2019.
120. Participated in Carlist Auto Fair 2021, Exhibiting the following products, EV power train and wireless charging system, Setia City Convention Centre (SCCC), Setia Alam, 3 Dec 2021.

R.1 Extension and Public Services at University Level

1. Organising committee for “*Short Course on DC to DC Converter*”, UPM, 3-4. Dec. 96.
2. ISO9000 Faculty of Engineering working committee, 1999/2000.
3. Member of a sport and social club

4. Curriculum working committee
5. Member of an academic officers association.
6. Co-ordinator of industrial visits for undergraduate students.
7. Industrial Training co-ordinator.
8. Co-ordinator of safety lectures for undergraduate engineering students.
9. Co-ordinator of franchised program (BKEE) for UPM-Prime College.
10. Committee members of Innovation and Research Awards, Faculty of Engineering 2000
11. Chairman of Committee members of ISO Department of Electrical and Electronic 2000 – 2001
12. Member of Internal Quality Audit ISO 9000 Faculty of Engineering
13. Committee members of ISO9000 Faculty of Engineering, 2000 – 2002.
14. Help extinguished fire in Block D, Room D10, Faculty of Engineering, 12 Mac 2000.
15. Helping Faculty of Engineering planting trees at new Faculty of Engineering Complex. 25 Nov. 2000.
16. **Presenter** “ISO9000: The Procedures”, Faculty of Engineering, UPM, 2nd. June 2000.
17. **Presenter**, Intermediate Course (Level 2) – ISO9000, Faculty of Engineering, 28-29 Mac 2000.
18. **Presenter** ISO Briefing, Parts II, III and IV, Faculty of Engineering, 13, Okt. 2000.
19. **Presenter**, Pre-Sitting Workshop 2 ISO 9000, Bagan Lalang, 20-23 Jan 2000.
20. **Presenter**, Program Workshop 2 (Port Dickson) – Trial implementation of ISO 9000 (Teaching), 11 –13 Feb. 2000.
21. Helping Faculty to clean laboratories at Department of Electrical and Electronic Eng. 1 June 2000.
22. **Speaker**, “Research Enhancement as an Academician Towards Commercialisation: Part I”, Research and Laboratory Management 2001, 2-4 November 2001, Hotel Seri Malaysia, Port Dickson.
23. Participated in the Research Product Exhibition UPM, (Robotoy), 2 – 4 October 2001.
24. Volunteer to clean laboratory areas of Department of Electrical and Electronic Engineering, UPM, 10 Julai 2004.

25. Participated in “Majlis Perasmian Pelancaran Sambutan Bulan Kemerdekaan Kempen Mengibar Jalur Gemilang 2007”, 19 Julai 2007.
26. Participated in “Majlis Pelan Strategik Pengajian Tinggi Negara Melangkaui tahun 2020, Kementerian Pengajian Tinggi Malaysia”, Pusat Konvensyen Antrabangsa, Putrajaya, 27 Ogos 2007.
27. Interview panel for selecting candidates for Management and Professional Posts, 21st. April 2008.
28. Internal Examiner for Phd and MSc Thesis (refer to Part S).
29. Chairman of the Examination Committee (Refer to Part T Evaluation Panel for Research Grant Proposal (refer to Part Z).
30. Conference Chairman, Vice-Chairman, Session Chairman, Paper presenters (refer to part P).
31. Short Courses Organiser (refer to Part N.8).
32. Appearing in TV and newspapers (Refer to Part N7).
33. Keynote Speakers / Invited Papers / Guest speakers (refer to N.4)
34. Journal and Conference Papers Reviewer (please refer to part V).
35. Evaluation Panel for Research Grant Proposal (refer to Part Z).
36. Administrative Duties and Other Responsibilities (refer to Part C).
37. Deputy Director, Institute of Advanced Technology (1st June 2007 – 31st. May 2010.
38. Facilitator, Finishing School 7 for Faculty of Ecology , Pusat Kokurikulum UPM, 13-14 Mac 2010.
39. Facilitator, Finishing School 8 for Faculty Education Study, Pusat Kokurikulum UPM, 23-24 Oct 2010.
40. Facilitator, Finishing School 8 for Faculty Education Study, Pusat Kokurikulum UPM, 3-4 Nov 2012.
41. Facilitator, Finishing School 8 for Faculty Education Study, Pusat Kokurikulum UPM, 20 Oct 2012.
42. Facilitator, Finishing School 8 for Faculty Education Study, Pusat Kokurikulum UPM, 3-4 Mac 2012.
43. Research Grants evaluator, UPM, 2012.
44. Research Grants evaluator, UPM, 2013.
45. Research Grants evaluator, UPM, 2014.

R.2 Extension and Public Services to Societies at National Level

1. **Presenter** “*Latest Technology to Combat Car Theft*”, Seminar Towards Zero Car Theft”, Subang Jaya, 15th. August 2000,
2. Newspaper appearance, Nur Aida Mustaffa, “UPM recognises R & D with awards”, New Straits Time, Monday 17th. April 2000.
3. Newspaper appearance, Utusan Malaysia, “UPM ke Pertandingan Reka Cipta Sains di Geneva”, 29th. September 2000.
4. Newspaper appearance, Marzita Abdullah, “Kenderaan Robot daripada Bahan Buangan Komputer”, Utusan Malaysia, 9th. October 2000.
5. Newspaper appearance, Marzita Abdullah, “Alat Kelui Kereta Anti-pencuri”, Utusan Malaysia, 9th. October 2000.
6. Newspaper appearance, HM Rusdy, “I-TEX 2000 8 Pingat Milik UPM”, Tribun Putra, 1 November 2000.
7. Participated in an International Invention, Innovation, Industrial Design & Technology Exhibition ITEX 2000, (Robolab), PWTC, 27 – 30 September 2000.
8. Participated in Ministry of Education Malaysia Innovation Exhibition 2000 – Robolab 13-15 Nov 2000.
9. Participated in the Public Services Department of Malaysia Innovation Exhibition 2001, (Robolab), Hotel Grand Blue Wave, Shah Alam, 16-17 August 2001.
10. Participated in the Science and Technology Expo. 2001, (Robotoy and Robolab), PWTC, 30 June – 3 July 2001.
11. **Guest Speaker** “Motivation and Career Talk to School Students” at Dewan Kompleks Sukan Kepala Batas, Seberang Prai, organised by Academy Sciences Malaysia and National Science Centre, 3rd. August 2001.
12. TV appearance in Malaysia Hari Ini, TV3, 25th. June 2001, Robotic Development in Malaysia: Past, Present and Future (Talk Show)
Robolab Project was shown on TV3.
13. Newspaper appearance in Utusan Malaysia “Robolab nyahkan risiko kecederaan di makmal”, Arshad Khan, 9th. August 2001.
14. Chairman of Information Biro of Community Association of Seksyen 4 Tambahan, Bandar Baru Bangi. 2001/2001
15. Speaker, “Short Course on HVDC: Theory, Design and Its Implementation”, TNBR, 8 Nov 2001.

13. TV appearance in Buletin Utama, TV3, 2 July 2001
Product: Robotoy, Science and Technology Expo 2001.
14. TV appearance in Afternoon News, TV3, 26 March 2002.
Product: Robotoy II
15. Participated in an International Invention, Innovation, Industrial Design & Technology Exhibition ITEX, 29 March – 31 March 2002.
16. Participated in Ministry of Education Malaysia Innovation Exhibition 2002 – Fiber optic-based Lightning Monitoring System , 22-24 October 2002.
17. TV appearance in Berita Perdana, Radio Television Malaysia (RTM1), 29 March 2002, ITEX 2002,
Product: Robotoy II and Portable Fibre-optic based Lightning Detector System
18. TV appearance in Berita Perdana, Radio Television Malaysia (RTM1), 23 May 2002, Geneva 2002,
Product: Portable Fibre-optic based Lightning Detector System
Silver medal and special award from the Ministry of Rescue Services and Emergency Situations of Russia. Both of these awards were won in Geneva.
19. Newspaper appearance in Utusan Malaysia, “Menghasilkan robot buatan sendiri”, Marzita Abdullah, Ruangan Semasa, pp. 7, 3 April 2002.
20. Newspaper appearance in Utusan Malaysia, “Saintis UPM menang tujuh pingat di AS” – Section Dalam Negeri, pp. 14, 30 May 2002.
21. Newspaper appearance in Berita Harian, “UPM menang 5 pingat ciptaan antarabangsa”, pp 3, 30th. May 2002.
22. Newspaper appearance in Sarawak Tribune, “Outstanding Achievement”, pp. 1, 30th. May 2002.
23. Participated in Robocon, National Robotic Design Contest, 4th May 2002, Sirim, Kuala Lumpur (Project Leader).
24. Account Auditor for Parents and Teachers Association, Sekolah Agama Integrasi Bandar Baru Bangi, 2004 – 2005.
25. Volunteer to clean school area, Sekolah Agama Integrasi Bandar Baru Bangi, 4th. April 2004.
26. Volunteer for School Sport Day, Sekolah Agama Integrasi Bandar Baru Bangi, 11th. April 2004.
27. Volunteer to paint school building, Sekolah Agama Integrasi Bandar Baru Bangi, 17th. July 2004.

28. Volunteer to clean play ground area at Seksyen 4 Tambahan, Bandar Baru Bangi, 7th. August 2005.
29. Volunteer for Sport Day at Sekolah Agama Integrasi Bandar Baru Bangi, 31st. July 2005.
30. Volunteer to clean school area at Sekolah Agama Integrasi Bandar Baru Bangi, 24th. April 2005.
31. Deputy Chairman, Parents, Teachers Association, Sekolah Agama Integrasi Bandar Baru Bangi, 2005 – 2006.
32. Chosen as a case study by Faculty of Technology Management, Kolej Universiti Teknologi Tun Hussein Onn for Management of Technology course on research product “GSM-based vehicle immobiliser system”. Sept. 2005.
33. Malaysian Qualification Agency Assessor, 1998- to date (refer to Part M)
34. Master and PhD Thesis External examiner (refer to Part U).
35. Academic Program External Examiner (refer to Part Y).
36. Evaluation Panel for Research Grant Proposal (refer to Part Z).
37. Invited Jury (refer to Part X).
38. Conference Chairman, Vice-Chairman, Session Chairman, Paper presenters (refer to part P).
39. Short Courses Organiser (refer to Part N.8)
40. Appearing in TV and newspapers (Refer to Part N7)
41. Keynote Speakers / Invited Papers / Guest speakers (refer to N.4)
42. Journal and Conference Papers Reviewer (please refer to part V).
43. Deputy Chairman, Parents, Teachers Association, Religious High School, SAM 10, Cheras, 2013 – 2014.

R3. International Recognition, Extension and Public Services to Societies at International Level

1. SAE International Member Service Award, 2008.
2. Gold Medal, World Exhibition of Innovation, research and new Technology 2008, Brussels, Belgium, 23-27 Nov. 2008.
Project: Animated Robotic Language for Children ANROLAN
Ishak Aris and Ho Teng Hoong.

3. Bronze Medal Award of Merit, INPEX 2008, June 11- 14, 2008, Pittsburgh, PA USA.
Project: Electronic Control Unit (ECU) for Compressed natural Gas Direct Injection (CNGDI) Vehicle.
Ishak Aris, M.K. Hassan, Senan Mahmod Abdullah, Roslina Mohd Sidek, K. N. Zainuddin and N. A. Alina.
4. Gold Medal, International Exhibition of Ideas-Inventions-New Products (IENA) 2007, Nuremberg, Germany, 1st – 4th November, 2007.
Project: Software system for detecting defective symbols on micro chip with adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin.
5. Silver Medal, International Exhibition of Ideas-Inventions-New Products (IENA) 2007, Nuremberg, Germany, 1st – 4th November, 2007.
Project: Wire rope sensor.
M. Norhisam, H. Noor Hasmiza, H. Ezril, N. Wei Shin, N. mariun, **Ishak Aris**, Y. Hirama
6. Qualified for the final round at the World Cup of Computer Implemented Inventions, China, 2008.
Project: Software system for detecting defective symbols on micro chip with adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin
7. Gold Medal, Invention & New Product Exposition 2007, INPEX 2007, Category of Automotive, Pittsburgh, USA, 6th – 9th June 2007.
Project: The method and optimazation of Ignition system parameters inside CNGDI Engine.
Norman mariun, Azimah Omar, Nasrulah Khan, **Ishak Aris**
8. Special award from the Association of Polish Inventor, Poland, 55th World Exhibition of Innovation, research and new Technology 2006 (Eureka-Innova 06), Brussels, Belgium, 23-27 Nov. 2006.
Project: Compressed Natural Gas Direct Injection Passenger Vehicle.
Barkawi Sahari, **Ishak Aris**, Fakhru'l-Razi Ahmadun, Yusoff Ali, Shahrir Abdullah, Masjuki Haji Hassan, Zahari Taha, Luqman Chuah Abdullah, Norman Mariun, Muhd. Adlan Abdullah, V. Chelliah, Ku halim Ku Hamid, Md. Nor Musa, Mohd. Ibrahim Abd. Mutalib, Abd. Rashid Abd. Aziz, Mohd. Fauzy Ahmad
9. Gold Medal with mention, 55th World Exhibition of Innovation, research and new Technology 2006 (Eureka-Innova 06), Brussels, Belgium, 23-27 Nov. 2006.
Project: Compressed Natural Gas Direct Injection Passenger Vehicle.
Barkawi Sahari, **Ishak Aris**, Fakhru'l-Razi Ahmadun, Yusoff Ali, Shahrir Abdullah, Masjuki Haji Hassan, Zahari Taha, Luqman Chuah Abdullah, Norman Mariun, Muhd. Adlan Abdullah, V. Chelliah, Ku halim Ku Hamid, Md. Nor Musa, Mohd. Ibrahim Abd. Mutalib, Abd. Rashid Abd. Aziz, Mohd. Fauzy Ahmad

10. Bronze medal, 33rd International Exhibition of Inventions, New Techniques and Products of Geneva, 6th – 10th April 2005.
Project: Programmable and Portable Painting Robot for Houses and Buildings.
Ishak Aris and Parvez Iqbal
11. Gold medal, Invention & New Product Exposition 2004, INPEX 2004, Category of Industrial Equipment, Pittsburgh, USA, 12th – 15th May 2004.
Project: Robolab
Ishak Aris, Johnny and Jenny
12. Bronze medal, Invention & New Product Exposition 2004, INPEX 2004, Category of Science, Pittsburgh, USA, 12th – 15th May 2004.
Project: Robolab
Ishak Aris, Johnny and Jenny
13. Special award from the Ministry of Rescue Services of Russia in 30th International Exhibition of Inventions, New Techniques and Products of Geneva, 1st – 5th May 2002.
Project: A portable fibre optic base lightning detection system.
Ishak Aris and Goh Hong Keong.
14. Silver medal in 30th International Exhibition of Inventions, New Techniques and Products of Geneva, 1st – 5th May 2002.
Project: A portable fibre optic base lightning detection system.
Ishak Aris and Goh Hong Keong.
15. Journal and Conference Papers Reviewer (please refer to part V).
16. Jury, 21st. International Invention, Innovation & Technology Exhibition (ITEX2010), Kuala Lumpur, 14th May 2010.
17. Jury, Shell Eco-marathon ASIA 2010, 8th. – 10th. July 2010.
18. Member of Editorial Board for ICTACT Journal of Image and Video Processing, 2010.
19. Member of Editorial Board, Journal of Computing and Applications, International Association for Computer Scientists and Engineers (IACSE), 2010.
20. Editor for the Proceeding of International Conference on Sustainable Mobility 2010, SAE International Malaysia Section, 1st – 3rd December 2010.
21. Chairman of Society of Automotive Engineers International, Malaysia Section (SAE International) for 2009/2011.
22. Vice-Chairman of Society of Automotive Engineers International, Malaysia Section (SAE International) for 2008/2009.
23. Exco member of Society of Automotive Engineers International, Malaysia Section (SAE International) for 2007/2008.
24. Member of TAU BETA PI (USA National Engineer Honor Society) 1987 – to date.

25. Member of ETA KAPPA NU (USA Electrical Engineer Honor Society) 1988 – to date.
26. IEEE – Member (2000 – to 2008)
Membership No.: 41319651
- Member of IEEE Engineering in Medicine and Biology Society
- Member of IEEE Power Electronics Society
- Member of IEEE Robotics and Automation Society
27. Chairman of the Organising Committee of the International Conference on Sustainable Mobility 2010, SAE International Malaysia Section, 1st – 3rd December 2010.
28. **Moderator and Organiser, Industry Forum on Autonomous Vehicle: Technology, Policy and Safety**, 2019 IEEE 89th Vehicular Technology Conference, 30 April 2019, Kuala Lumpur, Malaysia.
29. **International Advisory Board**, 23rd World Conference on Applied Sciences, Engineering, and Technology, 24th -25th October 2019 in Melbourne, Australia.
30. **Member of Technical Committee**, 1st. Asia Human-Computer Interaction Symposium (AHMIS 2020), 29-31 May, 2020 in Shanghai, China.
31. **International Advisory Board**, IEEE Virtual International Conference on “Innovative Applications of Computational Intelligence on Power, Energy and Controls with their Impact on Humanity” (VCIPECH-2020), KIET Group of Institutions, Ghaziabad, New Delhi, India on November 06-07, 2020.
32. **Member of Technical Committee**, 2nd Asia Human-Computer Interaction Symposium (AHMIS 2021), 26-28 May, 2021 in Shanghai, China.

S. BEng Thesis Examiner

1. 1996 - Examined 6 undergraduate final year student project theses at the School of Electrical and Electronic Engineering, Universiti Sains Malaysia.
2. 1997 - Examined 10 undergraduate final year project theses at the Department of Electrical and Electronic Engineering, Universiti Putra Malaysia.
3. 1998 - Examined 15 undergraduate final year project theses at the Department of Electrical and Electronic Engineering, Universiti Putra Malaysia.
4. 1999 - Examined 10 undergraduate final year project theses at the Department of Electrical and Electronic Engineering, Universiti Putra Malaysia.
5. 2000 - Examined 10 undergraduate final year project theses at the Department of Electrical and Electronic Engineering, Universiti Putra Malaysia.

6. 2001 - Examined 8 undergraduate final year project theses at the Department of Electrical and Electronic Engineering, Universiti Putra Malaysia.
7. 2002 - Examined 7 undergraduate final year project theses at the Department of Electrical and Electronic Engineering, Universiti Putra Malaysia.
8. Fook Chee Yin, BEng. Thesis, "Design and Testing of Induction Heating System", 2003.
9. Khairul Anwar Abu Bakar, BEng. Thesis, "Software Development for STAART Lightning Management", 2003.
10. Azimah bt Omar, BEng. Thesis, "Software Development for Energy Auditiong Practice", 2003.
11. Mohd Iqbal b. Abdul Hakim, BEng. Thesis, "Micro Hydro Power Plant Design and Development in Malaysia", 2003.
12. Mohd. Ashraff b. Mohd., BEng. Thesis, "Power Flow Analysis Using Power Factory", 2003.
13. Abdul Halim b. Abdul Asif, BEng. Thesis, Design of Single Phase DC-to-AC Inverter Using MOSFET, 2003.
14. Salmiza Jusoh, BEng. Thesis, "Comparison on characteristics of magnetic circuit for linear motor" 2004.
15. Azrul Erdy Zakaria, BEng. Thesis, "Design a linear motor", 2004.
16. Zulkifle Ab. Manap, BEng. Thesis, "Design and Development of a Talking Voltmeter", 2004.
17. Mohd. Rosmaini Yahaya, BEng. Thesis, "Power Quality Case Study", 2004.
18. Sim Wei Pin, BEng. Thesis, "Laser Ignition System", 2004.
19. Ong Kien Huei, BEng. Thesis, "Development of Line Tracking System", 2004.
20. Syed Mahathir, BEng. Thesis, "Power management of robot system", 2004.
21. Wong Jeng Hui, BEng. Thesis, " 2005.
22. Mohd Mirzan, BEng. Thesis, " 2005.
23. Hazrina Jamil, BEng. Thesis 2005.
24. Member of Final Year Project Evaluation Committee, 2005.
25. Mohd Yazib bin Jamaludin, BEng. Thesis, "Battery Charger Using Linear Generator", 2006.
26. Lee Chin Tuan, BEng. Thesis, 2006.
27. Chooi Jia Jye, BEng. Thesis 2006.
28. Shazwani bt. Salehuddin, BEng. Thesis, "Fuzzy Control of Continuous Stirred Tank Reactor (CSTR)", 2006.

29. Norafiza bt. Masruni, BEng. Thesis 2006.
30. Noor Zirwatul Ahlam, BEng. Thesis, "Variable Frequency Inverter", 2006.
31. Loi Chee Loong, BEng. Thesis, " 2006.
32. Mohd Helmi Khairan, BEng. Thesis 2006.
33. Shaiful Izham b. Mohd. Yusop, BEng. Thesis 2006.
34. Mohd. Farid bin Abdul Hamid, BEng. Thesis 2006.
35. Khairul Nazmi bin Zainol Ariffin, BEng. Thesis, "Line Tracing Robot with Multiple Motor", 2006
36. Mohd Juraimi Jariah, BEng. Thesis 2007.
37. Haniza Mohd Nor, BEng. Thesis 2007
38. Lai Chow Meng, BEng. Thesis 2007
39. Yep Siong Yew, BEng. Thesis 2007
40. Tsen Yun Vui, BEng. Thesis 2007
41. Norain Zakaria, BEng. Thesis 2007
42. Yong Kai Mun, BEng. Thesis 2007.
43. Cheah Chee Hang, BEng. Thesis 2007.
44. Chi Bee Lin, BEng. Thesis, "Contingency Analysis Of Power System", 2008.
45. Fan Kok Xao, BEng. Thesis, "Time Tree Simulator For Prediction Of Fault Generated Traveling Wave Signals", 2008.
46. Nik Mohammad Saiful, BEng. Thesis, "Sun Light Tracking Device for Optimization of Electricity Conversion Using Photovoltaic (PV)", 2009.
47. Suzaini Dahlan, BEng. Thesis, "Design and Fabrication of a Fish Feeder With Water Quality Monitoring System", 2009.
48. Mohd Fuad Hassan, BEng. Thesis, "AC/DC 240V to 12V Converter Design", 2009.
49. Mohd Hafif Zakaria, BEng. Thesis, "Voltage Control Single Phase Converters", 2009.
50. Bazlina Baba, BEng. Thesis, "Single Phase Static Synchronous Compensator (STATCOM) IGBT Based Inverter", 2009.
51. Mohd Asyraf Zainal Abidin, BEng. Thesis, "Wireless Internet EMF Radiation Determination in Faculty of Engineering and
52. 10th College, UPM", 2009.
53. Norhidayu Ramli, BEng. Thesis "Development of surge protective devices for low voltage and communication application", 2010.
54. Ng Seng Shin, BEng Thesis, "Design of three phase DC brushless motor using finite element method", 2010.
55. Mohd Asyraf Rusli, BEng Thesis, "Web Based Power Quality Monitoring", 2010.
56. Mohamad Suhairy Saidin, "Simulation and construction of flying capacitor multilevel inverter", 2010.
57. Lim Kien Han, BEng. Thesis, "Portable emergency compact LED traffic light system", 2010
58. Hajar Yusof, BEng Thesis, "First Nuclear power plant in Malaysia: a Myth or a reality?", 2010.
59. Muhd Nur Ikqwan Bin Nordin (174773), BEng Thesis, " Power Loss Minimization of PV System due to PV Modules Mismatch", 2017.
60. Nursuhaila Binti Marudin (171824), BEng Thesis, " Performance of Bentonite and Zeolite Mixtures as Grounding Enhancement Materials ", 2017.
61. Muhammad Helmi B Mohamad (172608), BEng Thesis, " Performance of Bentonite and Kenaf Mixtures as Grounding Enhancement Materials ", 2017.

T. MSc and PhD Thesis Internal Examiner

1. MSc. Thesis, "Design and Construction of a DC-to-DC Converter for Electric Vehicle", Eyad Moh'd Radwan, 1998.
2. MSc. Thesis, "Development of Smart Lead-acid Battery Charger for Electric Vehicle Application", Mu'tasim Ibrahim Noor, 1999.
3. MSc. Thesis, "Autonomous Mobile Robot Power Management System", Malik Taysir Al-Qdah, 1999.
4. MSc. Thesis, "PWM Inverter for Electric Drive Train Application", Mohd Amir Abas, 1999.
5. MSc Thesis, "Development of a Single-phase PWM-based DC-to-DC Converter for Electric Bicycle", Ali Omer Elmthnani, 2000.
6. MSc Thesis, "Development of an Electric Vehicle Dashboard Monitoring System Using Microcontroller", Mohamad E. Salem Abozaed, 2000.
7. MSc Thesis, "The Development of an Uninterruptible Power Supply for Personal Computers", Ali Milad Jarushi, 2000.
8. MSc Thesis, "Telemedicine: Blood Pressure Monitoring System for Individual Use Through Internet", Wagie Allah Ahmed Elobied, 2000.
9. MSc Thesis, "Development of a Power Electronic Circuits Database for Knowledge Base System", Ahmad D. Y. Zahran, 2000.
10. MSc Thesis, "Security Study and Encryption / Decryption Method", Majdi Taysir Al-Qdah, 2000.
11. MSc Thesis, "Development of Power Semiconductor Devices Database for Knowledge-based Systems", Ghassan Mohammed Shaheen, 2000.
12. MSc Thesis, "Harmonics Analysis and Design of Passive Filter for Low Voltage Power Distribution System", Chan Chee Meng, 2000.
13. MSc Thesis, "Application of Differential Protective Relay (DPR) to 33/11 kV Delta-Wye Transformer Using Saber Software Simulator", Muhammad Murtadha bin Othman, 2000.
14. MSc Thesis, "Internet Based Electrocardiogram Monitoring System", Ng Kwan Ti, 2001.
15. MSc Thesis, "Development of DC-to-DC and DC-to-AC Converters for a Single-phase Photovoltaic System Applications", Mohamed Agribi Farhat, 2001.

16. MSc. Thesis, "Design and Simulation of 10kHz Voltage-source Three-phase resonant Dc-link Inverter for 10kW Ohmic Heating Process", El Sadig Mohamed Ali El Shikh, UPM, 2001.
17. MSc Thesis, "Design of single switch rectifier using multi resonant zero current switching for electric vehicle battery charger application", Indra Nisja, 2002.
18. MSc Thesis, "Design of Direct Sequence Code Division Multiple Access (DS-CDMA) Wireless Transmitter Using Field Programmable Gate Array (FPGA)", Khalid Eltahir Mohamed Osman, UPM, 2002
19. MSc Thesis, "Development of a Fiber Optic-based Lightning Detector System", Goh Hong Keong, 2002.
20. MSc Thesis, "Protection of Short Transmission Lines Using Microprocessor-based distance relay", Hussain Fadhil Mohammed Ali, 12 March 2004.
21. MSc Thesis, "Study of Electrode Material Degradation Rate of Alkali Metal Energy Converter With Solar Thermal Heat", Siew Choo Soon, 2004.
22. MSc Thesis, "Harmonic Analysis and Mitigation Using Passive Filter", Hashbullishman bin Hashim, 2004.
23. MSc Thesis, "Evaluating the potential of palm oil as a liquid dielectric fluid in high voltage applications", Umar Usman Abdullah, 2004.
24. MSc Thesis, "Development of Statcom to improve voltage sag due to starting of high power induction motor", Abdurrahman Feturi S. Huweg, 2005.
25. MSc Thesis, "Vehicle speed warning system", Ngo Chon Chet, 2005.
26. MSc Thesis, "A torque mode based combined energy and attitude control system for small satellite", Ibrahim Mustafa Mehedi, 2005.
27. PhD Thesis, "Tumor Extration and Visualization for Multi-slice Brain MRI Using Delineation and Gain Estimation Algorithms", Qussay Abbas Salih Al-Badri, 2005.
28. MSc Thesis, "Development of an Adaptive Learning Algorithm for solving the inverse kinematics problem for serial robot manipulators", Ali T. Hassan, 2005.
29. MSc Thesis (resubmit), "Harmonic Analysis and Mitigation Using Passive Filter", Hashbullishman bin Hashim, 2005.
30. PhD Thesis (resubmit), "Tumor Extration and Visualization for Multi-slice Brain MRI Using Delineation and Gain Estimation Algorithms", Qussay Abbas Salih Al-Badri, 27 Jan. 2006.
31. MSc Thesis (Resubmit), "Development of Commercial Vehicle Speed Warning System", Ngo Chon Chet, 2006.

32. MSc Thesis, Norhafidzah Mohd Saad, "Numerical and Experimental Studies on Parametric and Absorption Coefficient of Laser Ignition in Compressed Natural Gases (CNG) Mixtures, 2006.
33. MSc Thesis, Safoan M. O. Alhalali, "THD Improvement for variable speed drive using single phase multilevel inverter" 2006.
34. MSc Thesis, Ruhaizad Ishak, "Development of Flywheel inverter system for voltage sag mitigation", 2006.
35. MSc Thesis, Imtiaz Ahmad Khan, Energy Modeling for the Prediction of Future Electrical Energy Demand for Malaysia, 2006.
36. MSc Thesis, Alias Khamis, "Design of Slot Type Linear Oscillatory Actuator by Adjustment Thrust Characteristic", 2007.
37. MSc Thesis, Ding She Kion, "Geneticf Fuzzy Control of HVAC", 2007.
38. MSc Thesis, Ezril Hisham Bin Mat Saat, "Sensor less positioning system for linear DC Motor", 2008.
39. MSc Thesis, Shashikumar a/l Krishnan, "Design and development of boost converter using planar inductor for dual supply automotive system", 2008.
40. MSc Thesis, Ali Rafieishahemabadi, "Simulation and implementation of a variable rate, pulsed with modulated nozzle valves chemical application control system", 2008.
41. MSc Thesis, Fairul Azhar Abdul Shukor, "Design optimization of linear oscillatory actuator for oil palm mechanical power", 2008.
42. MSc Thesis, Zuliana Ismail, "Attitude control of small satellites with reaction wheels", 2009.
43. PhD Thesis, Khalid Eltahir Mohamed, "Design and Implementation of a multi standard protocol for software defined radio based mobile station transceiver", 2009.
44. MSc thesis, Junainah Sardi, "Insulation coordination study for 132kv Kuala Krai- gua musang transmission line", 2009
45. PhD Thesis, Pooria Varahram, "Power Amplifiers linearization based on complex gain memory predistortion for wireless applications", 2010.
46. MSc thesis, Arash Mohammadi Toudeshki (GS18289) "Development of the variable high frequency voltage source for an ohmic heating process", 2010.
47. PhD thesis, Yadollah hezarjaribi (GS16736), "Design and process developments of touch mode micro-electro-mechanical systems capacitive pressure sensor operating at high temperature", 2010.

48. MSc Thesis, Mohammad Rezazadeh Mehrjou (GS19170), "Incipient broken rotor bar detection of squirrel cage induction motor", 2011.
49. PhD Thesis, Hendri Masdi, "Development of D-statcom for voltage sag mitigation", 2011.
50. PhD Thesis, Ehsan Esfandiari, "Design and development of a reliable and efficient staircase-output multi-level inverter for photovoltaic applications", 2011.
51. PhD Thesis, Mahdi Hedayati, "Design of Robust Controller Using H Infinity Loop Shaping Method for Synchronous Static Compensator Applied to Large Induction Motors", 2011.
52. PhD Thesis, Md. Jakir Hossen, "A Modified Adaptive Neuro-Fuzzy Inference Engine and its applications", 2012.
53. PhD Thesis, Ahmed Mudheher Hasan, "Integrated GPS/INS System based on wavelet-anfis for land vehicle vehicle application, 2011.
54. PhD Thesis, Babak Karasfi, "Unsupervised appearance-based place recognition approach for mobile robot mapping and qualitative localization in dynamic environment", 2012.
55. MSc Thesis, Ehsan Moazami, "Multiobjective service restoration in distribution networks using GA, 2013.
56. MSc Thesis, Ahmad Syukri bin Mohamad, "Design and construction of a 115V, 400Hz, aircraft inverter using a novel cascaded multilevel inverter topology, 2013.
57. PhD Thesis, Osama Mohamed bensaeed, "Oil Palm fruit bunch grading by using hyperspectral scanner technique", 2013.
58. MSc Thesis, Razieh Khanaki, "Maximum Power Point Tracking Using Artificial Neural Network for Photovoltaic Standalone System", 2014.
59. MSc. Thesis, Abdul Sattar Din, "Non-probabilistic approach to cooperative position tracking in large swarm of simple mobile robots using triangular cross-observation", 2013.
60. PhD Thesis, Faisul Arif bin Ahmad, "Foraging optimization in autonomous recharging of mobile multi-robot inspired by honeybee algorithm", 2016.
61. PhD Thesis, Vengadeshwaran Velu, "Realization of Three Phase System from a Single Phase Source Using Space Vector PWM Based Matrix Converter System", 2016.

U. Chairman of the Examination Committee

1. MSc Thesis, "Simulation of Three-phase Induction Motor Control Using Fuzzy Logic Controller", Omar Said Algayash Bennanes, UPM, 4 Feb 2004.
2. MSc Thesis, "Protection of Short Transmission Lines Using Microprocessor-based distance relay", Hussain Fadhil Mohammed Ali, 12 March 2004.
3. MSc Thesis, "Wind Turbine Control System Design for Rural Application", Mohammad Fadhil Abas, 6 March, 2006.
4. MSc Thesis, Mohd. Amrallah Mustafa, hand gesture recognition using neural network, 11 Jan 2007.
5. MSc Thesis, Basm Altaher Moloud abufela, New eye safe range finder using 1550nm with EDFA, 9 Feb. 2007.
6. MSc Thesis, Rakeeb Saeed Kaid, "Automatic estimation of gestational age in ultrasound images by using direct least squares fitting of ellipses", 10 September 2007.
7. MSc Thesis, Siti Nuur Basmin Mohd Maarof (GS15126), "Simulation and analysis of short channel effects on bulk and Tri-gate multiple input floating gate MOSFET", 31 Julai 2008.
8. MSc Thesis, Aziz Mamat, "Neural Newtwork based camera vision for tomato harvesting robot", 2008.
9. MSc Thesis, Shadi Ansar Panahi, "Model Predictive Control Design for Nonlinear process", 2008.
10. MSc Thesis, Ezrin Mohd Husin (GS14336), "Relationship between apparent electrical conductivity of paddy soil and rice yield", 2009.
11. MSc Thesis, Abdul Halim Ismail (GS20418), "Machine Intelligent approach for oil palm in vitro shoots classification", 2010.
12. MSc Thesis, Normisahili Miswan (GS16072), Thermal Performance of Ferrule Types for Medium Voltage Cable Jointing, 2010.
13. MSc Thesis, Mohammad Tolou Askari Sedehi Esfahani, (GS22202) Dynamic Thermal Model Approach to Estimate Loading of Mineral Oil Immersed Transformer, 2010.
14. MSc Thesis, Mahirah Jahari "Change detection in forest area using a local similarity measure", 2010.
15. MSc Thesis, Amizah Md. Ariffen (GS23266), "DEVELOPMENT OF CLASS 2 AND CLASS 3 SURGE PROTECTION DEVICES FOR LOW VOLTAGE PROTECTION SYSTEMS", 2011.
16. MSc Thesis, Wan Mohd Khairudin bin Wan Abdul Malik (GS11970), "Implementation of Indirect Field Oriented Control of Induction Motor", 2012.

17. MSc Thesis, Ng. Seng Shin, Reduction of total harmonic distortion in torque characteristics for improvement of torque ripple in two phase side by side brushless DC motor, 2013.
18. MSc Thesis, Babahamou Hamza, "Design of an assisted-robotic arm for thyroid cancer diagnosis", 2013.
19. PhD Thesis, Meftah Salem M AlFatni, "Real Time Oil Palm Fruit Bunch Grading System Using Image Processing technique", 2013.
20. MSc Thesis, Razieh Khanaki, "Maximum power tracking using artificial neural network for photovoltaic standalone system", 2014.
21. PhD Thesis, Faisul Arif bin Ahmad, "Foraging optimization in autonomous recharging of mobile multi robot inspired by honeybee algorithm", 2014
22. PhD Thesis, Shahrooz hajiGorbani, "Dual search maximum power point algorithm based on mathematical analysis under partially shaded condition", 2016.
23. PhD Thesis, Rezazadeh Mehrjou, "Broken rotor bar fault detection in line start in PM synchronous motor", 2016.
24. PhD Thesis, Masoud Ahmadipour (GS47645), "An Islanding detection scheme based on slantlet transform and ridgelet probabilistic neural network", 2019.
25. PhD Thesis, Faranadia binti Abdul Haris (GS50148), "Improved criteria determination of an automated negative lightning return strokes characterisation using brute-force search algorithm", 2021.
26. PhD Thesis, Anith Khairunnisa binti Ghazali (GS52664), "Regenerative braking model for electric vehicles with modified super twisting sliding mode control", 2021.

V. External Examiner for MSc and PhD Thesis

1. MSc. Thesis, "Metallic Particle Detection in Gas Insulated Switchgear Apparatus Using Acoustic Technique", Feroz Ahmad, Universiti Teknologi Malaysia, 1998.
2. MSc. Thesis, "Design and Development of a Prototype Internet Based Telerobotics", Mohamad Fauzi bin Zakaria, Universiti Teknologi Malaysia, 2002.
3. MSc. Thesis, "An Implementation of a Knowledge-based System Method to an Active Force Control Robotic Scheme", Endra Pitowarno, Universiti Teknologi Malaysia, 2002.
4. MSc. Thesis, "Development of Decentralised Reactive Control Algorithm for Multi-Agent Mobile Robots System for Cooperative Task Achievement", Mohd Ridzuan bin Ahmad, Universiti Teknologi Malaysia, 2003.

5. MSc. Thesis, "Design of real-time software for mobile robot using object-oriented methodology", Zulkifli bin Husin, Universiti Teknologi Malaysia, 2004.
6. MSc. Thesis, "Human robot interface on bluetooth enabled mobile robot via portable device", Yeong Che Fai, Universiti Teknologi Malaysia, 2004.
7. MSc. Thesis, "Rekabentuk perkakasan system pengawal untuk robot dalam air", Zainah binti Md. Zain, Universiti Sains Malaysia, 2004.
8. MSc. Thesis, "Implementation of Direct Torque Control of Induction Machines Utilizing Didital Signal Processor (DSP) and Field Programmable Gate Arrays (FPGA)", Toh Chuen Ling, Universiti Teknologi Malaysia, 2005.
9. MSc. Thesis, "Development of Real Time Object Colour Identification for Blind Navigation, Rosalyn R. Porle, Universiti Malaysia Sabah, 2005.
10. MSc. Thesis, "Room Recognition Using Vision and Artificial Neural Network for Mobile Robot Localization, Eileen Su Lee Ming, Universiti Teknologi Malaysia, 2005.
11. MSc. Thesis, "Modelling and Control of an Intelligent Antilock Braking System", Lutfi Wijaya, Universiti Teknologi Malaysia, 2005.
12. MSc Thesis, "Design and Development of Vision based Automated Microchip Inspection System", Htay Myint Naing@ Mohd. Omer, International Islamic University Malaysia, 2005.
13. MSc Thesis, "Modeling and Simulation of Energy Management System for Series Hybrid Electric Vehicle" , Salisa bt. Abdul Rahman, Universiti Teknologi Petronas, 2006.
14. MSc Thesis, "Rekabentuk sistem pembacaan meter kilowatt jam secara telemetri", Universiti Sains Malaysia Suhaili Alifuddin, 2006.
15. MSc Thesis, Hasimah Ali, "Design and Development of Integrated Biometric System for Security and Access Control", International Islamic University Malaysia, 2007.
16. MSc Thesis, Baharuddin bin Ismail, "Design and Development of the PWM Switching Pulses for Single Phase Full Bridge Inverter Application", Universiti Sains Malaysia, 2008.
17. MSc Thesis, Noridah binti Alias, "Pembangunan Teknik Pensuisan untuk Aplikasi Penyongsang Satu Fasa dan Tiga Fasa", Universiti Sains Malaysia, 2008.
18. MSc Thesis, Edwin Sim Yih Shyang, "A Pulse Width Modulation Fluid Dispensing System with Genetic Algorithm Dispensing Parameter Fine Tuning", Universiti Tenaga Nasional, 2008.
19. MSc Thesis, Marni Azira bt. Markom, "Feasibility Study of Utilising Electronic nose to Detect BSR Disease in Oil Palm Plantation", Universiti Malaysia Perlis, 2009.

20. MSc Thesis, Nadira bt. Nordin, "Image based virtual input technique for robotic platform control", Universiti Sains Malaysia, 2009.
21. MSc Thesis, Lim Chen Kim, "Visual Language Framework for Musical Rendering Using L-System", Universiti Sains Malaysia, 2010.
22. MSc Thesis, Jervin Khoo Kay Yuen, "Optimizing foreground and background color using firefly algorithm", Universiti Sains Malaysia, 2010.
23. MSc Thesis, Ching Siew Li, "Colour Transformation Algorithm on website images for the colour blind", Universiti Sains Malaysia, 2010.
24. MSc Thesis, Azira binti Adnan, "Merekabentuk dan membangunkan motor arus terus magnet kekal tanpa berus dengan pemutar luar untuk basikal elektrik", Universiti Sains Malaysia, 2011.
25. PhD Thesis, Osama Mohd radi Alia, "Harmony Search - Based Fuzzy Clustering Algorithm for Image Segmentation", Universiti Sains Malaysia, 2011.
26. PhD Thesis, "Human mimicking sensor fusion for quality assessment of agro Product", UniMAP, 2011.
27. MSc, Ali H. Gazala, "Cancer Decision Support System", MUST, 2011.
28. PhD, Koay loke Kean, "Design and optimization of mechanically resonant motor and close loop control system for light dispersion applications", USM, 2012.
29. MSc, Rosmazi Rosli, "Active force control with literature learning algorithms for a vehicle suspension system", UTM, 2012.
30. MSc, Wong Toh Tung, "Winch Bench Active Heave compensation for load transfer in overhead crane system", UTM, 2012.
31. MSc Thesis, Asiegbu Geoffrey Ogadimma, "Electrical Power Defect Detection Using Thermal Image Technology", Universiti Malaysia Pahang, 2013.
32. MSc Thesis, Tan Earn Tzeh, "Hardware Implementation of Artificial neural Network on Field Programmable Gate Array for Sulfate-reducing Bacteria Detection", Universiti Sains Malaysia, 2013.
33. MSc Thesis, Rosmazi bin Rosli, "Active Force Control with Iterative Learning Controller Algorithm for a Vehicle Suspension", Universiti Teknologi Malaysia, 2013.
34. PhD Thesis, Koay Loke Kean, "Development and Analysis of a non-MEMS Torsional Mechanism Linear Resonant Scanner", Universiti Sains Malaysia, 2013.
35. MSc Thesis, Siti Noormiza Mat Isa, "Simplified Fuzzy Logic Control of Sinusoidal Permanent Magnet Synchronous Motor Drives", Universiti Teknikal Malaysia Melaka, 2013.
36. MSc Thesis, Mohd Razemy Mohd Raffay, "Real Time Monitoring of Dissolved Ammonia for Aquaculture Application", Universiti Sains Malaysia, 2014.

37. MSc Thesis, Nurliyana bt. Baharin, "Strategies to Manage the Impact of High PHEV Penetration to the Grid", Universiti Tenaga Nasional, 2014.
38. MSc Thesis, Mohamed Tahir Ahmed Shoani, "Authentication Based Security Robot Incorporating Omnidirectional Vision", UTM, 2015.
39. MSc Thesis, Wan Nur Farhanah bt. Wan Zakaria, "Vision-based Elevator Ascertainment System", UMP, 2015.
40. PhD Thesis, Nik Ahmad Akram bin Nik Zulkepli, "Real-time Unsupervised Incremental Support Vector Machine For Oil And Gas Pipeline NDT System", University of Nottingham, 2015.
41. PhD Thesis, Pavaneh Esmaili, "Coordinate two robot manipulators for handling object", UTM, 2016.
42. MSc Thesis, Mohammad Azrai B. Mohd. Norrazi, "Multi Robot Formation Algorithm Based on Leader Following Behaviour and Virtual Structure Approach", UTM 2016
43. MSc Thesis, Mohd Muhaimin bin Mahmood, "Vision Based Automated Formation for Multi Robot Formation", UTM 2016.
44. PhD Thesis, Nor Azura bt Shamsudin, "Novel Topologies of Series Resonant and LCC Resonant DC to DC Converter for High Output Voltage Application, USM, 2016.
45. PhD Thesis, Shaharil bin Mad Saad, "An Integrated Indoor Air Quality Monitoring System with Sources of Pollution Recognition and Enhanced Indoor Quality Index", UniMAP, 2016.
46. PhD Thesis, Aseef Iqbal, "Human Robot Interaction Using decision theoretic Planning via Markov Decision Process", IIUM, 2016.
47. PhD Thesis, Puvaneswari G, "Multiple Parametric and Catastrophic Faults detection in Linear and Nonlinear Analog Circuits:, Anna University, Chennai, India, 2016.
48. PhD Thesis, Dhiaa Halboot Muhsen (PE20527), "Optimal Modelling and Sizing of Photovoltaic Water Pumping System using Differential Evolution Algorithms" for Doctor of Philosophy in Engineering", Uniten, 2016.
49. PhD Thesis, Muhammad Izwan Fahmi Romli, "Solar Energy Management System with Supercapacitors for Rural Applications", The University of Nottingham Malaysia, 2016.
50. PhD Thesis, Farid Arafat Azidin, Universiti Kebangsaan Malaysia, 2016.
51. Master of Engineering Science Thesis, Mohammad Nur Ismanto, "Web Controlled Home Automation System", Nilai University, 2017.
52. MSc Thesis, Mohammad Azrai B. Mohd. Norrazi, "Multi Robot Formation Algorithm Based on Leader Following Behaviour and Virtual Structure Approach" resubmit, UTM 2017.

53. PhD Thesis, EKHLAS Mhawi Thajeel, “Investigation of Shunt active power filter for harmonic suppression and reactive power compensation based on artificial intelligent and zero crossing controller”, UMP, 2017.
54. PhD Thesis, Gowrishankar Kasilingam (**PE20528**), “Design of Coordinated Controller using Novel Algorithms for Synchronous Machine Speed Control”, Uniten, 2017.
55. PhD Thesis, **Muhammad Izuan Fahmi Romli**, “Solar Energy Management System with Supercapacitors for Rural Applications”, Nottingham University, 2017.
56. PhD Thesis, Mohd Khairi John Bin Abdullah “Improving Machine Vision Crack Package Detection with SVM” Nottingham University, 2018.
57. PhD Thesis, Muhammad Faizal bin Abdullah, “Design and Development of Bidirectional CLLC Resonant Converter for Uninterruptible Power Supply Application”, Universiti Sains Malaysia, 2018.
58. PhD Thesis, Ravichandra Kunugali Rangappa, “Design of Hybrid Cooling System for operated vehicles using design of experiments”, UTM, 2018.
59. PhD Thesis, John Chembukkavu, “An efficient design to improve power quality for universal nano grid by using modified dual active bridge and adaptive fuzzy”, Karpagam Academy of Higher Education, Coimbatore, Tamilnadu, India, 2019.
60. PhD Thesis, Rajesh S. K., “Improving the power quality of IEEE 30 HVDC Bus system based on power signal stability method”, Karpagam Academy of Higher Education, Coimbatore, Tamilnadu, India, 2019.
61. PhD Thesis, Nayeem Md. Lutful Huq, “Design and analysis of snake robot using snake scale”, International Islamic University Malaysia, 2019.
62. PhD Thesis, Gowrishankar Kasilingam, “Design of Coordinated Controller using Novel Algorithms for Synchronous Machine Speed Control”, Unisersiti Tenaga Nasional UNITEN, 2019.
63. PhD Thesis, Ali Mohammed Abdal-Kadhim, “Design And Modelling Of An Energy Aware Dynamic Management For Wireless Sensor Node With Dual Harvesters”, Universiti Teknikal Malaysia Melaka 2019.
64. PhD Thesis, Ahmad Fuad Abdul Aziz, “Compensation Circuit of Inductively Coupled Power Transfer for Electric Vehicle Wireless Charging Application”, University Technology PETRONAS, 2020.
65. PhD Thesis, Shawgi Younis Ahmed Mounis, “Assist as Needed Controller Strategy for Upper Limb Rehabilitation Robot based on Subjects Functional Ability”, International Islamic University Malaysia, 2020.
66. PhD Thesis, Adrian Tan Soon Theam, “Model Predictive Control of Single phase split source interter”, Univsiti Sains Malaysia, 2020.

67. PhD Thesis, Mohd Khairi John Bin Abdullah, "Improving Machine Vision Crack Die Detection with Multi-Kernel Learning SVM", Nottingham University, Malaysia campus, reviva, 2021.
68. PhD Thesis, Nagesh B K, "Performance Evaluation of Battery and Distributed Ultra-Capacitor Configured Drive-Train for Electric Vehicle", Visvesvaraya Technological University, Belagavi, Karnataka State, India, 2021.
69. PhD Thesis, Rajesh S K, "Improving the power quality of IEEE 30 HVDC bus system based on power signal stability method", Karpagam Academy of Higher Education, Coimbatore, Tamil Nadu, India, 2021.

W. Book, Journal and Conference Papers Reviewer

1. Journal of Electrical Engineering Elekrika, an IEEE affiliated Journal for Electrical Engineering. Universiti Teknologi Malaysia.
Paper Title: Air to Underwater Free Space Laser Beam Communication
August 2001
2. Journal of Technology Series A. Mechanical Engineering, Universiti Teknologi Malaysia.
Paper Title: Control of a Robot Arm Using Iterative Learning Algorithm with a Stopping Criterion, 2002
3. Proceeding of 2nd. World Engineering Congress 2002,
Paper Title: Trends in Power Electronics
March 2002
4. Proceeding of 2nd. World Engineering Congress 2002,
Paper Title: Electric Stress Control Around a Conical Spacer Used in Gas Insulated Substations, March 2002.
5. Proceeding of 2nd. World Engineering Congress 2002,
Paper Title: The Effect of Soil Thermal Resistivity on the Level of Partial Discharge in XLPE Underground Power Cable, March 2002.
6. Proceeding of 2nd. World Engineering Congress 2002,
Paper Title: Simulation of Lightning Surges on Tower Transmission Using PSCAD/EMTDC: A Comparative Study, Feb. 2002.
7. Proceeding of 2nd. World Engineering Congress 2002,
Paper Title: Electric Stress Control Around a Conical Spacer Used in Gas Insulated Substations, Feb. 2002.
8. Proceeding of 2nd. World Engineering Congress 2002
Paper Title: The Prediction of Electromagnetic Compatibility Using the Transmission Line Matrix Technique, Feb. 2002.

9. Proceeding of 2nd. World Engineering Congress 2002
Paper Title: The Effect of Soil Thermal Resistivity on the Level of Partial Discharge in XLPE Underground Power Cable, Jan. 2002.
10. Proceeding of 2nd. World Engineering Congress 2002
Paper Title: Simulation and Application of Voltage Sag Regulator, Jan. 2002
11. Proceeding of 2nd. World Engineering Congress 2002
Paper Title: Cost Effective Design of Sealed CO₂ Laser, Jan. 2002.
12. Journal of Technology Series D. Universiti Teknologi Malaysia, 2002
Paper Title: Sliding Mode Control of Active Suspension System.
13. “Design of a mobile platform for overhead detectors of road vehicle”, International Journal of Mechanical Engineering Education, UMIST, 2004.
14. “Voltage Regulation of UPS, Journal of Industrial Technology”, Sirim, 2004.
15. “Harmonic Reduction in three-phase single switch power factor correction circuit”, Journal of Industrial Technology, Sirim, 2004.
16. “Model-based adaptive control of piezoelectric actuation systems”, 9th International Conf. On Mechatronics Technology 2005.
17. “Modelling and Simulation of Direct Drive Wheel Motor Hybrid Electric Vehicle”, International Advanced Technology Congress 2005.
18. “Active power factor correction in single-phase ac/dc converter based on controlled boost regulator”, International Advanced Technology Congress 2005.
19. “A new algorithm for car plate location detection”, International Advanced Technology Congress 2005.
20. “Microcontroller based variable frequency power inverter”, International Advanced Technology Congress 2005.
21. “Crack detection on IC package with decision making methods: MLP neural network classifier and rule based method”, Technology Journal, UTM, 2006.
22. Modeling torque of single cylinder diesel engine, 3rd. International Conf. on Artificial Intelligence in Engineering and Technology 2006, UMS, Sabah, 22-24 Nov. 2006.
23. Analysis of a two-dimensional negative frequency model in the context of phasor theory, Australian Universities Power Engineering Conference 2006.
24. “Carrier to interference power ratio enhancement in OFDM system”, Academy of Sciences Malaysia Science Journal, 2006.

25. “Improved methods for transient stability assessment of a power system using PNN and LS-SVM” 2nd. Intelligent systems and information technology symposium 2007.
26. “Vibration and Input Tracking Control of a Flexible Manipulator”, *Pertanika Journal of Science and Technology*, 2008.
27. “Design of a Dual Smart Micro-UART on FPGA for SoC application (DSM-UART) *International Journal of Computer and Electrical Engineering*, Elsevier, 2008.
28. “Computational Modelling for Solid-State variable-Frequency Induction Motor Drive – II, *International Journal of Modelling and Simulation in Engineering*, 2008.
29. “Fabrication and Characterization of cadmium sulphide/polyaniline nanocomposites for organic photovoltaic application”, *International Conf. On Composite material nano Structure*, 2008.
30. “CNG Combustion study under ICE conditions part 1: Using of Quasi-Dimensional Modelling”, *Pertanika Journal*, 2008.
31. “Fast and Accurate Estimate single event transient voltage pulses from transient currents induced by heavy ion”, *International Conf. Of Asia Modelling Symposium* 2008.
32. “Hybrid fuzzy logic control with input shaping for input tracking and sway suppression of a gantry crane system”, *Science Alert*, 2008.
33. “Early Behaviour modelling for control systems”, *European modelling symposium* 09.
34. “Creation and testing of calibration procedure for combining of coordination system of handling robot and stationed video camera”, *IJMEE*, 2009.
35. “Mechanical design and analysis of all terrain vehicle”, *Journal teknologi*, 2009
36. “Hybrid control scheme using input shaping and full state feedback for a flexible manipulator”, *Journal Sains malaysia*, 2009.
37. “Using fuzzy logic based power management in design of a parallel hybrid electric vehicle”, *International Journal of Alternative Propulsion*, 2009.
38. “Design of a dual smart micro-uart on fpga for soc application”, *Journal of Computers and Electrical Engineering*, 2009.
39. “Region of interest Tracking in Video”, *ICTACT Journal of Image and Video processing*, 2010.
40. “Engineering Practice: OrCAD PSpice and PCB Fabrication Manual”, Penerbit USM, 19 Feb 2020.
41. “The robot operating system (ROS) for the development of agriculture robots and automated systems” by Sami Salama Hussen Hajjaj, UPM Press, 20 Nov 2020.

42. “Secure Hierarchical Deterministic Key Generation Scheme in Blockchain-based Medical Environment”, Asia Human-Computer Interaction Symposium (AHMIS 2020), 29-31 May, 2020, Shanghai, China.

X. Journal Editor / International Conference Advisory Board

1. Editor for the Proceeding of 2nd. World Engineering Congress 2002 : Electrical and Electronic Engineering.
2. Member of Editorial Board for ICTACT Journal of Image and Video Processing, 2010.
3. Member of Editorial Board, Journal of Computing and Applications, International Association for Computer Scientists and Engineers (IACSE), 2010.
4. Chief Editor for the Proceeding of International Conference on Sustainable Mobility 2010, SAE International Malaysia Section, 1st – 3rd December 2010.
5. Chief Editor of International Automotive Engineering and Technology Journal, SAE International Malaysia Section, 2012 – 2015.
6. Member of Editorial Board, Majlesi Journal of Energy Management, Iran, 2014
7. Guest Editor, Sensor and Transducers Journal, 2015
8. Member of Editorial Board, Proceeding of Southeast Asia Safer Mobility Symposium, SAE International Malaysia, 2013.
9. Member of Editorial Board, Journal of Power Systems and Process Control, 2017.
10. Associate Editor, Journal of Society of Automotive Engineers Malaysia 2017 - 2019.
11. Local Editorial Board Members, ASEAN Journal of Automotive Technology, 2019-2022. DRB-HICOM University.
12. Editorial Board Members, Insight – Electronic, PiscoMed Publishing Pte Ltd, 2019 – 2022.
13. Technical Scientific Committee "International Conference on Renewable Energy & Emerging Technologies" organized by IFERP, held at Aston Priority Simatupang Hotel & Conference Center, Jakarta, Indonesia on November 13th-14th 2019.
14. International Advisory Board, 23rd World Conference on Applied Sciences, Engineering, and Technology, 24th -25th October 2019 in Melbourne, Australia.

15. **Member of Technical Committee**, 1st. Asia Human-Computer Interaction Symposium (AHMIS 2020), 29-31 May, 2020 in Shanghai, China.
16. **International Advisory Board**, IEEE Virtual International Conference on “Innovative Applications of Computational Intelligence on Power, Energy and Controls with their Impact on Humanity” (VCIPECH-2020), KIET Group of Institutions, Ghaziabad, New Delhi, India on November 06-07, 2020.
17. **Member of Technical Committee**, 2nd Asia Human-Computer Interaction Symposium (AHMIS 2021), 26-28 May, 2021 in Shanghai, China.
18. **Nasional Advisory Committee Member**, 4th International Conference on Multi-Disciplinary Research Studies and Education, 29th & 30th June 2021, Institute For Engineering Research and Publication.

Y. Invited Jury

1. Jury, Research and Innovation 2003 Exhibition, Universiti Kebangsaan Malaysia, 3-5 July 2003.
2. Jury, Universiti Teknikal Malaysia Melaka Exhibition 2008, 27-30 March 2008, MITC, Melaka.
3. Jury, Myskills 2008 Competition (Mobile Robot), Ministry of Human Resource, CIIAST, Shah Alam, 5th May – 8th May 2008.
4. Chief Jury, Myskills 2009 Competition (Mobile Robot), Ministry of Human Resource, CIIAST, Shah Alam, 30 April 2009.
5. Jury, 21st. International Invention, Innovation & Technology Exhibition (ITEX2010), Kuala Lumpur, 14th May 2010.
6. Jury, Shell Eco-marathon ASIA 2010, 8th. – 10th. July 2010.
7. Chief Judge, Formula Varsity 2010, 8 – Oct. 2010, Melaka.
8. Jury, 22nd International Invention, Innovation & Technology Exhibition (ITEX2011), Kuala Lumpur, 20th. – 22nd May 2011.
9. Jury, Shell Eco-marathon ASIA 2011, 8th. – 9th. July 2011.
10. Member of Technical Committee of Proton Green Mobility Challenge 2012.
11. Chief Judge On Track Awards, Proton Green Mobility Challenge 2012, 5 – 7 Oct. 2012.
12. Off Track Award Jury, Shell Eco-marathon ASIA 2012, 5th. – 7th. July 2012.
13. Chief Technical Judge, Formula Varsity 2012, 12 – 14 Oct. 2012, Melaka.
14. Jury, 23rd International Invention, Innovation & Technology Exhibition (ITEX2012), Kuala Lumpur, 17th. – 19th. May 2012.
15. Jury, 24th. International Invention, Innovation & Technology Exhibition (ITEX2013), Kuala Lumpur, 2013.
16. Jury, Shell Eco-marathon ASIA 2013.
17. Chief Judge, IPMARace 2013, Student Formula, Melaka International Motorsport Circuit, 3rd – 6th Oct. 2013.
18. Jury, 25th. International Invention, Innovation & Technology Exhibition (ITEX2014), Kuala Lumpur, 2014.

19. Jury, 26th. International Invention, Innovation & Technology Exhibition (ITEX2015), Kuala Lumpur, 21st. May 2015.
20. Chief Technical Judge, Formula Varsity 2015, 22nd – 24th May 2015.
21. Jury, 27th. International Invention, Innovation & Technology Exhibition (ITEX2016), Kuala Lumpur, 12 May 2016.
22. Jury, 28th. International Invention, Innovation & Technology Exhibition (ITEX2017), Kuala Lumpur, 11 May 2017.
23. Jury of Best Paper Presenter at International Conference on Sustainable Mobility 2017, Kuala Lumpur, 12-13 July 2017.
24. Jury, 29th. International Invention, Innovation & Technology Exhibition (ITEX2018), Kuala Lumpur, 10 May 2018.
25. Jury, 30th. International Invention, Innovation & Technology Exhibition (ITEX2019), Kuala Lumpur, 2 May 2019.
26. Jury, 1st IEEE Five Minutes Final Year Project (5MFYP) Competition, 21st Oct 2020.

Z. Academic Program External Examiner

1. External Examiner for Diploma in Electrical and Electronic Engineering, SEGi University College, 2008.
2. External Examiner for BEng in Electrical and Electronic Engineering, SEGi University College, 2008.
3. External Validation of Examination Question Papers for Bec. Of Engineering technology in Mechatronics, Bac. Of Engineering Technology in Industrial Automation & Robotics and Diploma of Eng. Tech. in Automated System and Maintenance, University Kuala Lumpur, Malaysia France Institute, 2009.
4. Member of board of studies – Master of Science degree program in Electronic Engineering, International Islamic University Malaysia, 2012.
5. External Examiner, Diploma in Electrical and Electronic Engineering, HELP, College of Arts and Technology, 2012-2014.
6. External Examiner, Diploma in Electrical and Electronic Engineering, HELP, College of Arts and Technology, 2014-2016.
7. External Examiner for the School of Electrical Systems, MSc in Electrical Power Engineering (Mixed Mode) Universiti Malaysia Perlis, 2014 -2016.
8. External Examiner for BEng in Electrical and Electronic Engineering, SEGi University College, 2014/2016.
9. MQA Panel Assessor, 1998 – up to date.
10. External Examiner for Bachelor of Electrical Engineering (Power Electronics & Drives), Universiti Teknikal Malaysia Melaka, 2014 -2016.

11. External Examiner for Bachelor of Electrical Engineering (Power Electronics & Drives), Universiti Teknikal Malaysia Melaka, 1 Sept. 2016 – 31 August 2018.
12. External Examiner for Bachelor of Electrical and Electronic Engineering, Nilai University, 1 March 2016 – 28 Feb 2018.
13. External Examiner for Diploma in Electrical and Electronic Engineering, Nilai University, 1 May 2016 – 30 April 2018.
14. External Advisor for Bachelor of Engineering (Hons) in Electronics and Electrical Engineering, SEGi University, 2019/2020.
15. External Advisor for Bachelor of Electrical and Electronics Engineering with Honours, SEGi University, 2020/2024.

AA. Evaluation Panel for Research Grant Proposal at National Level

1. Technical Panel Chairman for Industrial Research Grant Scheme (Project: Development of Electronic Sensorless Closed Loop Temperature Controller, Ministry of Science, Technology and Environment 2002).
2. Multimedia Super Corridor Research and development Grant Scheme (MGS) Technology Assessment Consultant - Technology Assessment Report for Paracorp Technology Sdn Bhd – Enterprise Telemetry Application (ETA), Multimedia Development Corporation, 9 Oct. 2003.
3. Technical Evaluation Team Members for Program 03-99-02-0000 PR0024/04 “Design, Development and Implementation of Production Prototype Linear Generator (LG) for Hybrid Vehicle or Other Applications”, Ministry of Science, Technology and Environment, 23 – 25 August 2005.
4. Chairman of Evaluation Panel for Research Project Proposal RMK9, Eng. Faculty and ITMA (Sector Industry) 9-11 Jun, 2006, Hotel Pan Pacific, KLIA,
5. Sciencefund ICT Cluster Technology Assessment Consultant, Multimedia Development Corporation Sdn. Bhd 14 and 19 Sept. 2006
6. Evaluation Panel for University research policy, Deputy Vice Chancellor’s (Research and Innovation) office UPM, 2006.
7. Evaluation panel for FRGS research proposal, UPM, 2007.
8. Evaluation panel for Science Fund research proposal UPM, 2007.
9. Evaluation Panel for Fundamental research grant scheme (FRGS) 1/2008, 7 April 2008.
10. Fundamental research grant scheme (FRGS), “A study to enhance an oil palm productivity using nitrogen and apparent electrical conductivity sensor for precision farming”, 2009.

11. Research university grant (RUGS), “EEG Signal interpretation system development for brain-computer interface application in mobile robots”, 2009.
12. Research university grant (RUGS), “Further work on the design and development of remotely controlled high clearance buoyant tool carrier flooded rice field”, 2010.
13. Member of Expert Evaluation Committee for Research Grant, Ministry of Science, Technology and Innovation, 1 Mac 2012 – 31 Dec. 2015.
14. Member of Evaluation Committee for Research Grant, Universiti Putra Malaysia, 2012.
15. Member of Research Progress Evaluation Committee for Prototype Research Grant (PRGS), MOHE 2012.
16. Member of evaluation committee for Technofund, Ministry of Science, Technology and Innovation, 16 May 2013.
17. Member of evaluation committee for Technofund – Industry 7/2013, Ministry of Science, Technology and Innovation, 9 Oct 2013.
18. Member of evaluation committee for Technofund – Industry 7/2013, Ministry of Science, Technology and Innovation, 30 Oct 2013.
19. Member of evaluation committee for Science fund – Industry 4/2013, Ministry of Science, Technology and Innovation, 28 Ogos 2013.
20. Member of evaluation committee for Science fund – Industry 1/2013, Ministry of Science, Technology and Innovation, 24 April 2013.
21. Member of evaluation committee (LRGS project and financial progress), Ministry of higher education, 20 Jun 2013, PICC, Putrajaya.
22. Member of evaluation committee for Science fund – Industry 1/2013, Ministry of Science, Technology and Innovation, 2-3 Sept. 2013.
23. Member of evaluation committee for Science fund – Industry 2013, Ministry of Science, Technology and Innovation, 7 Jun 2013.
24. Member of evaluation committee for Science fund – Industry, Ministry of Science, Technology and Innovation, 2 April 2013.
25. Member of evaluation committee for Science fund – Industry, Ministry of Science, Technology and Innovation, 13 March 2013.
26. Member of evaluation committee for ScienceFund 2/2013, RMC, UPM, 8-9 Mei 2013.
27. Member of evaluation committee for ScienceFund 3/2013, RMC, UPM, 11-12 July 2013.
28. Member of evaluation committee for ScienceFund 3/2013- re-evaluation, RMC, UPM, 31 July 2013.
29. Member of evaluation committee for ERGS 1/2013, Faculty of Eng, UPM, 2013.
30. Member of evaluation committee for FRGS 1/2013, Faculty of Eng, UPM, 2013.
31. Panel of Evaluation committee for Research Grant, UPM, 2014.
32. Panel of Evaluation committee for Research Grant, UPM, 2014.
33. Panel of Evaluation committee for Research Grant (Technofund, Science Fund, Ministry of Science, Technology and Innovation, 2014.

34. Panel of Evaluation committee for Research Grant (LRGS, Fundamental Research Fund) Ministry of Education, 2014.
35. Panel of Evaluation committee for Research Grant (Technofund, Science Fund, Ministry of Science, Technology and Innovation, 2015.
36. Panel of Evaluation committee for Research Grant, UPM, 2015.
37. Panel of Evaluation committee for Research Grant (Technofund, Science Fund, Ministry of Science, Technology and Innovation, 2016.
38. Panel of Evaluation committee for Research Grant, UPM, 2016.
39. Panel of Evaluation committee for Research Grant, UPM, 2017.
40. Taylor's University internal grant, "Stress Monitoring on Vehicles Driveshaft", 2017.
41. Panel of Evaluation committee for Special Research Grant Post COVID-19 2020, (Impact on 4IR Implementation), Ministry of Higher Education, Malaysia.
42. Panel of Evaluation committee for PROGRAM LRGS FASA 1 TAHUN 2020, Universiti Malaya, 17 June 2020.
43. Panel of Evaluation committee for Research Grant, UPM, 2020.
44. Panel of Evaluation committee for Research Grant, Faculty of Engineering UPM, 2020.

AB. Evaluation Panel for Research Grant Proposal at International Level

1. Member of Evaluation Committee for Research Grant, Portuguese Foundation for Science and Technology (FCT), 2012.

AC. Research Associate at Research Centre

1. Research Associate, Centre of Advanced power and Energy Research, UPM, 1Nov 2013 – 31 Oct. 2015.
Project: Smart Grid.
2. Research Associate, TNB Research Sdn. Bhd. Bangi Selangor Malaysia, 1st August 2001 – 30th April 2002.
Project: HVDC Transmission Project and Electric Vehicle Project.
3. Program Head (Electronic Control Unit for CNG/DI vehicleProject (Advanced Automotive Technology Lab, Institute of Advanced Technology), 2005.
4. Research Associate, Centre of Automotive Research, National University of Malaysia, 2010

AD. Standard Technical Committee

- 1.SIRIM Technical Committee on Petroleum Lubricant

2. IEEE Std. 1415 “IEEE Guide for Induction Machinery Maintenance Testing and Failure Analysis.

AE. Assessor for Professorial Position

1. Universiti Kuala Lumpur, 2013.
2. Universiti Malaysia Perlis, 2014.
3. Universiti Teknologi Malaysia, 2014.
4. Universiti Teknologi Malaysia, 2015
5. International Islamic University of Malaysia, 2015.
6. Universiti Sultan Zainal Abidin, 2015.
7. Universiti Teknologi Malaysia, 2016.
8. Universiti Teknikal Melaka (UTeM), 2016.
9. Universiti Malaysia Pahang, 2016.
10. Universiti Teknologi Malaysia, 2017.
11. Universiti Malaysia Sarawak, 2019.
12. Universiti Sains Islam Malaysia, 2019
13. UTM, 2019
14. UTM, 2020
15. UTM, 2021
16. UNIMAP, 2021.

AF. Industry Visit

1. Escate Electronics Sdn. Bhd, Penang, 12th August 2013.
2. National Instruments Penang, 12th August 2013.
3. Intel, Chandler, Arizona, USA on March 10-13, 2015.
4. Intel, Penang, Malaysia.
5. Proton, Malaysia.
6. Geely Research Institute, Shanghai, China, 19 Nov. 2018.
7. ASK Automotive Sound and Communication Co. Ltd. Ningbo, China, 19 Nov. 2018.
8. Tuopu Automotive Parts Co. Ltd, Ningbo, China, 20 Nov. 2018.
9. Xinquan Automotive Trim Co. Ltd., Jiangsu, China, 21. Nov. 2018.
10. Kunshan Eson Precision Eng. Co. Ltd., China, 22 Nov. 2018
11. BWI. Shanghai, China, 22 Nov 2018.

AG. Sport

1. Played soccer for the Department of Electrical and Electronic in Inter- Department Tournament, 2004.
2. Played futsal for the Department of Electrical and Electronic in Staf- Student Tournament, 2005.
3. Played volleyball for the Department in Inter-department Tournament, 2005.
1. Road runner, 3rd. place, veteran category, Faculty of Engineering, 2006.

2. Played soccer for inter-faculty competition, 2007
3. 1500m run, represented Engineering Faculty, 2007.
4. 400m X 4, veteran category, represented Engineering Faculty, 2008, silver medal.
5. Played soccer for inter-faculty competition, veteran category 2014, Universiti Putra Malaysia, Silver medal.

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