



Ir. Dr. Akhtar Razul Razali  
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Faculty of Mechanical Engineering,  
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### Academic Qualification

Postdoctoral in Micro-manufacturing (University of Strathclyde)  
Ph.D in Micro-manufacturing (University of Strathclyde)  
M. Eng. in Mechanical (Universiti Tun Hussien Onn Malaysia)  
B. Eng. in Mechanical (Universiti Teknologi Malaysia)

### Brief Profile

Name: Akhtar Razul Razali  
Address: 31, Lorong IM 11/6, Mahkota Heights, 25200. Kuantan. Pahang. Malaysia.  
D.O.B: 01/04/79

### Working Experiences / Appointment

Mechanical Principal, EAZ Consultant PLT – April 2017 – present  
Senior Lecturer, UMP – July 2010 – present  
Postdoctoral Researcher, University of Strathclyde – June 2010 – June 2012  
Lecturer, UMP – December 2004 – June 2010  
Tutor, UMP – April 2003 – November 2004  
Mechanical Engineer, MECIP (M) Sdn. Bhd. – June 2001 – March 2003

### Expert Area

Micro-manufacturing. Micro-forming, manufacturing, mechanical system design, mechatronic, machine control and design, coreless ironless electric generator, computer aided design and engineering, building services – cold water plumbing, fire protection system.

### Research Interest

Micro-manufacturing, micro-forming, advanced manufacturing processes, advanced materials processing, friction stir welding, industrial automation, home automation, machine design and control, alternative energy, finite element analysis, computer aided design and engineering, mechanical system design, coreless ironless electric generator.

### Research Project / Grant

#### RESEARCH RECORD

NO	RESEARCH GRANT	GRANT VALUE (RM)	TITLE	ROLE	STATUS	DATE FROM	DATE TO
1	FRGS/1/2017/TK05/UMS/02/1	99000	ENHANCEMENT OF CO <sub>2</sub> /CH <sub>4</sub> SEPARATION BY MIXED MATRIX MEMBRANES INCORPORATED WITH SURFACE-ETCHED AND 3-AMINOPROPYLTRIETHOXYSILANE-GRAFTED HALLOYSITE NANOTUBES(HNTS)	MEMBER	ONGOING	01-Aug-2017	31-Jul-2019
2	RDU160384	33500	MOTION CONTROL ALGORITHM DEVELOPMENT	MEMBER	ONGOING	25-Jun-2016	24-Jun-2018

			AND TESTING FOR A FREE-PISTON ENGINE GENERATOR				
3	RDU1703134	21000	DEVELOPMENT OF CONTROLLER FOR AN UNDERACTUATED AUTONOMOUS UNDERWATER VEHICLE (AUV)	MEMBER	ONGOING	20-Jun-2017	19-Jun-2019
4	RDU160137	115047	AN ALTERNATIVE MATHEMATICAL MODEL OF WELDING CURRENT TO PREDICT DEFECTS VIA SMALL SIGNAL ANALYSIS	MEMBER	COMPLETED	01-Aug-2016	31-Jul-2018
5	RDU160388	21000	INTELLIGENT ENERGY MANAGEMENT SYSTEM OF SERIES HYBRID ELECTRIC VEHICLE (HEV)	MEMBER	ONGOING	25-Jun-2016	24-Jun-2018
6	RDU160134	86960	THE EFFECT OF SOFT IRONCORE LAMINATION REMOVAL TOWARDS COGGING TORQUE IN AN ELECTRIC GENERATOR	LEADER	ONGOING	01-Aug-2016	31-Jul-2018
7	RDU160147	63800	ADAPTIVE ENERGYBASED IMPEDANCE CONTROL AND OPTIMAL KINODYNAMICS PLANNING FOR THE CLASS OF UNDERACTUATED EULER-LAGRANGE SYSTEM: STABLE TURNING PERIODIC MOTION CASES	MEMBER	ONGOING	01-Aug-2016	31-Jul-2018
8	RDU160397	34300	THERMAL BEHAVIOR STUDIES OF ELECTRICAL MACHINE FOR STEER-BY-WIRE AUTOMOTIVE APPLICATION	MEMBER	ONGOING	25-Jun-2016	24-Jun-2018
9	RDU160384	33500	MOTION CONTROL ALGORITHM DEVELOPMENT AND TESTING FOR A FREE-PISTON ENGINE GENERATOR	MEMBER	ONGOING	25-Jun-2016	24-Jun-2018
10	RDU160387	29050	DEVELOPMENT OF 3D PRINTING MACHINE CONTROLLER USING THE PREDEFINED CLOSEST-DISTANCE VOLUME INTERPOLATOR SYSTEM	MEMBER	ONGOING	25-Jun-2016	24-Jun-2018
11	RDU1603111	31050	DEVELOPMENT OF PORTABLE CHASSIS DYNAMOMETER FOR BATTERY POWERED MOTORCYCLE	MEMBER	ONGOING	25-Jun-2016	24-Jun-2018
12	RDU160355	33800	DEVELOPMENT OF A LOW POWER MICRO-SHEET-FORMING MACHINE FOR MICRO-PRODUCTS PRODUCTION	LEADER	COMPLETED	25-May-2016	24-May-2017

13	VACUUMSC HMELZE – VAC/HRA/GL /2016(02)*	100000	DEVELOPMENT OF HEAVY SPOOL LIFTING AND HANDLING AUTOMATED/REMOTE GUIDED VEHICLE	LEADER	ONGOING	01- Oct- 2015	31- Oct- 2017
14	COMSTECH- TWAS 14- 342-RGA*	26000	3PHASE IRONLESS CORELESS HDPE GENERATOR	LEADER	COMPLETED	22- Jun- 2015	21- Dec- 2016
15	RDU160356	30500	MODELING AND OPTIMIZATION OF MULTI- HOLES DRILLING PATH USING PARTICLE SWARM OPTIMIZATION	MEMBER	ONGOING	25- May- 2016	24- May- 2018
16	RDU150802	235000	DEVELOPMENT OF FORCE AND TEMPERATURE CONTROLLED FRICTION STIR WELDING MACHINE (FSW) FOR DISSIMILAR METAL JOINING APPLICATION	MEMBER	ONGOING	01- Dec- 2015	30- Nov- 2017
17	RDU150365	31606	DEVELOPMENT OF AN ALUMINIUM CORELESS IRONLESS GENERATOR FOR EV APPLICATIONS	LEADER	COMPLETED	01- Oct- 2015	24- May- 2017
18	RDU150348	33700	HYBRID REMOTELY CONTROLLED AND AUTOMONOUS ON HEAVY ROLL HANDLING AUTOMATIC GUIDED VEHICLE FOR NARROW AND CONFINE AREA	MEMBER	ONGOING	25- Jun- 2015	24- Jun- 2017
19	GRS150314	2000	SOLENOID ACTUATION FOR MICRO-SHEET-FORMING APPLICATION	LEADER	COMPLETED	15- Mar- 2015	14- Mar- 2017
20	GRS150320	3250	MANUFACTURING OF FUEL- LESS MOTION GENERATOR AND ELECTRIC GENERATION	LEADER	COMPLETED	15- Mar- 2015	14- Mar- 2017
21	GRS150319	2500	DEVELOPMENT OF CORELESS ELECTRICITY GENERATOR FOR AUTOMOTIVE ELECTRICITY REGENERATION	LEADER	COMPLETED	15- Mar- 2015	14- Mar- 2017
22	RDU141011	135915	PEMINDAHAN TEKNOLOGI SISTEM KAWALAN, REKABENTUK PERCETAKAN PLASTIK DAN PENGURUSAN KEJURUTERAAN DALAM INDUSTRI PLASTIK	MEMBER	COMPLETED	01- Sept- 2014	31- Aug- 2016
23	RDU140351	35000	COLLABORATION CONTROL ON HETEROGENEOUS ROVS FOR LAND-TO- UNDERWATER OPERATIONS: DRAINAGE AND IRRIGATION CASES	MEMBER	COMPLETED	25- Apr- 2014	24- Apr- 2016

24	GRS140347	2500	STUDY OF DISSIMILAR ALUMINIUM ALLOY AA6061 AND AA7075 WELD BY FRICTION STIR WELDING	LEADER	COMPLETED	25-Feb-2014	24-Feb-2016
25	RDU130145	98000	TO ENHANCE GRAPHITE NODULARITY OF MODIFIED DUCTILE NI-RESIST USING DIRECT INSERTION OF ALLOYING ELEMENTS DURING CASTING	MEMBER	COMPLETED	01-Dec-2013	30-Nov-2015
26	RDU131402	51742	TO DEVELOP A MODIFIED DUCTILE NI-RESIST ALLOY USING CASTING AUSTEMPERED PROCESS FOR ELEVATED TEMPERATURE COMPONENTS	MEMBER	COMPLETED	17-Sept-2013	16-Sept-2015
27	RDU130802	300000	DESIGN AND DEVELOPMENT OF PROTOTYPE PROOF OF 5 KW MODULAR VANADIUM REDOX FLOW BATTERY FOR VARIOUS APPLICATIONS	MEMBER	COMPLETED	15-Jul-2013	14-Jul-2015
28	RDU130344	36000	DEVELOPMENT OF THIN SHEET METAL MECHANICAL PROPERTIES DATABASE FOR MICRO-MANUFACTURING APPLICATION	LEADER	COMPLETED	15-Jun-2013	14-Jun-2015
29	RDU130315	39900	DEVELOPMENT OF A PERMANENT MAGNET MOTION DRIVER FOR ELECTRICITY POWER GENERATION AND VEHICLES	LEADER	COMPLETED	15-May-2013	14-May-2015
30	RDU130112	127000	ENHANCEMENT OF WELDABILITY IN LIGHT ALLOYS (A6061 & A7075) DISSIMILAR METAL WELDING	MEMBER	COMPLETED	01-Apr-2013	31-Mar-2015
31	RDU121409	50000	MECHANICAL AND METALLURGICAL CHARACTERIZATION OF FRICTION STIR WELDING JOINTS OF ALUMINIUM AND STEEL ALLOYS	MEMBER	COMPLETED	15-Dec-2012	14-Dec-2014

\*Geran antarabangsa / International grant

\*Geran industri / Industrial grant

### Professional Qualification / Membership / Affiliation / Experience

#### Professional Qualification:

Professional Engineer, Board of Engineers Malaysia, BEM – PE no. C115337

Postdoctoral Researcher at the University of Strathclyde in Micro-manufacturing research for the Department of Design, Manufacture and Engineering Management.

Automotive Engineering Centre (AEC) Fellow Researcher

EAC Reviewer Panel for Engineering Programme Accreditation

#### Membership of the followings:

Member of Board of Engineers Malaysia, BEM – reg. no. C115337

**Journals/Conferences/Symposium Reviewing/Organising Experiences:**

Reviewer of research proposal for Umm Al-Qura University, Mecca, Saudi Arabia  
 Reviewer for the Materials and Design Journal by Elsevier  
 Reviewer for the World Scientific and Engineering Academy and Society Journal  
 Reviewer for the World Scientific and Engineering Academy and Society Conferences  
 Reviewer for the International Journal of Mechanical Engineering and Applications  
 Reviewer for the Colloquium on Robotics, Unmanned Systems and Cybernetics  
 Reviewer for SciencePublishing Articles  
 Reviewer for ICMER Conference  
 Reviewer for the AiGEV Conference  
 Reviewer for the I\*PROMS 2008 Conference  
 Organising Member of the University of Strathclyde Research Presentation Day 2010  
 Colloquium 2010 Organiser for the Faculty of Engineering, Universiti Malaysia Pahang  
 Conference Sessional Chair 2010 at the Faculty of Mechanical Engineering of Universiti Malaysia Pahang  
 KUKTEM Expoconvo 2006 Invention Competition Jury  
 Postgraduate Coordinator for FKM UMP 2010  
 Executive Committee of 3<sup>rd</sup> UMP Convocation Ceremony 2008 – Escorts Officer  
 Exam Chief Invigilators for UMP  
 Member of the Publicity for the 2<sup>nd</sup> International Conference on Mechanical Engineering Research (ICMER2013)  
 Website sub-committee member for the 2<sup>nd</sup> International Conference on Mechanical Engineering Research (ICMER2013)  
 Industrial Training Coordinator for BMM Program FKM UMP 2012  
 Member of Organizing Committee for Special Hi-Tea Event with FKM UMP Industrial Partners/Network  
 Interviewer Panel for Finishing School Program for Fakulti Kejuruteraan Mekanikal UMP 2012  
 Interviewer Panel for Finishing School Program for Fakulti Kejuruteraan Pembuatan UMP 2013  
 Key organizer for SMK Tengku Panglima Perang Tengku Muhammad visits to FKM in April 2013  
 Faculty's organizing committee for Visiting Professor talks by Professor Hyunook Kim of University of Seoul  
 Taskforce Member of SAR Report for EAC Visit – FKM 2014  
 Secretariat for the Seminar on Advanced Powder Metallurgy for Biomedical Applications 2014  
 Writer, Research Article for Auto Inexss Issue 7 February 2014  
 International Conference on Mechanical Research (ICMER) 2015 – Head of sponsorship committee  
 Internal Auditor for FKM UMP (Certified Auditor by SIRIM)  
 EAC Panel Reviewer  
 ETAC Panel Reviewer

**Teaching Experience**

NO	SEMESTER	SUBJECT CODE	SUBJECT	CREDIT HOURS	TOTAL STUDENTS
<b>YEAR 2018</b>					
1	SEMESTER 1 SESSION 2017/2018	BMM4623	MECHANICAL SYSTEM DESIGN	3	7
2	SEMESTER 1 SESSION 2017/2018	BMA4704	INTEGRATED DESIGN PROJECT	4	31
3	SEMESTER 1 SESSION 2017/2018	BMM2433	ELECTRICAL & ELECTRONIC TECHNOLOGY	3	43
4	SEMESTER 1 SESSION 2017/2018	BTM3343	COMPUTER INTEGRATED MANUFACTURING	3	43
5	SEMESTER 1 SESSION 2017/2018	MME6143	MECHANICAL ENGINEERING DESIGN	3	12
<b>YEAR 2017</b>					

6	SEMESTER 2 SESSION 2016/2017	BMM4623	MECHANICAL SYSTEM DESIGN	3	28
7	SEMESTER 2 SESSION 2016/2017	BMA4704	INTEGRATED DESIGN PROJECT	4	30
8	SEMESTER 2 SESSION 2016/2017	BMM2433	ELECTRICAL & ELECTRONIC TECHNOLOGY	3	21
9	SEMESTER 1 SESSION 2016/2017	BTM3343	COMPUTER INTEGRATED MANUFACTURING	3	42
10	SEMESTER 1 SESSION 2016/2017	BMM2433	ELECTRICAL & ELECTRONIC TECHNOLOGY	3	61
<b>YEAR 2016</b>					
11	SEMESTER 2 SESSION 2015/2016	BHA3113	VEHICLE ELECTRONICS 1	3	23
12	SEMESTER 2 SESSION 2015/2016	BMM3613	AUTOMATIC CONTROL	3	46
<b>YEAR 2015</b>					
13	SEMESTER 1 SESI 2015/2016	MME6143	MECHANICAL ENGINEERING DESIGN	3	22
14	SEMESTER 1 SESSION 2015/2016	BMM3613	AUTOMATIC CONTROL	3	32
15	SEMESTER 1 SESSION 2015/2016	BTM3343	COMPUTER INTEGRATED MANUFACTURING	3	78
16	SEMESTER 1 SESSION 2015/2016	BMM2433	ELECTRICAL & ELECTRONIC TECHNOLOGY	3	40
17	SEMESTER 1 SESSION 2015/2016	DMM3999	INDUSTRIAL TRAINING	9	48
18	SEMESTER 1 SESSION 2015/2016	DMM3933	INDUSTRIAL TRAINING REPORT	3	48
19	SEMESTER 2 SESSION 2014/2015	BMM2433	ELECTRICAL & ELECTRONIC TECHNOLOGY	3	161
20	SEMESTER 2 SESI 2014/2015	MME6143	MECHANICAL ENGINEERING DESIGN	3	18
21	SEMESTER 2 SESSION 2014/2015	BHA3113	VEHICLE ELECTRONICS 1	3	19

YEAR 2014					
22	SEMESTER 1 SESSION 2014/2015	BMM2613	COMPUTER AIDED DESIGN	3	29
23	SEMESTER 1 SESSION 2014/2015	BMM2433	ELECTRICAL & ELECTRONIC TECHNOLOGY	3	63
24	SEMESTER 1 SESSION 2014/2015	DMM3999	INDUSTRIAL TRAINING	9	33
25	SEMESTER 1 SESSION 2014/2015	DMM3933	INDUSTRIAL TRAINING REPORT	3	33
26	SEMESTER 2 SESSION 2013/2014	BMM2613	COMPUTER AIDED DESIGN	3	31
27	SEMESTER 2 SESSION 2013/2014	BMM2433	ELECTRICAL & ELECTRONIC TECHNOLOGY	3	63
28	SEMESTER 2 SESSION 2013/2014	BMM3996	INDUSTRIAL TRAINING	6	1
29	SEMESTER 2 SESI 2013/2014	PMM6020	RESEARCH PROJECT 2	0	2
30	SEMESTER 2 SESI 2013/2014	MMM5020	RESEARCH PROJECT 2	0	1
YEAR 2013					
31	SEMESTER 1 SESSION 2013/2014	BMM2433	ELECTRICAL & ELECTRONIC TECHNOLOGY	3	130
32	SEMESTER 1 SESSION 2013/2014	BMM3996	INDUSTRIAL TRAINING	6	179
33	SEMESTER 1 SESSION 2013/2014	BMM4623	MECHANICAL SYSTEM DESIGN	3	59
34	SEMESTER 1 SESI 2013/2014	PMM6010	RESEARCH PROJECT 1	0	2
35	SEMESTER 1 SESI 2013/2014	MMM5010	RESEARCH PROJECT 1	0	1
36	SEMESTER 3 SESSION 2012/2013	BMM3996	INDUSTRIAL TRAINING	6	2
37	SEMESTER 2 SESSION 2012/2013	BMI4743	DESIGN FOR MANUFACTURE & ASSEMBLY	3	36

38	SEMESTER 2 SESSION 2012/2013	BMM4623	MECHANICAL SYSTEM DESIGN	3	34
39	SEMESTER 2 SESSION 2012/2013	BMM4022	PROJECT MANAGEMENT	2	15
<b>YEAR 2012</b>					
40	SEMESTER 1 SESSION 2012/2013	BMM2613	COMPUTER AIDED DESIGN	3	61
<b>YEAR 2010</b>					
41	SEMESTER 1 SESSION 2010/2011	DMM2112	ENGINEERING STATISTICS	2	42
<b>YEAR 2006</b>					
42	SEMESTER 2 SESSION 2006/2007	BMM3663	CAE & FAILURE ANALYSIS	3	52
43	SEMESTER 1 SESSION 2006/2007	BMM2613	COMPUTER AIDED DESIGN	3	62
<b>YEAR 2005</b>					
44	SEMESTER 2 SESSION 2005/2006	BMM1423	ELECTRICAL POWER & MACHINES	3	123
45	SEMESTER 1 SESSION 2005/2006	BMM2613	COMPUTER AIDED DESIGN	3	55
46	SEMESTER 1 SESSION 2005/2006	DMM3613	MECHANICAL & ELECTRICAL SYSTEM	3	36
<b>YEAR 2004</b>					
47	SEMESTER 2 SESSION 2004/2005	BMM1423	ELECTRICAL POWER & MACHINES	3	28



## Post Graduate Supervision

SUPERVISION						
NO	TITLE	STUDENT'S NAME	STATUS	START DATE	END DATE	ROLE
<b>PROGRAM / PROGRAMME IJAZAH DOKTOR FALSAFAH</b>						
1	INDUCTION HEAT-ASSISTED FRICTION STIR WELDING	MOHD AZAM MUSA	ACTIVE	12-Sep-13	-	MAIN SUPERVISOR
2	MANUFACTURABILITY OF FUEL-LESS MOTION GENERATOR AND ELECTRIC GENERATION	NAZRUL IDZHAM BIN KASIM	ACTIVE	12-Sep-13	-	MAIN SUPERVISOR
3	SIZE EFFECT ON RATIOS OF THE THICKNESS TO THE AVERAGE GRAIN SIZE ON MECHANICAL PROPERTIES AND FRACTURE MECHANISM FOR THIN FOIL	HASINAH BINTI MOHD SHARIFF	ACTIVE	05-Sep-16	-	MAIN SUPERVISOR
4	LOW POWER SOLENOID ACTUATION FORCE CONTROL FOR THE APPLICATION OF MICRO-SHEET-FORMING	MUNIR AFNAN BIN MUKHTAR	ACTIVE	04-Sep-17	-	MAIN SUPERVISOR
<b>PROGRAM / PROGRAMME IJAZAH DOKTOR FALSAFAH</b>						
5	ROLLOVER REJECTION USING MAGNETORHEOLOGICAL DAMPER COMBINATION BETWEEN FLOW MODE AND SQUEEZE MODE PISTON DESIGN FOR AUTOMOBILE SUSPENSION	AHMAD ZAIFAZLIN BIN ZAINORDIN	ACTIVE	28-Sep-15	-	CO SUPERVISOR
<b>PROGRAM / PROGRAMME IJAZAH SARJANA (PENYELIDIKAN)</b>						
6	AN EXPERIMENTAL STUDY ON PERFORMANCE OF DIESEL ENGINE OPERATING WITH WASTE TIRE AND WASTE PLASTIC DERIVED FUEL	MOHD. HERZWAN BIN HAMZAH	GRADUATED	11-Sep-12	-	CO SUPERVISOR
7	ADAPTIVE FORCE AND IMPEDANCE CONTROL FOR MULTILEGGED ROBOT WALKING IN HIGH TIDAL ENVIRONMENT PROPOSAL	TAN YEE YIN	ACTIVE	10-Jun-14	-	CO SUPERVISOR
8	DEVELOPMENT OF AN IRONLESS CORELESS ELECTRICITY GENERATOR FOR ELECTRICITY GENERATION	YAP WEE LEONG	GRADUATED	08-Sep-14	15-Jul-16	MAIN SUPERVISOR

9	SOLENOID ACTUATION FOR MICRO-SHEET-FORMING APPLICATION	CHANG TAI ANN	GRADUATED	15-Sep-14	15-Nov-16	MAIN SUPERVISOR
<b>PROGRAM / PROGRAMME IJAZAH SARJANA SAINS</b>						
10	THE EFFECT OF WASTE POLYETHYLENE TEREPHTHALATE (PET) AS AN AGGREGATE COATING ON THE PROPERTIES OF BITUMINOUS MIXTURE FOR ROAD MAKING	AMANINA FARHANA BINTI AHMAD	GRADUATED	02-Nov-15	03-Oct-17	MAIN SUPERVISOR
11	DEVELOPMENT OF PRESSURE REGULATED VARIABLE SPEED WATER PUMP FOR DOMESTIC APPLICATION	SITI AISYAH BINTI JILANI	ACTIVE	05-Sep-16	-	MAIN SUPERVISOR
<b>PROGRAM / PROGRAMME IJAZAH SARJANA KERJA KURSUS</b>						
12	ANALYSIS OF A FLYWHEEL FOR CORELESS IRONLESS GENERATOR	HASINAH BINTI MOHD SHARIFF	GRADUATED	1-Sep-15	29-Feb-16	MAIN SUPERVISOR
13	NON METALLIC CORELESS ELECTRICITY GENERATOR PERFORMANCE TEST	MUHAMMAD AMIRUL AZWAN BIN AZMI	GRADUATED	1-Feb-16	30-Jun-16	MAIN SUPERVISOR
14	A PARAMETRIC STUDIES OF CONVENTIONAL MILLING ON INCONEL 718	ABDUL RAHMAN BIN ABAS	GRADUATED	23-Feb-15	15-Feb-17	MAIN SUPERVISOR
15	DEVELOPMENT OF A MICRO-PUNCH TOOLING FOR MICRO-FORMING APPLICATION	MOHD ARSYAD BIN HANEEFA	GRADUATED	23-Feb-15	15-Feb-17	MAIN SUPERVISOR

## Post Graduate Examination

<b>THESIS EXAMINER</b>						
NO	TITLE	STUDENT'S NAME	FIELD	DATE	STATUS	ROLE
<b>PROGRAM / PROGRAMME IJAZAH SARJANA (PENYELIDIKAN)</b>						
1	STUDY ON TURBINE BLADE FOR TIDAL BARRAGE SYSTEM TO BE IMPLEMENTED IN THE BREAKWATER IN MALAYSIA	NURUL AIN MOHD YUSOFF	ELECTROMECHANICAL	20-May-2016	PASSED	INTERNAL EXAMINER
2	SIDE LOAD SPRING DESIGN OPTIMIZATION	AIMAN BIN HJ MHD JAKIN	MECHANICAL	5-SEP-12	PASSED	INTERNAL EXAMINER
3	DEVELOPMENT OF TOUCH SCREEN OPERATED SHORT DISTANCE RANGE	ZAILINI BT MOHD ALI	ELECTROMECHANICAL	12-Jan-17	PASSED	INTERNAL EXAMINER

ELECTRIC POWERED WHEELCHAIR FOR DWARF USER						
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### External Examiner

THESIS EXAMINER						
NO	TITLE	STUDENT'S NAME	FIELD	DATE	STATUS	ROLE
<b>PROGRAM / PROGRAMME IJAZAH SARJANA (PENYELIDIKAN)</b>						
1	VIBRATION CHARACTERISTICS ON BALL BEARING OPERATED WITH HEXAGONAL BORON NITRADE (hBN) NANOPARTICLES MIXED WITH CONVENTIONAL DIESEL ENGINE OIL	NOOR SHAKINAH BT RUDZLAN APANDI	MECHANICAL	19-Sep-17	PASSED	EXTERNAL EXAMINER

### Engineering Program Examiner

ENGINEERING PROGRAM EXAMINER					
NO	PROGRAM	IHL	FIELD	DATE	ROLE
1	BACHELOR OF MECHANICAL ENGINEERING (THERMAL FLUIDS) WITH HONOURS	UNIVERSITI TEKNIKAL MELAKA (UTEM)	MECHANICAL (THERMO FLUIDS)	22 to 23-May-17	OBSERVER
2	BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY (AUTOMOTIVE) WITH HONOURS (BNG)	UNIVERSITI TUN HUSSIEN ONN MALAYSIA	MECHANICAL ENGINEERING (AUTOMOTIVE)	25 to 25-Oct-2017	EXAMINER
3	BACHELOR OF ENGINEERING TECHNOLOGY (HONS) IN MARINE ELECTRICAL AND ELECTRONIC	UNIVERSITI KUALA LUMPUR – MALAYSIAN INSTITUTE OF MARINE ENGINEERING TECHNOLOGY (UNIKL-MIMET)	MARINE ELECTRICAL AND ELECTRONIC	06 to 07-Feb-2018	EXAMINER

### Degree / Final Year Supervision

Names	Titles
Muhaizat bin Mahudin	Design and fabrication of remote controlled aerial vehicle
Abdul Latif bin Moin	Design and fabricate a bipedal walking robot
Fauzi bin Omar	Mechanically torque measuring device for designated DC motor
Chai Fook Siang	Design and fabrication of DC electric powered lift table system
Zuber bin Mohamad	Design and build robust mobile surveillance robot
Chong Yun Kah	Design and simulation of humerus using NX 3.0 and coral as replacement material

Mohd Halmey bin Abd Jalil	Advanced programming of bipedal walking robot
Mohd Irwan bin Mohd Razali	Design and build programmable robotic arms
Mohd Nazmi bin Abd Rahman @ Abdul Aziz	Designing a new concept of hip's bone nail
Mohd Shahrulnizam bin Ghozali	Designing a new concept of aescular narrow type bone plate
Muhammad Kamal Asyraf bin Pubin	Designing a new concept of aescular broad type bone plate
Raja Mohd Azlan bin Raja Azren	Designing a new concept of screw and bone plate locking system
Zulkiple bin Jamal	Design and build remote controlled submarine with on board wireless camera
Nur Ain Izzati binti Zainuddin	Grain and size effect: A review on their influence in micro-manufacturing
Mohd Khairi Azri bin Shapie	The study on the laser drilling of polymeric materials
Noel Christopher Chan	Efficiency analysis of through spindle water cooling system by numerical method
Goh Ming Hui	Dynamic analysis of gantry type light milling machine (natural frequency analysis)
Mohamad Zulhisyam bin Mohd Razmi	Analysis on thin sheet metal feeding characteristics by a servo roll feeder
Mohd Syarifuddin Nazmi Pouzi	FE Studies on a micro-forming process
Siti Norshuhadah Abdul Aziz	Light milling and engraving on wood: Parametric studies
Yap Wee Leong	Coreless electricity generator
Connie Kahen Jau	Feeding characteristics comparison between roll and linear feeder
Nazurah Razali	Flexible gantry type CNC machining – modification of Z-axis stage
Muhammad Hazwan Abd Rahman	Blind spot information system by ultrasonic sensor
Muhamad Amirul Nazrin	Health consciousness: an intelligent vehicle air-conditioning system
Muhammad Fiqri B Yahya	Wireless mobile robot control over wireless fidelity system
Amanina Farhana Bt Ahmad	Mobile robot positioning system by GPS
Siti Aisyah Bt Jilani	Parking Assist – Space measurement system by ultrasonic sensor
Mohamad Shafik Bin Md Yusof	Robotic gripper for underwater SAR operation
Ezze Bin Ezani	Early warning system – Aquaplaning detection system
Muhammad Amin Mohd Faudzi	Intelligent fatality prevention restraining device
Muhamad Muaz Ibrahim Ghany	Design and development of driving mechanism for AGV
Muhammad Asyraf Wan Azhar	Natural frequency analysis of a table top friction stir welding machine
Chung Kar Yee	A review on a pyrolysis process
Mohamad Hafiz Ghani	Design and development of heavy spool wire lifting mechanism as part of AGV system
Muhammad Fahmi Baharudin	Friction Stir welding applications and trends
Nur Anasuha Mohd Zaidi	Development of locking mechanism for the application of spool lifting mechanism
Nurul Khairul Niza Kadir	Finite element analysis of various magnet arrangements for the application of coreless electric motor
Amirah Nadiah Roslan	PET of plastic bottle waste mechanical properties
Ma Xian Hui	Induction assisted friction stir welding process time studies

Muhammad Farhan Zainudin	Calibration of pressure sensor for domestic speed regulated water pump
Aaron Manuel	Thin sheet material mechanical properties for micro-sheet-forming application
Nazren Shah Azhar	Intelligent restraint system on a passenger car
Siti Nur Najihah Mohd Azemi	Development of egg-hatching incubation system
Hafidzi Muhamad	Development of suspension system for an automated guided robot

## List of Publications

### Journals

- (1) Razali, A., Qin, Y., Harrison, C. and Brockett, A. (2009) '*Investigation of feeding devices and development of design considerations for a new feeder for micro-sheet-forming*', Int. J. Nanomanufacturing, Vol. 3, No. 1/2, 40-54. **(WOS)**
- (2) A. Razali, Y. Qin, J. Zhao, C. Harrison and R. Smith, (2011), '*Development of a new high-precision feeder for micro-sheet-forming*', Journal of Manufacturing Science and Engineering, 133 (6). ISSN 1528-8935. **(WOS)**
- (3) Y. Qin, A. Brockett, Y. Ma, A. Razali, J. Zhao, C. Harrison, W. Pan, X. Dai, D. Loziak (2010), '*Micro-manufacturing: research, technology outcomes and development issues*', Int J. Adv. Manuf. Technology, 47:821-837. **(WOS)**
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- (5) Razali, Akhtar and Qin, Yi and Harrison, Colin and Zhao, Jie '*Study of the feeding mechanism and influential parameters in strip feeding in micro-stamping*. Journal of Advanced Manufacturing Technology. 0268-3768. **(WOS)**
- (6) Jie. Zhao, Andrew. Brockett, Akhtar. Razali, Yi. Qin, Colin. Harrison, Yanling. Ma (2010), '*Micro-sheet-forming and case studies*, Steel Research International Vol. 81, No. 9, pp. 1185-1188. **(WOS)**
- (7) Yi Qin, AR Razali, WA Wan-Nawang, Jie Zhao (2010), '*Forming of micro-sheet components*', CRC Press **(WOS)**
- (8) Yi Qin, Akhtar Razul Razali, Mei Zhou, Jie Zhao, Colin Harrison, Wan Adlan Wan Nawang (2013), '*Dynamic Characteristics of a Micro-sheet-forming Machine System*', Key Engineering Materials, Vols. 504-506, pp 599-604. **(SCOPUS)**
- (9) Akhtar Razul Razali, Yi Qin (2013), '*A Review on Micro-manufacturing, Micro-forming and their Key Issues*', Procedia Engineering, Vol. 53, pp 665-672. **(SCOPUS)**
- (10) Zhao, Jie; Yip, Arthur Lan Kuan; Qin, Yi; Razali, Akhtar; Fei, Zhi-cong (2012), '*Machine and tool development for forming of polymeric tubular micro-components*'. Transactions of Nonferrous Metals Society of China (Elsevier Publication) Vol. 22, No. 2, 12.2012, p. s214–s221. **(WOS)**
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- (12) Akhtar Razali, Fraser Law (2011), '*Parts delivery system design and its application in the field of micro-forming*', Journal of Plasticity Engineering, 6. **(WOS)**
- (13) L.H. Shah, N.F. Zainal Ariffin and Akhtar Razul Razali (2014), '*Parameter optimization of AA6061-AA7075 dissimilar friction stir welding using the taguchi method*', Applied Mechanics and Materials. Vol. 695, pp 20-23. **(SCOPUS)**
- (14) Mohd Azam Musa, Akhtar Razali and Nazrul Idzham Kasim (2014), '*Grain and feature size effect on material behavior for micro-sheet-forming*', Applied Mechanics and Materials. Vol. 680, pp 77-80. **(SCOPUS)**
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- (16) Mohd Azam Musa, Nazrul Idzham Kasim, Akhtar Razul Razali, Mahadzir Ishak and Wan Ahmad Najmuddin Wan Saidin, '*Improvement of overall equipment effectiveness (OEE) through implementation of autonomous maintenance in crankcase line*', Applied Mechanics and Materials. Vol. 761, pp 165-169. **(SCOPUS)**
- (17) Nazrul Idzham Kasim, Mohd Azam Musa, Akhtar Razul Razali, Noraishah Mohamad Noor and Wan Ahmad Najmuddin Wan Saidin, (2015) '*Improvement of overall equipment effectiveness (OEE) through implementation of total productive maintenance (TPM) in manufacturing industries*', Applied Mechanics and Materials, Vol. 761, pp180-185. **(SCOPUS)**
- (18) Akhtar Razali, '*A review on high-precision and high-speed devices for thin sheet metals feeding applications*', Engineering Technology, Engineering Education, and Engineering Management, CRC Press 2015. **(WOS)**

- (19) Akhtar Razali, 'Study of the feeding mechanism and influential parameters in strip feeding in micro-stamping – Positional overshooting', Engineering Technology, Engineering Education, and Engineering Management, CRC Press 2015. **(WOS)**
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- (22) Addie Irawan, Akhtar Razul Razali, Wan Faizal Wan Ishak, Mohd Rizal Arshad and Tan Yee Yin (2015), 'Development of hexaquad robot: Modeling and framework', ARPN Journal of Engineering and Applied Sciences, Volume 10. No. 23. **(SCOPUS)**
- (23) N. I. Kasim, M. A. Musa, H. Ngah, A. R. Razali and M. Ishak (2015), 'Effect of Magnetic Flux on Rotor-Stator Arrangement of Neodymium Permanent Magnet', ARPN Journal of Engineering and Applied Sciences, Volume 10. No. 17. **(SCOPUS)**
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- (30) Norsharimie Adam, Mohd Aiman, Wan Mohd Nafis, Addie Irawan, Mohamad Muaz, Mohamad Hafiz, Akhtar Razul Razali and Sheikh Norhasmadi Sheikh Ali (2017), 'Omnidirectional configuration and control approach on mini heavy loaded forklift autonomous guided vehicle', MATEC Web of Conferences 90. 01077. **(WOS)**
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- (35) Wan Mohd Nafis Wan Lezaini, Addie Irawan, Akhtar Razul Razali and Abdul Hamid Adom (2017), 'Hybrid Antiwindup-Fuzzy Logic Control for an Underactuated Robot Leg Precision Motion' – IEEE Robotic and Manufacturing Automation – Accepted **(WOS)**
- (36) M Razali Hanipah, Akhtar Razul Razali, (2017) 'The Motion Strategy for Integrated Linear Motor During Starting of a Free-Piston Engine Generator'. Int. Journal of Automotive and Mechanical Engineering – Accepted **(SCOPUS)**
- (37) Akhtar Razali, Fadhlur Rahman Mohd Romlay, Mohd Razali Hanipah, Mohd Azri Hizami Rasid and Mohd Syaiful Azlan A Rahman, (2018) 'Open circuit V-I characteristics of a coreless ironless electric generator for low density wind power generation'. Materials Science and Engineering – Accepted **(WOS)**
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- (47) Razali, A.R., Razak, A., & Zahid, M.N.O., (2008) 'The Effect of Motion Profile Changes On Linear Motor Stage Sizing' *2nd International Conference of Science & Technology (ICSTIE 2008): Applications in Industry and Education*.
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- (50) Razali, A., Qin, Y., Zhao, J., Yip, A., Harrison, C., 'Optimisation of the performance of a linear-motor-driven feeder for micro-sheet-forming applications', *Proceedings of the 8th International Conference on Manufacturing Research ICMR 2010*, 268-273.
- (51) A. Razali, W.M.W. Muhamad, (2005), 'A Study on Vehicle paint glossiness using SPC', *International Conference on Engineering Technology. Kuala Lumpur*.
- (52) Zhao, J., Qin, Y., Razali, A., Yip, A., and Fei, Z., 'Hot-embossing of polymeric micro-tubes', *International Conference on Micromanufacturing ICOMM 2012, Canada*.
- (53) A. Razali., Y. Qin., 'A review on micro-manufacturing, micro-forming and their key issues', *Malaysia Technical Universities Conference on Engineering and Technology MUCET 2012, Perlis, Malaysia*.
- (54) N.A.A. Sathari, A.R. Razali, and M. Ishak, 'Study on dissimilar aluminium alloys of AA7075 and AA6061 by friction stir welding', *International Conference on Automotive Innovation and Green Energy Vehicle, AiGEV 2014*.
- (55) N.I. Kasim, M.A. Musa, H. Ngah, A.R. Razali and M. Ishak, 'Effect of magnetic flux on rotor-stator arrangement of neodymium permanent magnet', *International Conference on Automotive Innovation and Green Energy Vehicle, AiGEV 2014*.

## Technical Reports/Papers

- (1) Design Calculation of Fire Protection System for 'Cadangan Membina dan Menyiapkan Central Emergency and Fire Services Petronas Kerteh Industrial Complex'.
- (2) Cold and Waste Water Plumbing Design for 'Cadangan Membina dan Menyiapkan Central Emergency and Fire Services Petronas Kerteh Industrial Complex'.
- (3) Design Calculation of Fire Protection System for Sekolah Rendah Kebangsaan Lembah Bidong Setiu Terengganu
- (4) Cold and Waste Water Plumbing Design for Sekolah Rendah Kebangsaan Lembah Bidong Setiu Terengganu
- (5) Design Calculation of Fire Protection System for Sekolah Rendah Kebangsaan Medan Jaya Marang Terengganu
- (6) Design Calculation of Fire Protection System for Sekolah Kebangsaan Pengadang Baru Kuala Terengganu
- (7) Cold and Waste Water Plumbing Design for Sekolah Kebangsaan Pengadang Baru Kuala Terengganu
- (8) Design Calculation of Fire Protection System for Sekolah Menengah Pengadang Baru Kuala Terengganu
- (9) Cold and Waste Water Plumbing Design for Sekolah Menengah Pengadang Baru Kuala Terengganu
- (10) Cold and Waste Water Plumbing Design for PERMINT Housing Project Tok Jembal, Kuala Terengganu
- (11) Design Calculation of Fire Protection System for Bukit Payung Police Complex, Terengganu
- (12) Cold and Waste Water Plumbing Design for Bukit Payung Police Complex, Terengganu
- (13) Design Calculation of Fire Protection System for Kompleks Ibu Pejabat Polis Daerah Marang, Terengganu
- (14) Cold and Waste Water Plumbing Design for Kompleks Ibu Pejabat Polis Daerah Marang, Terengganu
- (15) Design Calculation of Fire Protection System for Library KUSTEM, Kuala Terengganu
- (16) Cold and Waste Water Plumbing Design for Library KUSTEM, Kuala Terengganu

- (17) Design Calculation of Fire Protection System for IT Centre KUSTEM, Kuala Terengganu
- (18) Cold and Waste Water Plumbing Design for IT Centre KUSTEM, Kuala Terengganu
- (19) Design Calculation of Fire Protection System for Gunung Lang Recreational Park, Perak
- (20) Cold and Waste Water Plumbing Design for Gunung Lang Recreational Park, Perak
- (21) Masmicro Deliverable Technical Report 2008, 2009 and 2010
- (22) Polytubes Deliverable Technical Report 2010, 2011 and 2012
- (23) Design Calculation of Fire Protection System for 'Cadangan Membina dan Menyiapkan Restoran (Sementara) di Lot 10, Seksyen 22 (Hak Milik No. 7841), Jalan Teluk Sisek / Jalan Besar, Kuantan. Pahang Darul Makmur
- (24) Design Calculation of Sprinkler System for 'Cadangan Tambahan dan Pindaan Ruang Pejabat Bagi Tetuan Far East Holdings Berhad di Aalamat Tingkat 23, Menara Zenith, Jalan Putra Square, 25200 Kuantan, Pahang Darul Makmur'
- (25) Design Calculation of Fire Protection System for Cadangan Mengemukakan 'As-built Plan' Bagi Sebuah Bangunan Hotel 5 Tingkat Sediada (IRIS House Hotel), Di Atas Lot 143 & Lot 149, Brinchang, Cameron Highlands. Pahang.
- (26) Design Calculation of Fire Protection System for Cadangan Ubahsuai 8 Unit Kedai dan Pejabat (Aras 1), kepada Hotel Bajet 39 Bilik di Atas Plot 1-8 Lot 35 Seksyen 1 H.S.(D) 49, Mukim Bandar Jerantut, Pahang Darul Makmur.
- (27) Cold and Waste Water Plumbing Design for POLISAS Hostel
- (28) Cold and Waste Water Plumbing Design for Mini Stadium Jerantut
- (29) Cold and Waste Water Plumbing Design for Oil and Gas Training Center
- (30) Design Calculation of Fire Protection System for Cadangan Pindaan dan Tambahan ke Atas Lot Kedai Beralamat A-1, A-3, A-5 & A-7 Lorong IM14/30 Bandar Indera Mahkota, 25200 Kuantan. Pahang.

## Journals Reviewing

No.	Article Title	Journal Name	Authors	Publisher	Published Year	Remarks
1.	The Effect of Moisture in Wooden House from Natural Materials	WSEAS Journal	Lucie Kucerova, Sarka Korbelova	WSEAS	2016	International
2.	SOC Estimation for Li-ion Battery Based on UKF Algorithm Optimized by Artificial Neural Network	WSEAS Journal	He Liwei	WSEAS	2016	International
3.	A Design of Parameter Optimal Iterative Learning Control for Discrete-Time Linear Multivariable Systems	WSEAS Journal	Wataru Kase	WSEAS	2016	International
4.	Research on a novel method of decentralized voltage control in distribution networks based on voltage increment matrix	WSEAS Journal	Wang Hongli, Liu Yongqiang	WSEAS	2016	International
5.	Experimental measurements of CO2 concentrations by varying the airflow and its influence on the blood supply of oxygen	WSEAS Journal	Zdenek Galda, Jiri Labudek, Jan Neiser, Veronika Sipkova	WSEAS	2016	International
6.	An Analytical Approach for Optimal Placement and Sizing of Energy Storage	WSEAS Journal	Mohammad Hossein Ranjbari, Rezvaneh	WSEAS	2016	International



			Dalil, Mojtaba Pishvaei			
7.	Development of A Method for Analysing The Road Safety Conditions Related to Friction	WSEAS Journal	Pasquale Colonna, Nicola Berloco, Paolo Intini, Antonio Perruccio, Vittorio Ranieri	WSEAS	2016	International
8.	Managing Households E-Waste: Cases Study at The Department of Environment (DOE) Malaysia And Meriahtek (M) Sdn Bhd	Journal of Advanced Manufacturing Technology	B. C., Chew, S. R., Hamid, H. S., Loo, R. M., Dan, and M. Anityasari	UTEM	2017	International
9.	Novel Studies on The Size Effects in Metal Micro-Forming Processes - A Critical Review	Journal of Materials Science	Shubham Sharma	Springer Link	2017	International

### Other Articles

No.	Article Title	Article Name	Authors	Publisher	Published Year	Article summary
1.	Airbag	Auto INEXXS	Akhtar Razul Razali	Automotive Engineering Centre, UMP	2014	Definition of airbag and what airbag is capable of. Mentioned in the article is the safety issue when restraint system is not in used whenever airbag is in use.

### List of Books

No.	Type of Publication	Book Title	Original Work or Translation	Publisher	Publication Date	Role
1.	Book	The advancement of manufacturing processes and technology	Original Work	LAP Publishing	07-Dec-2017	Editor
2.	Book	Micromanufacturing Engineering and Technology	Original Work	CRC Press	June-2010	Co-author

### Patent

1. Patent PI2017702540 – Forklift for confine area.

### List of Consultancies

EAZ Consultant PLT – Mechanical services for various projects  
 Vacuumschmelze Sdn. Bhd. – Design and development of heavy spool lifting automated/remote guided vehicle (unlimited amount of budget)  
 MTB Sdn. Bhd. – Developing process control chart for the paint glossiness in the production of Mitsubishi Storm pickups/vehicles.  
 Advanced MSR Sdn. Bhd. – Developing a new design of low contact bone plates/steel implants.

Consulting engineer for the Universiti Malaysia Terengganu (UMT) MV Nautica scale model remote controlled container ship, lifelike container ship.

UMP Automotive Engineering Centre (AEC), fellow researcher

Chief of Technical for Shell Eco Marathon, UMP 2014

Academician Consultant for with Mecip (M) Sdn. Bhd on a project: Cadangan Projek Pembinaan Loji Rawatan Kumbahan Serantau Dan Rangkaian Paip Pembetungan Di Kawasan Tadahan Kuala Terengganu Selatan, Kuala Terengganu

Science Project Advisor for Sekolah Berasrama Penuh Integrasi Kuantan

Shell Eco Marathon Asia 2015 Technical Advisor

Fault and troubleshooting consultant in the field of machineries for SME Mama Bake Gambang

IME Design Competition 2015 Advisor

Vacuumschmelze Sdn Bhd – Technical coordinator for development work on autonomous guided vehicle (AGV) project

### List of Research / Project

European Union Consortium Polytubes Project, funded by EU Government, [www.polytubes.net](http://www.polytubes.net)

Development of hot-embossing machine for polymeric applications

European Union Consortium Masmicro Project, funded by EU Government, [www.masmicro.net](http://www.masmicro.net)

Development of high-speed high-precision sheet metal feeder for micro-forming applications

Remote Surveillance and Multipurpose Utility Robot

Development of high speed low cost desktop CNC milling and engraving

PLC application on home automation system

Development of 5-axes universal machine controller

Development of through spindle cooling (TSC) system for milling and engraving applications

Development of high speed and high precision feeding system for micro-sheet-forming

Development of micro-polymeric tube hot embossing machine

Size effect on micro-scale materials

Development on friction stir welding machine

Development of fuel-less zero emissions electric generator

Development of ditch cleaning mobile robot

Enhancement of weldability in light alloys (A6061 & A7075) dissimilar metal welding

Coreless ironless electric generator

Permanent magnet motion generator

Micro-manufacturing developments and machineries

Micro-forming machine developments

Recycling: a pyrolysis process to reuse PET wastage

Recycling: PET as road bitumen additive

Automated guided vehicle for industrial application

Development of hexapod robot

Air cushion lifting system for disable people

'Click' a stopper for blood supply line

Mechanical irrigation technique for watering rice field

### Awards / Research / Achievements

Bil	Nama/ Anugerah/Hadiah	Badan Penganugerahan	Tahun
1	Masmicro Scholarship	University of Strathclyde	2007
2	Polytubes Scholarship	University of Strathclyde	2010
3	Medal Gangsa CITREX 2013	UMP	2013
4	Medal Emas CITREX 2014	UMP	2014
5	Medal Gangsa CITREX 2014	UMP	2014
6	Medal Gangsa CITREX 2014	UMP	2014
7	Medal Perak I-ENVEX	UNIMAP	2014
8	Medal Emas CITREX 2015	UMP	2015
9	Hadiah Sanjungan ACB	UMP	2015
10	Hadiah Sanjungan ACB	UMP	2016
11	Medal Perak CITREX 2017	UMP	2017

## List of Course / Conference Attended

Writing, presenting and other generic skills for research, Glasgow, U.K.  
Media Course, Glasgow, U.K.  
Perthometer surface roughness and roundness course by Mahr, KUKTEM  
Unigraphix NX 3.0 CAD/CAM course  
International Conference on Manufacturing Research, (ICMR) 2008, Brunel, U.K.  
International Conference on Manufacturing Research, (ICMR) 2009, Warwick, U.K.  
International Conference on Manufacturing Research, (ICMR) 2010, Durham, U.K.  
International Conference on Innovative Production and Machines and Systems, I\*PROMS 2008, Cardiff, U.K.  
International Conference of Computer-Aided Production Engineering, CAPE 2010, Edinburgh, U.K.  
International Conference on Science and Technology, ICSTIE 2008, Penang, Malaysia.  
Metal Forming Conference 2010, Toyohashi. Japan.  
Renewable Energy Seminar 2010 UMP by SIRIM  
MAHR Perthometer Surface Roughness Measuring Hands-on 2006 UMP  
Parker Hannifin Linear Motor and Codesys Programming, 2008 Congleton Manchester U.K.  
SMC Automation Training 2006 Shah Alam  
Hands-On Introduction to DAQ with Labview 2011, Heriot Watt University, Edinburgh U.K.  
Hands-On with DAQ and Labview 2011, University of Strathclyde, Glasgow U.K.  
Spectro-Electron-Microscopy (SEM) Hands-On Training, 2011, University of Strathclyde, Glasgow U.K.  
Training for Facilitators, April 2003, KUKTEM  
P&P Course, January 2004, KUKTEM  
P&P Course, January 2005, KUKTEM  
Induction Course, April 2005, Cherating. Pahang  
Research Methodology Course, May 2005, Shah Alam  
Introduction to ISO/IEC Course, March 2006, KUKTEM  
Research Methodology Course, 2004, KUITTHO, Batu Pahat  
Automation Studio Training (hydraulic and pneumatics training), September 2005, KUKTEM  
Effective Negotiation Skills course, June 2012. UMP  
Workshop on Signal Analysis, 3-4<sup>th</sup> July 2012. FKM, UMP  
Internal Audit Course by SIRIM Malaysia. 29-30<sup>th</sup> August 2012. FKM, UMP  
Seminar on Advanced Powder Metallurgy for Biomedical Application – 27<sup>th</sup> February 2014  
Signal Analysis Course, 9-10<sup>th</sup> April 2013. FKM, UMP  
Seminar Renewable Energy – 6<sup>th</sup> October 2010, UMP  
ANSYS Training for Beginner – 11<sup>th</sup> June 2014, FKM, UMP  
Weld Fatigue Integrity – 20<sup>th</sup> August 2014, UiTM Shah Alam  
MasterCAM 2D/3D – 15<sup>th</sup> – 18<sup>th</sup> December 2014, FKM UMP  
PACE Nano 1000T Single Wheel Grinder Polisher with Auto Head Training – 4-5<sup>th</sup> March 2015, FKM, UMP  
4<sup>th</sup> Malaysian Workshop on Crash Investigation and Injury Analysis – 4-6<sup>th</sup> August 2015, Bangi.  
WITNESS Software 17-19<sup>th</sup> January 2016.  
EAC New Panel Evaluator 22-24<sup>th</sup> August 2016, Bangi.  
EAC Training for IHL 1-3<sup>rd</sup> August 2016, Bangi.

## Social Responsibilities

Committee member of Emergency Response Team (ERT) Floor Marshal (Block 3A) FKM, UMP  
Site Warden Emergency Response Team (ERT) Floor Marshal (Block 3A) FKM, UMP  
Volunteer for Flood Disaster Fakulti Kejuruteraan Mekanikal, UMP  
We Love We Care: Misi Kemanusiaan UMP di Kemboja – participant  
Ramadhan Feast breaks fasting congregation preparation, UMP – taskforce member  
Professional consulting engineer - serving society without fees in the aspect of engineering and technical problems and issues, consultation etc.  
Member of Persatuan Menembak Negeri Pahang  
First Aider  
UMP Funeral Management Squad  
Science Coach for Sekolah Berasrama Penuh Integrasi Kuantan (Science and Innovation Projects) 2015