

5 Sept 2023



# CURRICULUM VITAE



## PERSONAL DETAILS

Name : ASSOCIATE PROF. Ts. DR.  
KHAIRUR RIJAL BIN JAMALUDIN

Gender : MALE

Date of Birth : 04<sup>th</sup> OCTOBER 1973

Nationality : MALAYSIA

Marital Status : MARRIED

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Expertise : Quality in Smart Manufacturing

h Index : 14

## ACADEMIC QUALIFICATIONS

NO	LEVEL OF EDUCATION	COURSE	UNIVERSITY	STARTING DATE	ENDING DATE
1	PHD	Mechanical & Materials Engineering	UNIVERSITI KEBANGSAAN MALAYSIA	2006	2009
2	MASTER	Advanced Mechanical Engineering	UNIVERSITY OF WARWICK	1997	1998
3	BACHELOR	Mechanical Engineering	UNIVERSITI TEKNOLOGI MALAYSIA	1991	1996

## AWARD AND HONORS RECEIVED

NO	AWARD	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
1	<b>Taguchi Award</b> for Activity in the ASEAN Region.	International	2021
2	Best Track Paper: <b>Integrated Quality Environmental Management Practices and its Impact on Operational and Environmental Performances in Food Processing SMEs</b> at IEOM Conference Award (March 6, 2019). Bangkok, Thailand	International	2019
3	International Engineering Invention & Innovation Exhibition Award: <b>Silver Medal</b>	International	2014
4	Excellent Taguchi Method Case Study Award: <b>Dynamic Response Optimization for Cemented Carbide Injection Molding</b> at 1 <sup>st</sup> International Conference on Robust Quality Engineering, Kuala Lumpur (25 April 2013). Panel of Assessor: Shin Taguchi from American Supplier Institute and Prof Dr Masayoshi Koike from National	International	2013

	Metrology Institute, Japan/ Quality Engineering Society, Japan		
5	Excellent Paper: <b>Ball Milling of WC-Co Powder as Injection Molding Feedstock</b> at 2011 International Conference on Mechanical and Aerospace Engineering, Bangkok, Thailand.	International	2011
6	Best Paper Award for paper entitled: <b>Multiple Performance Optimization for the Best Metal Injection Molding (MIM) Green Compacts</b> at International Conference on Plant Equipment and Reliability, a Conference of World Engineering, Science & Technology Congress 2010.	International	2010
7	Excellent Service Award	UTM	2009
8	Excellent Service Award	UTM	2003

### PROFESSIONAL MEMBERSHIP / QUALIFICATIONS / RECOGNITION

NO	NAME OF PROFESIONAL MEMBERSHIP	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	ROLE	YEAR
1	Malaysia Board of Technologist	National	Member of Technology & Technical Working Group: Manufacturing Technology and Industry	July 2022- June 2023
2	Program External Examiner: Master of Quality	National	Program External Examiner	Nov 2021- Nov 2024
3	Malaysia Productivity Corporation	National	INDUSTRY4WRD Readiness Assessor	2021-2022
4	Asia Pacific of Industrial Engineering and Management Society (APIEMS)	International	Board Member	2018-Now

5	Board of Technologies	National	Professional Technologist	2018-Now
6	Board of Technologies	National	Graduate	2017-Now
7	Board of Engineers, Malaysia	National	Graduate	1996-Now
8	Institution of Engineers Malaysia	National	Graduate Member	1996-Now
9	Quality Engineering Society, Japan	International	Member	2013-Now
10	Malaysia Powder Metallurgy & Particulate Materials Association	National	Co-founder/ Committee Member	2008-Now
11	International Conference on Robust Quality Engineering	International	Board Member	2012-Now
12	1) Journal of Applied Science 2) Trend in Applied Sciences Research 3) Asian Journal of Materials Science 4) Singapore Journal of Scientific Research	International	Regional Editor	2010-2018
13	<b>Reviewer</b> for Research Grant Proposal for The National Center of Science and Technology Evaluation, Kazakhstan	International	International Reviewer	2014
14	<b>Advisor</b> of the International Conference on Engineering Business Management, 22-23/8/2015	International	Advisor	2015
15	<b>Chairman</b> of 1st International Conference on Robust Quality Engineering, 22-26/4/ 2013	International	Chairman	2015
16	Malaysia Qualification Agency <b>Auditor</b>	National	Auditor	Feb 2010-2023

## ADMINISTRATIVE EXPERIENCE

NO	POSITION	STARTING DATE	ENDING DATE	DEPARTMENT
1	Acting Dean	1 June 2019	14 August 2019	Razak Faculty of Technology and Informatics
2	Deputy Dean (Academic & Students Affair)	1 July 2018	30 June 2021	Razak Faculty of Technology and Informatics

3	Deputy Dean (Academic & Students Affair)	15 April 2015	30 June 2018	Razak School of Engineering and Advanced Technology
4	Acting Deputy Dean (Development)	1 March 2014	30 Oct 2014	Razak School of Engineering and Advanced Technology
5	Academic Manager (Graduate Studies)	Nov 2012	14 April 2015	Razak School of Engineering and Advanced Technology
6	Program Coordinator	March 2010	Nov 2012	Razak School of Engineering and Advanced Technology
7	Head of Department	March 1999	Aug 2002	Mechanical Engineering Dept. Diploma Program Studies

## WORKING EXPERIENCE

NO	POSITION	STARTING DATE	ENDING DATE	DEPARTMENT/ORGANISATION
1	Engineering Executive 1 (Engineer)	2May 1996	1 Feb 1997	Proton Sdn Bhd
2	Tutor	2 Feb 1997	1 Dec 1998	Universiti Teknologi Malaysia
3	Lecturer (DS45)	2 Dec 1998	13 Jan 2010	Universiti Teknologi Malaysia
4	Senior Lecturer (DS52)	14 Jan 2010	26 Feb 2013	Universiti Teknologi Malaysia
5	Associate Professor (DS54)	27 Feb 2013	Now	Universiti Teknologi Malaysia

## CONSULTANCY EXPERIENCE

NO	NAME OF CONSULTANCY	ROLE	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Study on Exploring Re-manufacturing activities in Malaysia for Ministry of International Trade and Industry (MITI)	Consultant	RM 99,935	19/12/2011	1/6/2012	(through UTMSB)
2	Study and audit on G3M Economic and Environmental Impact Assessment for Remanufacturers in Malaysia. Project awarded by Ministry of	Consultant	RM 1,900,000	10/5/2016	1/7/2017	KM/2016/00053

	International Trade and Industry (MITI)					
3	Consultation projects for the Prime Minister Department (ICU-Pulau Pinang) for coaching Bumiputera's micro sized industry to be certified by Halal JAKIM	Project Leader	RM 300,000	21/9/2017	20/12/2017	PU2017/16198
4	Consultation projects for the Prime Minister Department (ICU-Pulau Pinang) as continuation project for coaching Bumiputera's micro sized industry to be certified by Halal JAKIM	Project Leader	RM 150,000	21/2/2018		PU/2018/20142
5	Consultation projects for the Prime Minister Department (ICU-Pulau Pinang) for the development of Plant Factory Artificial Light	Project Leader	RM220,374	21/2/2018		PU/2018/19841

## **FACULTY APPOINTMENT COMMITTEE**

<b>NO</b>	<b>NAME OF COMMITTEE</b>	<b>ROLE</b>	<b>STARTING DATE</b>	<b>ENDING DATE</b>
1	Financial Committee	Member	6/4/2016	5/4/2018
2	Quotation and Purchase Order Reviewer Committee	Member	31/10/2015	31/3/2020

3	Publications Committee	Member	1/1/2005	31/12/2006
4	Academic Committee	Member	1/3/2010	30/6/2021
5	Executive Committee	Member	1/3/2010	30/6/2021
6	Human Resource Development Committee	Member	1/3/2010	30/6/2021

## UNIVERSITY APPOINTMENT COMMITTEE

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Student Development Committee	Member	March 2021	March 2023
2	Task Force Member: Talents Transformation, Governance and High Performance Delivery	Member	9 June 2019	31 Dec 2020
3	UTMKL Management Group Member	Member	1 June 2019	14 Aug. 2019
4	UTMKL Management Committee Member	Member	1 June 2019	14 Aug. 2019
5	Protem member of setting up new faculty: UTM Razak Faculty of Technology and Informatics	Member	7 Mac 2018	1 July 2018
6	University Graduate Academic Committee	Member	1/1/2014	30 June 2021

## NATIONAL APPOINTMENT COMMITTEE

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Program External Examiner: Master of Quality	National	Program External Examiner	Nov 2021- Nov 2024
2	INDUSTRY4WRD Readiness assessment. Appointment by Malaysia Productivity Corporation	Industry Readiness Assessor and Intervention Program monitor	19 April 2021	Now
3	Program full accreditation: Master of Engineering (Manufacturing System) at Universiti Kebangsaan Malaysia	Auditor	2013	2019
4	Program maintenance audit: Master of Science (Renewal Energy) * A full research master program at Universiti Kebangsaan Malaysia	Auditor	June 2021	July 2021
5	Program maintenance audit: Doctor of Philosophy (Renewal Energy) at Universiti Kebangsaan Malaysia	Auditor	June 2021	July 2021



6	Board of study for new master program at Universiti Teknikal Malaysia Melaka. Program: Master of Business Information management and Master of Engineering Business Management	Board of Study	15 May 2018	
7	Promotion reviewer to the position of Associate Professor. Dr Muhamad Hussain Ismail.	Reviewer	2018	
8	Sirim Standard 13:2017. Lean Management - Part 2: Requirements for competent persons.	Chairman	12 Julai 2016	
9	Islamic Innovation Expo, Universiti Sains Islam Malaysia.	Judge	8/11/2016	
10	Full accreditation audit for Bachelor of Engineering Technology (Process & Technology) and Bachelor of Engineering Technology (Product Design),	Auditor	10/2/2015	11/2/2015

	Universiti Teknikal Melaka.			
11	Islamic Innovation Expo, Universiti Sains Islam Malaysia.	Judge	29/11/2014	
12	Industry Lead Body for National Document Presentation. Malaysia Automotive Institute.	Endorsement Committee	24/12/2014	
13	MQA full accreditation for M.Sc. in Energy and M.Sc. in Renewal Energy. Herriot Watt Univ. Malaysia.	Auditor	24/11/2014	25/11/2014
14	MQA full accreditation for Bachelor in Renewal Energy, Xiamen University Malaysia	Auditor	6/11/2014	13/11/2014
15	MQA full accreditation Diploma of Technology in Machine Tool at German Malaysia Institute.	Auditor	10/2/2014	11/2/2014
16	MQA full accreditation for Diploma Technology in	Auditor	10/2/2014	11/2/2014

	Industrial Design at German Malaysia Institute.			
17	MQA full accreditation for Diploma in Mechanical Engineering at Politeknik Mukah.		24/4/2013	25/4/2013
18	MQA full accreditation for Diploma in Mechanical Engineering at Politeknik Melaka.		18/1/2013	19/1/2013
19	MQA full accreditation for Diploma in Mechanical Engineering at Politeknik Seberang Perai.		15/3/2013	16/3/2013
20	Malaysia Powder Metallurgy & Particulate Materials Associations	Co-Founder/ Secretary	2009	2012
21	Malaysia Powder Metallurgy & Particulate Materials Associations	Committee Member	2012	Now
22	IEM Standing Committee for Publications	Editor/ Committee Member	2005	2012

## INTERNATIONAL APPOINTMENT COMMITTEE

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Asia Pacific of Industrial Engineering and Management Society (APIEMS)	Board Member	Dec 2018	Now
2	International Conference on Engineering Business Management	Advisor	22/8/2015	23/8/2015
3	International Conference on Engineering Business Management	Chairman	22/4/ 2013	26/4/2013
4	International Conference on Robust Quality Engineering	Founder and also the International Organizing Committee	April 2012	Now

## SELECTED ACTIVITIES / WORKSHOPS / SEMINARS / COURSES

NO	NAME OF ACTIVITIES	PLACE OF ACTIVITIES	STARTING DATE	ENDING DATE
1	Speaker for Preparing High Quality Manuscripts for Reputable Journals	Department of Industrial Engineering, Universitas Andalas, Indonesia	14/10/2021	21/10/2021
2	Speaker for Supervisory Development Program	UTMKL, Organized by UTM Lead	16/11/2017	

3	Speaker for Supervisory Orientation Program	UTMKL, Organized by SPS	10/11/2017	
4	Speaker for talk on the Introduction to Taguchi Method	Faculty of Engineering, UPM	26/4/2017	
5	Facilitator for Workshop for Program Outcome	UTM Razak School	28/7/2016	
6	Speaker for Taguchi Method Workshop	Universiti Malaya	16/3/2016	17/3/2016
7	Trainer for Taguchi Method	UNIMAP	3/7/2013	4/7/2013
8	Trainer for Workshop on Taguchi Method	German Malaysia Institute	3/10/2013	4/10/2013
9	Trainer for Workshop on Robust Engineering	Industrial Unit, UTM Razak School	26/3/2012	27/3/2012

## RESEARCH ACTIVITIES

Principal Investigator: 1) International =  $\Sigma$  RM 423,751 2) National =  $\Sigma$  RM 498,820 3) University =  $\Sigma$  RM 285,60  
 Total= RM 951,131.00

BIL	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	New Taguchi's Robust Predictive Analytical Model with Integration of Robust MM-Estimator and Binary Bat Algorithm-Based Search Mechanism.	PI	National	FRGS 2021-1	RM 116,000	7/9/2021	6/9/2024	FRGS/1/2021/TK0/UTM/02/45
2	Remodelling of Materials Control Flow in Materials Management Unit	PI	International (Panasonic)	DTD: Industry Research	RM 127,125	1/3/2022	28/2/2023	4C610
3	Productivity Improvement of the unit assembly production line with Lean Manufacturing Technique	PI	International (Panasonic)	DTD: Industry Research	RM 296,626	1/3/2022	31/10/2023	4C655
4	Developing Methadone Dispensing Monitoring System Using Modified Mahalanobis-Taguchi System for Classification Accuracy Improvement	PI	National	CRG	RM 20,000	1/11/2019	31/10/2021	4B494

5	Characterization of Sinter-Hip and Microwave Sintering Parameters on Nano Grain Size Cemented Carbide for Metal Injection Molding	PI	National	Networking Grant	RM 98,000	1/8/2016	31/7/2018	4X189
6	Theoretical Model of Core Acquisitions for Durable Products Return	PI	National	FRGS 2016-1	RM 82,000	1/8/2016	31/7/2018	4F819 (FRGS/1/2 016/TK03/ UTM/02/6)
7	Characterization of Mahalanobis-Taguchi System and Bees Algorithm for Diagnosis and Forecasting in Multidimensional System	PI	National	FRGS 2014-1	RM 52,000	1/7/2014	31/12/2015	4F535 (FRGS/1/2 014/TK01/ UTM/02/4)
8	Characterization of Polyethylene Terephthalate (PET) Waste as Sustainable Binder for Metal Injection Molding	PI	National	FRGS 2012-1	RM 90,820	1/4/2012	31/3/2014	4F124 (ID: 2862)
9	Characterization of Newly Developed feedstock in Metal Injection Moulding Application using Tungsten Carbide with palm stearin binder system	PI	National	FRGS 2010-1	RM 40,000	1/4/2010	31/3/2012	78641
10	Highly Efficient Hybrid Al-CNT-A1203 Nanocomposite Based Coatings for Corrosion Protections	PI	University	PDRU	RM 125,600	1/7/2018	30/6/2020	04E36
11	Enhancement of Mahalanobis Taguchi System	PI	University	GUP Tier 1	RM 40,000	1/10/2016	30/9/2018	15H43

	Based on Swarm Intelligence for Multivariate Pattern Recognition							
12	Developing Sustainable Binder for Metal Injection Molding using Recycle Materials	PI	University	GUP Tier 1	RM 50,000	1/5/2012	30/4/2013	06J50
13	Determination of automotive product re-manufacturability using AHP methodology	PI	University	Inst. Grant	RM 50,000	15/5/2011	14/11/2012	4B029
14	Multi-characteristic Optimization for Metal Injection Molding (MIM) Processing Parameter	PI	University	Short Term	RM 20,000	1/7/2010	31/12/2012	77367
15	Overall Performance Measurement for Logistics Operation	PI	University			30/9/2001	29/9/2002	75217
16	Hybrid Modeling of modified queuing theory with Taguchi's T-method of city bus traveling time predictions	R	National	FRGS	RM 82,000	1/9/2019	31/5/2022	5F247
17	Bio-Oil Upgrading as Vehicle Fuels Using Water/Oil Based Extraction	R	University	Tier 2	RM 30,000	1/8/2019	31/1/2022	15J85
18	Investigation of Microstructure and fatigue behavior on newly developed Ti-Al-Fe Alloys	R	National	FRGS	RM 94,200	1/9/2019	31/8/2021	5F205



	with addition of Mo and Cu as Quaternary Elements							
19	CRG31.0 : Developing Methadone Dispensing Monitoring System Using Modified Mahalanobis-Taguchi System	R	National	CRG	RM 100,000	1/11/2019	30/4/2022	08G27
20	Optimization of High-Performance Drill Geometry Design For Orthopedic Surgical Application	R	University	Tier 2	RM 20,000	1/8/2019	31/1/2022	16J45
22	CRG31.1 : Thresholding Development	R	National	CRG	RM 40,000	1/11/2019	30/4/2022	08G38
23	Characterization of modified-Bees Algorithm in the Mahalanobis-Taguchi System for Pattern Recognition	R	National	FRGS	RM 66,700	1/9/2019	31/5/2022	5F233
24	A hybrid methodology in Mahalanobis Taguchi System using robust Mahalanobis distance and binary whale optimization algorithm for medical data classifications	R	National	Networking Grant	RM 50,100	15/8/2017	14/8/2019	4X309
25	Impact of product individualization under Industry 4.0 towards Halal certification	R	University	Tier 2	RM 20,000	1/8/2019	31/1/2022	16J00
26	Significant feature selection scheme in Mahalanobis-	R	University	Potential Academic Staff	RM 20,000	1/7/2018	30/6/2019	03K33

	Taguchi System based on a modified-Bees Algorithm.							
27	Evaluation of Nanoparticles as Additives in Lubricant in High Speed Machining of Advanced Materials	R	University	Tier 1	RM 40,000	1/7/2017	30/9/2019	16H21
28	Environmental Management System Practices Among Small and Medium Food Manufacturers In Malaysia	R	University	Tier 1	RM 50,000	15/11/2015	14/11/2017	12H61
29	Determining the Theoretical Model for Lean Adoption	R	National	FRGS	RM 72,000	1/12/2014	30/11/2016	4F678
30	Machinability of Advanced Materials for Medical Devices And Engineering Applications	R	University	Tier 1	RM 70,000	1/4/2014	31/3/2016	06H89
31	Optimization of Heat Treatment Effect On Microstructure And Mechanical Properties Of Ti-6Al-(1-3%)Fe Alloys For Aerospace Application	R	University	Potential Academic Staff	RM 20,000	1/11/2014	31/10/2015	01K37
32	Low Velocity Impact Response of Kenaf/Epoxy Corrugated Sandwich Structures	R	University	Potential Academic Staff	RM 20,000	1/11/2014	31/12/2015	01K15
33	Kinesthetics Approach to Validate Work Movement Task Analysis Observational Tool	R	University	Encouragement Grant	RM 20,000	1/5/2015	31/7/2016	10J96

34	Quality Management Practices and Organizational Performance Relationship in E&E Manufacturing Industry	R	University	Potential Academic Staff	RM 20,000	1/4/2013	31/3/2014	00K34
35	Using larger flaw sizes as acceptable criteria for aerospace applications	R	University	Tier 2	RM 39,900	1/4/2011	31/7/2012	03J93
36	A Web Based Manufacturing Performance Evaluation Tool for Malaysian Automotive Industry	R	University	Tier 2	RM 47,000	1/4/2011	31/7/2012	04J44
37	Design of a novel magnetorheological (MR) damper using combination of squeeze and shear modes.	R	University	Tier1	RM 130,000	1/4/2011	31/3/2013	01H20
38	Design of Ultrasonic Horn for Powder Metal Compaction	R	University	Others	RM 50,000	15/5/2011	14/5/2013	4B028
39	Particle Size and Particle Shape Distribution on Metal Injection Moulding processing parameter	R	National	FRGS	RM 80,000	2007	2009	FRGS: UKM-KK- 02- FRGS0013- 2006

\* P.I = Principle Investigator; R = Researcher

## COLLABORATION / MOU

NO	NAME OF MOU	LEVEL OF MOU (NATIONAL/INTERNATIONAL)	STARTING DATE	ENDING DATE
1	Memorandum of Agreement between Razak School of Engineering and Advanced Technology; and KLIA Training & Research Centre Sdn Bhd	National	30/6/2010	29/6/2015
2	MOU Between Yalova University and UTM	International	1/2/2015	31/1/2020

## TEACHING ACTIVITIES

### POSTGRADUATE

YEAR OF SEMESTER	SEMESTER (1/2)	SUBJECT CODE	NAME OF SUBJECT	CREDIT HOUR	SECTION
2022/2023	2	MRTE 1523	Quality for Business Sustainability	3	01
		MKAB 2373	Project Quality Management	3	03
		ERSA 1273	Current topics in Lean Operations	3	01
	1	MRSE 1523	Quality Management & Technique	3	02
		MRSA 2123	Quality Management and Reliability	3	02
MKAB 2373		Project Quality Management	3	01	
ERSA 1243		Current topics in Total Quality Management	3	03	
2021/2022	2	MRTE 1523	Quality for Business Sustainability	3	01&06
		ERSA 1273	Current topics in Lean Operations	3	01
		MRSE 1523	Quality Management & Technique	3	01 &06
		MRSE 2533& MRTE 2533	Lean Operations	3	01
	1	MKAB 2373	Project Quality Management	3	03,11
		MRSE 1523	Quality Management & Technique	3	01,06
2020/2021	2	ERSA 1243	Current topics in Total Quality Management	3	01
		ERSA 1273	Current topics in Lean Operations	3	01
		MRSE 1523	Quality Management & Technique	3	05
		MRSE 2533	Lean Operations	3	01

	1	MKAB 2373 MRSA 2123 MRSE 1523	Project Quality Management Quality Management and Reliability Quality Management & Technique	3 3 3	03,11 01 01,02
2019/2020	2	MKAB 2373 MRSA 2123 MRSE 1523 MRSE 2533	Project Quality Management Quality Management and Reliability Quality Management & Technique Lean Operations	3 3 3 3	12 01 01,02 01
	1	ERSA 1243 ERSA 1273 MKAB 2373 MRSA 2123 MRSE 1523 MRSP 2063	Current topics in Total Quality Management Current topics in Lean Operations Project Quality Management Quality Management and Reliability Quality Management & Technique Quality Management	3 3 3 3 3 3	01 01 03 01 01,02 01
2018/2019	2	MRSA 2123 MRSE 1523 MRSE 2533	Quality Management and Reliability Quality Management & Technique Lean Operations	3 3 3	01,02 01 02
	1	MRSA 2123 MRSE 1523	Quality Management and Reliability Quality Management & Technique	3 3	01 01,02
2017/2018	2	MRSE 2533 MRSE 2663 MRSA2123	Lean Operations Design for Six Sigma Quality Management and Reliability	3 3 3	01 01 01
	1	MRSA2123 MRSE1523	Quality Management and Reliability Quality Management & Technique	3 3	01 01
2016/2017	2	MRSE2533 ERSA 1273 MRSA 2123	Lean Operations Current topics in Lean Operations Quality Management and Reliability	3 3 3	01 01 01

	1	MRSA2123 ERSA1123 ERSA 1273 MRSE1523 MRSE2803	Quality Management and Reliability Current topics in technology management Current topics in lean Operations Quality Management & Technique Robust Product Development	3 3 3 3 3	01 01 01 01 01
2015/2016	2	MRSE2533 MRSA2123 MRSE2803	Lean Operations Quality Management and Reliability Robust Product Development	3 3 3	01 01 01
	1	ERSA1243 MRSE1523 MRSE2593	Current Topics in Total Quality Management Quality Management & Technique Technology Management	3 3 3	01 01 01
	2	EDW3243 MRSE2533 ERSA 1273	Quality Management & Technique Lean Operations Current topics in lean Operations	3 3 3	01 01 01
2014/2015	1	MDE1523 MRB2233	Quality Management & Technique Quality & Change Management	3 3	01 01
	2	MRB2233 EMS2193 MDE1523 MDE2533	Quality & Change Management Technology & Innovations Management Quality Management & Technique Lean Operations	3 3 3 3	01 01 01 01
2013/2014	1	MRB2233 MDE1523 MDE2533	Quality & Change Management Quality Management & Technique Lean Operations	3 3 3	01 01 01

2012/2013	2	MRB2233	Quality & Change Management	3	01
		MDE2533	Lean Operations	3	01
		MDE1523	Quality Management & Technique	3	01
		EMS2193	Technology & Innovations Management	3	01
	1	MDE1523	Quality Management & Technique	3	01
		MRB2233	Quality & Change Management	3	01
2011/2012	2	MDE1523	Quality Management & Technique	3	01
	1	MDE1523	Quality Management & Technique	3	01

**TOTAL CREDIT  
HOUR            213**

## **UNDERGRADUATE**

<b>YEAR OF SEMESTER</b>	<b>SEMESTER (1/2)</b>	<b>SUBJECT CODE</b>	<b>NAME OF SUBJECT</b>	<b>CREDIT HOUR</b>	<b>SECTION</b>
2021/2022	2	SRSD 4924	Bachelor's degree Project 2	4	19
	1	SRSD 4912	Bachelor's degree Project 1	2	19



2010/2011	1	SRI 1203	Materials and Manufacturing Process	3	01
		KJM 541 (UiTM)	Fluid Mechanics 4	4	01
2005/2006	2	DDJ3303 DDJ 3312	Fluid Mechanics 2 Fluid Power	3 2	17 19,20
	1	SZA 5323 DDJ3303 DDJ 3003 DDJ 3312	Vehicles Aerodynamics Fluid Mechanics 2 Manufacturing Process Fluid Power	3 3 3 2	01 20 01 14,15
2004/2005	2	DDJ3303	Fluid Mechanics 2	3	17,18
	1	DDJ2303 DDJ3303 DDJ 3703 DDJ3312 KJM 541 (UiTM)	Fluid Mechanics 1 Fluid Mechanics 2 Manufacturing Process Fluid Power Fluid Mechanics 4	3 3 3 2 4	01 19,20 01 17 01
2003/2004	2	DDJ3303 KJM 532 (UiTM)	Fluid Mechanics 2 Mass and Heat Transfer	3 4	16,17,18 01
	1	DDJ3312	Fluid Power	2	17,18
		DDJ3313	Hydraulics and Pneumatics	3	19
		DDB2552	Hydraulics and Pneumatics	2	20
2002/2003	2	DDJ3313	Hydraulics and Pneumatics	3	18,19
	1	DDJ3313	Hydraulics and Pneumatics	3	18,19
		DDB2552	Hydraulics and Pneumatics	2	20
2001/2002	2	DDJ3313 SZM2103	Hydraulics and Pneumatics Mechanics of Materials 1	3 3	18,19 01,02

	1	DDJ3313 DDB2552	Hydraulics and Pneumatics Hydraulics and Pneumatics	3 2	16,17 20
2000/2001	2	DDJ3313 SZM2103	Hydraulics and Pneumatics Mechanics of Materials 1	3 3	18,19 01,01
	1	DDJ3313 DDB2552	Hydraulics and Pneumatics Hydraulics and Pneumatics	3 2	16,17 20
1999/2000	2	DDJ3313 DDJ3513 SZM2103	Hydraulics and Pneumatics Product Development Mechanics of Materials 1	3 3 3	15,16 90 01,02
	1	DDJ3313 DDB2552 SZM 1013	Hydraulics and Pneumatics Hydraulics and Pneumatics Engineering Drawing	3 2 3	13,14 20 01,02,03
1998/1999	2	DDJ 2302 DDJ3313	Basic of Fluid Mechanics Hydraulics and Pneumatics	2 3	13 18,19
1997/1998	1	DJJ 2303 DJJ 2703	Fluid Mechanics 1 Manufacturing Technology	3 3	65 01,02,03
1996/1997	2	DJJ2303 DJJ2803	Fluid Mechanics 1 Industrial Engineering	3 3	70 60

**TOTAL CREDIT  
HOUR            125**

## SUPERVISION

### PHD STUDENTS

#### Main Supervisor

No	Name	Status (Graduated/ Ongoing) <i>GOT= Graduate on Time</i>	Thesis Title	Date
1	Nasuha Lee Abdullah	Graduated (GOT)	Operational Complexity Impact on Quality and Performance of Electrical and Electronics Industry in Malaysia	7/1/2015
2	Mohd Yazid Abu	Graduated (GOT)	Integration of Mahalanobis-Taguchi System and Activity based Costing in Decision Making for Remanufacturing	9/3/2016
3	Faizir Ramlie	Graduated (GOT)	Characterization of Bees Algorithm into the Mahalanobis-Taguchi System for Classification	8/2/2017
4	Fazimah Mat Noor	Graduated	Porous Stainless Steel 316L for Biomedical Applications by Foam Replication Method	25/7/2018
5	Wan Zuki Azman Wan Muhamad	Graduated (GOT)	Hybrid Mahalanobis Taguchi System With Randomized Algorithms for Simultaneous Feature Selection and Binary Classification	21/5/2019
6	Syed Ali Raza Shah (Pakistan)	Graduated (GOT)	Integrated Quality and Environmental Management Framework for Small and Medium Food Processing Enterprises in Pakistan	26/6/2019
7	Nawaf Mohammed Ahmed Al Shehhi (Oman)	Graduated	Framework for Lean Management in Alumunium Company in United Arab Emirates	23/7/2019
8	Tan Hong Wai	Graduated	Improvement of Inventory Management in a stamping manufacturer using Lean Techniques	20/2/2020
9	Nolia Haruddin	Graduated	Hybrid Bootstrap-Based Approach with Binary Artificial Bee Colony and Particle Swarm Optimization in Taguchi's T-method	28/10/2020
10	Rosdan Rosman	Graduated	Framework for Localisation of Resin Supply Chain in Malaysia Automotive Industry	13/3/2021

11	Badli Shah Mohd Yusoff	Graduated	An Economic Model of Product Recovery Management for Distribution Transformers	4/7/2022
12	Ahmed Ali Ajmi Ajmi (Iraq)	Graduated (GOT)	An Integrated Framework to Improve Energy Management Practice Moderated by Autocratic Leadership Style	26/7/2023
13	Nur Najmiah Jaafar	On-going	A Hybrid Modelling of Bus Travel Time Prediction with Taguchi's T Method and Markov Chain Theory.	
14	Amizi Noor	On-going	Optimization of Automated Guided Vehicles Tracking System	
15	Noor Ashani Mohd Ghani	On-going	Integration of Agile and Lean Framework in the Telecom Malaysia	
16	Zulkifli Marlah @ Marlan	On-going	Robust MM-Estimation-Based Taguchi's T-Method with Hybrid Binary Bat Optimization Algorithm for Predictions	
17	Mohammed Yassin Abdalsalam Zain Elabdeen (Sudan)	On-going	Framework for Lean Management in Sudanese Aviation Industry	
18	Nor Azlina Binti Ahmad Zaini	On-going	Development of Green Supplier Selection Model for Public Procurement Using Integrated Delphi-Analytic Network Process	
19	Noor Azam Bin Md Saad	On-going	Deployment of Lean Six Sigma in Felda Global Venture	
20	Farah Adibah Binti Adnan	On-going	An Integrated Mahalanobis Taguchi System with the Presence of Missing Data for Classification	
21	Sriyanto (Indonesia)	On-going	Hospital Pharmacy Supply Chain Performance Enhancement Through Data Segmentation and Simulation	
22	Syed Izzairie Arafat Bin Syed Omar	On-going		

## PhD Co Supervisor

No	Name	Status (Graduated/ Ongoing)	Title	Date
1	Sri Yulis M Amin (UKM)	Graduated	Injection Molding of Cemented Carbide with Palm Stearine Binder System	10/2016
2	Jesbain Kaur	Graduated	The effect of Annealing on the Microstructural Changes for the High Quality Aluminium Nitride Epitaxial Layer on Sapphire Using Transmission Electron Microscopy	5/6/2017
3	Mohd Tanwyn Mohd Khushairi	Graduated	Copper and Brass Filled Alumunium based Epoxy for Improvement of Injection Moulding Process	29/1/2020
4	George Decruz	Graduated	Cost of Equipment Failure Model to Prioritize Maintenance Decision in a Cement Plant	14/7/2022
5	Tengku Nurainun (Indonesia)	On-going	Integrated Quality Environmental Management Practices And Sharia Compliance Among Small And Medium Enterprises In Indonesian Leather Industry	

## MASTER STUDENTS

### Master by Research

No	Name	Status (Graduated/ Ongoing)	Title	Date
1	Nurul Nadzirah Ismail	Graduated	Waste Polystyrene as Backbone for Metal Injection Moulding Binder	8/7/2015
2	Datuk Khan bin Mohd Akram Khan	Graduated	A Data-Driven Based Framework for End-Of-Life Vehicle Implementation in Malaysia	1/2/2022

## UTM POSTGRADUATE EXAMINATION / VIVA

### PHD

NO	ROLE	NAME OF STUDENT	TITLE	YEAR
1	Internal Examiner	Md Moshiul Alam	Alternative Fuel Selection Framework Towards Decarbonizing Maritime Deep-Sea Shipping	2023
2	Internal Examiner	Mohd Faizal Sadali	Assessment of the Microstructure and Mechanical Properties of a Ti-6Al-4V Alloy Produced by Selective Laser Melting	2022
3	Internal Examiner	Razni Khalid	Maintenance Strategy Using Total Productive Maintenance Approach for Old Lathe Machine in MARA Technical Vocational Education Training Institutions	2021
4	Internal Examiner	Abrari Salleh	Sustainable Service Quality of Malaysian Water and Sewerage Companies	2018
5	Internal Examiner	Jamal Ahmed Hama Kareen	Ethical and Psychological Factors in 5S and Total Productive	2015

			Maintenance on Production Line Effectiveness.	
6	Internal Examiner	Muhamad Murrad	Maintenance and Reliability of Nuri Main Rotor Gearbox in the Malaysian Armed Forces	2013

#### **MASTER BY RESEARCH**

<b>NO</b>	<b>ROLE</b>	<b>NAME OF STUDENT</b>	<b>TITLE</b>	<b>YEAR</b>
1	Internal Examiner	Nurul Liyana Burhanuddin	Numerical Technique Via Transfer Matrix Method For Dynamic Characteristics Of Euler Beam In Three Dimension Structure.	2016
2	Internal Examiner	Nurul Fatiha Mesbah	Resolving Trade off Problem on Bracking System for Passenger Car by Integrating Triz with Taguchi Method.	2014

## EXTERNAL POSTGRADUATE EXAMINATION / VIVA PHD

NO	ROLE	NAME OF STUDENT	TITLE	YEAR
1	External Examiner at <b>Universiti Utara Malaysia</b>	Siti Mariam Man	A Cycle Time Improvement Using Lean Six Sigma in Semiconductor Back-End Assembly with Make-To-Order Business Environment	2022
2	External Examiner at <b>Universiti Teknologi Petronas</b>	Husam Al- Salman	Evaluation of Novel Microwave- Current Assisted Sintering of Pure $\beta$ -Silicon Carbide Nanopowder Based on the Optimization of Sintering Parameters.	2022
3	External Examiner at <b>Universiti Kebangsaan Malaysia</b>	Nur Adilla Kasim	Pemantauan Fasa Haus Mata Alat Berasaskan Pembelajaran Mesin Separa Terselia – Fixum K-Means (F-Km)	2021
4	External Examiner at <b>Universiti Teknologi Petronas</b>	Hassan R S Mahmoud	Hybrid Thermochemical Treatments and Characterization of Surface Expanded Austenite Layers on Stainless Steel (AISI 316L) under Transient Conditions	2019
5	External Examiner at <b>Universiti Kebangsaan Malaysia</b>	Zailan Karim	Pembangunan Sistem Pemantauan Proses Larik	2017



			Berbilang Penderia Berasaskan Peramalan Mahalanobis I- KAZ	
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### **MASTER BY RESEARCH**

<b>NO</b>	<b>ROLE</b>	<b>NAME OF STUDENT</b>	<b>TITLE</b>	<b>YEAR</b>
1	External Examiner at <b>Universiti Tun Hussein Onn</b>	Yarshine Rani A/P Rajasakaran	Fabrication of Stainless Steel Foam With Bio Active Ceramic Addition Using Slurry Method	2022
2	External Examiner at <b>Universiti Malaysia Pahang</b>	Sri Nur Areena Mohd Zaini	Comparative Study Between Product and Service Operation Using Time-Driven Activity Based Costing	2021
3	External Examiner at <b>Universiti Malaysia Pahang</b>	Nik Nurharyantie Nik Mohd Kamil	A Case Study In Electrical & Electronic Industry Using Mahalanobis- Taguchi System And Time- Driven Activity- Based Costing on Production Environment	2020
4	External Examiner at <b>Universiti Malaysia Pahang</b>	Syazwanie Manan	Microstructure and Properties Study of Stainless Steel Fabricated by Metal Injection Molding	2018

5	External Examiner at <b>Universiti Malaysia Pahang</b>	Nur Aidah Nabihah Dandang	Co Cr Mo Alloy Compact on Microstructures and Properties Fabricated by Metal Injection Molding Process	2018
6	External Examiner at <b>Universiti Teknologi MARA</b>	Mahfuzah Zainudin	Ceramics Injection Molding of Yittria Zirconia Ceramics Implant Fabrications	2017
7	External Examiner at <b>Universiti Tun Hussein Onn</b>	Nur Suliani Ab. Manaf	Producing and Characterisation of Cobalt Chromium Molybdenum Foams Using Slurry Method	2017
8	External Examiner at <b>Universiti Teknologi MARA</b>	Najiy Rizal Suriani Rizal	Multi-cavity mould design and simulation of PET Plastic Parison	2017
9	External Examiner at <b>Universiti Kebangsaan Malaysia</b>	Haw Pei Li	Pengoptimuman proses Pengacuanan Logam Serbuk dengan Kaedah Taguchi	2012
10	External Examiner at <b>Universiti Kebangsaan Malaysia</b>	Farhana Mohd Foudzi	Keupayaan Pemprosesan Yitria Zirkonia Terstabil Bersaiz Nano dengan Bahan Pengikat Berasaskan Stearin Sawit dalam Pengacuan Suntikan Serbuk Mikro	2011



## PUBLICATIONS

### WEB OF SCIENCE JOURNALS \*(Q1= 6; Q2= 12; Q3= 5; Q4= 6; ERSI= 15; Total = 44)

(first,corresponding,main author: Q1= 1; Q2= 6)

NO	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Page	Publication year	IF	Type of Publication	Category of Publication	Quartile Ranking	Category Author
1	Performance Shaping Factors to Future Sustainable Energy Management: A New Integrated Approach	Heliyon	2405-8440	9	8	E18438	2023	4.1	Research	Multidisciplinary Sciences	Q2	Corresponding Author
2	Intelligent Integrated Model for Performance in Industry 4.0 of Power Plant	CMC- Computers, Materials & Continua	1546-2218	70	3	5783-5801	2022	3.86	Research	Materials Science, Multidisciplinary	Q2	Corresponding Author
3	Novel Approach to Energy Management via Performance Shaping Factors in Power Plants	CMC- Computers, Materials & Continua	1546-2218	73	3	5025–5039	2022	3.86	Research	Materials Science, Multidisciplinary	Q2	Corresponding Author
4	A Review of the Current Publication Trends on Missing Data Imputation Over Three Decades:	Neural Computing and Applications	0941-0643	34	21	18325-18340	2022	6	Research	Computer Science, Artificial Intelligence - Scie	Q2	UTM First Author

	Direction and Future Research											
5	Quality Management Implementation and Their Impact on Operational Performance of Pakistan's Food Processing SMEs	International Journal for Quality Research	1800-6450	16	3	669-688	2022	1.3	Research	Engineering Industrial	<b>Q4</b>	<b>UTM First Author</b>
6	Development of a Prediction Model of the Pedestrian Mean Velocity Based on LES of Random Building Arrays	Buildings	2075-5309	12	1362	1-14	2022	3.8	Research	Construction & Building Technology	<b>Q2</b>	Co-Author
7	Modelling energy management sustainability: Smart integrated framework for future trends	Energy Reports	2352-4847	8		8027-8045	2022	5.6	Research	Energy & Fuels - Scie	<b>Q2</b>	Co-Author
8	Bamboo-Fiber-Reinforced Thermoset and Thermoplastic Polymer Composites: A Review of Properties, Fabrication, and Potential Applications	Polymers	2073-4360	14	7	1387	2022	4.967	Research	Polymer Science	<b>Q1</b>	Co-Author

9	Physical, Mechanical and Perforation Resistance of Natural-Synthetic Fiber Interply Laminate Hybrid Composites	Polymers	2073-4360	14	7	1322	2022	4.967	Research	Polymer Science	<b>Q1</b>	Co-Author
10	Modeling the Sustainable Integration of Quality and Energy Management in Power Plants	Sustainability (Switzerland)	2071-1050	14	4	2460	2022	4	Research	Environmental Sciences - Scie(Q2); Environmental Studies - Scie(Q2); Green & Sustainable Science & Technology	<b>Q2</b>	Co-Author
11	Development of Ti6AlFe Alloy and its Microstructural Transformation During Synthesis and Subsequent Thermo-Mechanical Treatment	Metallography, Microstructure, and Analysis	2192-9262	11	4	569-579	2022	1.6	Research	Metallurgy & Metallurgical Engineering	<b>Q2</b>	Co-Author
12	Dynamic Mechanical Properties and Thermal Properties of Longitudinal Basalt/Woven Glass Fiber Reinforced Unsaturated Polyester Hybrid Composites	Polymers	2073-4360	13	3343	1-14	2021	3.636	Research	Polymer Science	<b>Q1</b>	Co-Author

13	Implications COVID-19 on Performance and Energy Management in the Production Electricity	CMC- Computers, Materials & Continua	1546-2218	69	1	895-911	2021	4.89	Research	Materials Science, Multidisciplinary	Q1	Co-Author
14	Binary Bitwise Artificial Bee Colony as Feature Selection Optimization Approach within Taguchi's T-method	Mathematical Problems in Engineering	1563-5147	2021		1-10	2021	1.009	Research	Engineering, Multidisciplinary	Q3	Co-Author
15	Physicomechanical Properties of rice Husk/Coco Peat Reinforced Acrylonitrile Butadiene Styrene Blend Composites	Polymers	2073-4360	13	7	1-14	2021	3.636	Research	Polymer Science	Q1	Co-author
16	Classification Performance of Thresholding Methods in Mahalanonis-Taguchi System	APPLIED SCIENCES-BASEL	2076-3417	11		1-22	2021	2.474	Research	Engineering, Multidisciplinary	Q2	Co-author
17	Development of F-N-C-O Taguchi Method for Robust Measurement System Using a Case Study of T-	APPLIED SCIENCES-BASEL	2076-3417	10	18		2020	2.474	Research	Engineering, Multidisciplinary	Q2	Co-Author

	Peel Test on Adhesion Strength											
18	Microstructure, Hardness and Corrosion Behaviour of Gas Tungsten Arc Welding Clad Inconel 625 Super Alloy Over A517 Carbon Steel Using ERNCRMO3 Filler Metal	Journal Of Materials Engineering and Performance	10599495	29	10	6919-6930	2020	1.652	Research		Q3	UTM First Author
19	Process-microstructure-properties relationship in Al-CNTs-Al <sub>2</sub> O <sub>3</sub> nanocomposites manufactured by hybrid powder metallurgy and microwave sintering process	Transactions of Nonferrous Metals Society of China	1003-6326	30	9	2339-2354	2020	4.5	Research	Research Areas:Metallurgy & Metallurgical Engineering Web of Science Categories:Metallurgy & Metallurgical Engineering	Q1	UTM First Author
20	Surface treatment of Al7075 Matrix by TiC particles via hybrid ball milling and tungsten inert gas cladding	Metallurgia Italiana	0026-0843		6	21	2020	0.546	Research	Research Areas:Metallurgy & Metallurgical Engineering Web of Science Categories:Metallurgy & Metallurgical Engineering	Q4	UTM First Author
21	Binary Particle Swarm Optimization for	Matematika	0127-8274	36	1	69-84	2020		Research	Research Areas:Mathematics Web of Science Categories:Mathematics	Emerging Sources	UTM First Author



	Variables Selection Optimization in Taguchi's T-Method										Citation Index	
22	The Effect of the Addition of CNTs on the Microstructure, Densification and Mechanical Behavior in Al-CNT-Al <sub>2</sub> O <sub>3</sub> Hybrid Nanocomposites	JOM	1047-4838	72	6	2283-2294	2020	2.8	Research	Research Areas:Materials Science; Metallurgy & Metallurgical Engineering; Mineralogy; Mining & Mineral Processing Web of Science Categories:Materials Science, Multidisciplinary; Metallurgy & Metallurgical Engineering; Mineralogy; Mining & Mineral Processing	Q2	UTM First Author
23	A combined friction stir processing and ball milling route for fabrication Al <sub>5</sub> O <sub>8</sub> 3-Al <sub>2</sub> O <sub>3</sub> nanocomposite	Materials Research Express	2053-1591	6	6		2019	1.929	Research	Research Areas:Materials Science Web of Science Categories:Materials Science, Multidisciplinary	Q3	UTM First Author
24	Characterisation of activity based costing on remanufacturing crankshaft	International Journal of Automotive and Mechanical Engineering	2229-8649	14	2	4211-4224	2017		Research	Research Areas:Engineering Web of Science Categories:Engineering, Mechanical	Emerging Sources Citation Index	UTM First Author
25	Classification of crankshaft remanufacturing using Mahalanobis-Taguchi system	International Journal of Automotive and Mechanical Engineering	2229-8649	13	2	3413-3422	2016		Research	Research Areas:Engineering Web of Science Categories:Engineering, Mechanical	Emerging Sources Citation Index	UTM First Author

26	Reduction of dislocation density of aluminium nitride buffer layer grown on sapphire substrate	Journal Of Mechanical Engineering and Sciences	2289-4659	10	1	1908-1916	2016		Research Article	Research Areas:Engineering Web of Science Categories:Engineering, Mechanical	Emerging Sources Citation Index	UTM first Author
27	Electron microscopy analysis of microstructure of postannealed aluminum nitride template	Applied Physics Express	1882-0778	9	6		2016	3.086	Research	Research Areas:Physics Web of Science Categories:Physics, Applied	Q2	UTM first Author
28	Characterization of the Feedstock Properties of Metal Injection-molded WC-Co with Palm Stearin Binder System	Sains Malaysiana	0126-6039	43	1	123-128	2014	0.747	Research	Research Areas:Science & Technology - Other Topics Web of Science Categories:Multidisciplinary Sciences	Q3	UTM First Author
29	Dynamic response optimization for cemented carbide injection molding	Jurnal Teknologi (Sciences and Engineering)	01279696	68	4	41-44	2014	0.7	Journal Article	Engineering: General Engineering	Q3	Corresponding Author
30	Influence of composition and sintering temperature on density for pure and titanium alloy foams	Jurnal Teknologi (Sciences and Engineering)	01279696	68	4	83-86	2014		Journal Article	Engineering: General Engineering	Emerging Sources Citation Index	Corresponding Author
31	Pretesting impact of operational complexity in	Jurnal Teknologi	01279696	67	3	43-50	2014		Journal Article	Engineering: General Engineering	Emerging Sources	UTM First Author

	Malaysia's electrical and electronics manufacturing industry	(Sciences and Engineering)									Citation Index	
32	Optimization of injection molding parameters for WC-Co feedstocks	Jurnal Teknologi (Sciences and Engineering)	01279696	63	1	51-54	2013		Journal Article	Engineering: General Engineering	Emerging Sources Citation Index	UTM First Author
33	Production of 316L Stainless Steel (SS316L) Foam via Slurry Method	Journal of Mechanical Engineering and Sciences	2289-4659	5		707-712	2013		Journal Article	Research Areas:Engineering Web of Science Categories:Engineering, Mechanical	Emerging Sources Citation Index	UTM First Author
34	Challenges of quality management: A case study at Malaysian electronics manufacturing services company	Jurnal Teknologi (Sciences and Engineering)	01279696	59	Suppl. 2	29-32	2012		Journal Article	Engineering: General Engineering	Emerging Sources Citation Index	UTM First Author
35	Human factor issue in quality management	Jurnal Teknologi (Sciences and Engineering)	01279696	59	Suppl. 2	33-35	2012		Journal Article	Engineering: General Engineering	Emerging Sources Citation Index	Co author
36	Delaminating control on drilling the medium density fiber board with robust optimization	Jurnal Teknologi (Sciences and Engineering)	01279696	59	Suppl. 2	95-98	2012		Journal Article	Engineering: General Engineering	Emerging Sources Citation Index	Corresponding Author
37	Solvent debinding process for ZK60	Jurnal Teknologi	01279696	59	Suppl. 2	159-168	2012		Journal Article	Engineering: General Engineering	Emerging Sources	UTM First Author

	magnesium alloy mim compact	(Sciences and Engineering)									Citation Index	
38	Optimization of injection molding parameters by data mining method in PIM process	Jurnal Teknologi (Sciences and Engineering)	01279696	59	Suppl. 2	193-196	2012		Journal Article	Engineering: General Engineering	Emerging Sources Citation Index	Corresponding Author
39	Optimization of Micro Metal Injection Molding with Multiple Performance Characteristics using Grey Relational Grade	Chiang Mai Journal of Science	0125-2526	38	2	231-241	2011	0.382	Research	Research Areas:Science & Technology - Other Topics Web of Science Categories:Multidisciplinary Sciences	Q4	Corresponding Author
40	Characterisation of Titanium Foams Sintered at Different Temperatures Prepared by the Slurry Method	Sains Malaysiana	0126-6039	39	1	77-82	2010	0.747	Research	Research Areas:Science & Technology - Other Topics Web of Science Categories:Multidisciplinary Sciences	Q4	Corresponding Author
41	Single Performance Optimization of Micro Metal Injection Molding for the Highest Green Strength by Using Taguchi Method	International Journal of Integrated Engineering	2600-7916	2	1	35-44	2010		Research	General Engineering	Emerging Sources Citation Index	UTM First Author

42	Optimisation of Sintering Factors of Titanium Foams Using Taguchi Method	International Journal of Integrated Engineering	2600-7916	2	1	1-6	2010		Research	General Engineering	Emerging Sources Citation Index	UTM First Author
43	Performance of Solvent Debinding using Design of Experiment Method	Sains Malaysiana	0126-6039	38	6	883-888	2009	0.747	Research	Research Areas:Science & Technology - Other Topics Web of Science Categories:Multidisciplinary Sciences	Q4	UTM First Author
44	Optimizing the Injection Parameter of Water Atomised SS316L Powder with Design of Experiment Method for Best Sintered Density	Chiang Mai Journal of Science	0125-2526	36	3	349-358	2009	0.382	Research	Research Areas:Science & Technology - Other Topics Web of Science Categories: Multidisciplinary Sciences	Q4	Corresponding Author

### SCOPUS JOURNALS (Total = 26)

NO	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Page	Publication year	IF	Type of Publication	Category of Publication	Quartile Ranking	Category Author
1	Identifying Factors for the Success of Halal Management Practices in	Journal of Applied Engineering and Technological Science	2715-6087	4	2	808-824	2023		Article	Industrial and Manufacturing Engineering		Co Author

	Leather Industry											
2	Strategic Maintenance Decision Making Under Adverse Contribution Margins—A Case Study in a Cement Plant	Lecture Notes in Mechanical Engineering	2195-4356			109-120	2023		Article	Mechanical Engineering		UTM First Author
3	The performance of Taguchi's T-method with binary bat algorithm based on great value priority binarization for prediction	Songklanakarin Journal of Science and Technology	0125-3395	44	6	1489-1495	2022		Article	Multidisciplinary		Co Author
4	Enhanced Taguchi's T-method using angle modulated Bat algorithm for prediction	Bulletin of Electrical Engineering and Informatics	2089-3191	11	5	2828-2835	2022		Article	Control and Optimization		UTM First Author

5	Taguchi's T-method with nearest integer-based binary bat algorithm for prediction	Bulletin of Electrical Engineering and Informatics	2089-3191	11	4	2215-2224	2022		Article	Mathematics: Control and Optimization		UTM First Author
6	Cost of Equipment Failure Modelling as a Tool for Maintenance Strategy	Lecture Notes in Mechanical Engineering	2195-4356			140-149	2021		Article	Mechanical Engineering		Co Author
7	Energy Management Cultures Assessment and Its Impact on the Quality of Service in Power Plants a Research Gap for Future Studies	PalArch's Journal of Archaeology of Egypt/Egyptology	1567-214X	17	7	11398-11411	2020		Journal Article	Multidisciplinary		Co Author
8	A Significant Feature Selection in the Mahalanobis Taguchi System	International Journal of Engineering Research and Technology	09743154	13	1	117-136	2020		Journal Article	General Engineering		Co Author

	using Modified-Bees Algorithm											
9	Integrated quality environmental management implementation in food processing SMEs: A case study of a developing country	TQM Journal	17542731	31	5	740-757	2019		Journal Article	Business, Management and Accountng: General Business, Management and Accounting, Business and International Management, Strategy Management  Decision Sciences: General Decision Sciences		UTM First Author
10	Increasing T-method accuracy through application of robust M-estimator	International Journal of Engineering and Technology(UAE)	2227524X	7	3	44-48	2018		Journal Article	General Engineering		UTM First Author
11	Mahalanobis-Taguchi system for pattern	Far East Journal of Mathematical Sciences	09720871	102	12	3021-3052	2017		Journal Article	Mathematics: General Mathematics;		UTM First Author



	recognition: A brief review											
12	A hybrid methodology for the Mahalanobis-Taguchi system using random binary search-based feature selection	Far East Journal of Mathematical Sciences	09720871	101	12	2663-2675	2017		Journal Article	Mathematics: General Mathematics		UTM First Author
13	Effects of metal fillers on properties of epoxy for rapid tooling inserts	International Journal on Advanced Science, Engineering and Information Technology	20885334	7	4	1155-1161	2017		Journal Article	Engineering: General Engineering		UTM First Author
14	Mechanical properties of quasi-static and ultrasonic compaction of stainless-steel powder metallurgy	ARPJ Journal of Engineering and Applied Sciences	18196608	11	10	6594-6598	2016		Journal Article	Engineering: General Engineering		Co Author
15	Optimal feature selection of Taguchi character	Global Journal of Pure and Applied Mathematics	09731768	12	3	2651-2671	2016		Journal Article	Mathematics: General Mathematics;		UTM First Author

	recognition in the Mahalanobis-Taguchi system using bees' algorithm									Applied Mathematics		
16	Operational complexity impact on performance of electrical and electronics industry in Malaysia	ARNP Journal of Engineering and Applied Sciences	18196608	10	15	6593-6601	2015		Journal Article	Engineering: General Engineering		UTM First Author
17	Sintering optimization of Ti-6Al-4V powder mix with palm stearin-based binder using grey-Taguchi method	Advanced Science Letters	19366612	19	1	260-263	2013		Journal Article	Engineering: General Engineering		UTM First Author
18	Injection moulding temperature and powder loading influence to the metal injection	Scientific Research and Essays	19922248	6	21	4532-4538	2011		Journal Article	Engineering: General Engineering		Main Author

	moulding (MIM) green compact											
19	Optimization of injection molding parameter of TI-6AL-4V powder mix with palm stearin and polyethylene for the highest green strength by using taguchi method	International Journal of Mechanical and Materials Engineering	18230334	6	1	126-132	2011		Journal Article	Materials Science: General Materials Science  Engineering: Mechanics of Materials; Mechanical Engineering		UTM First Author
20	Verification of interface friction of radial ultrasonic compression using FE simulation	Journal of Applied Sciences	18125654	11	9	1600-1605	2011		Journal Article	Multidisciplinary		Co author
21	Injection molding parameter optimization of titanium alloy powder mix with palm	Journal of Applied Sciences	18125654	11	10	1833-1838	2011		Journal Article	Multidisciplinary		Main Author

	stearin and polyethylene for multiple performance using grey relational analysis											
22	Multiple performance optimization for the best metal injection molding green compact	Journal of Applied Sciences	18125654	11	9	1663-1667			Journal Article	Multidisciplinary		Main Author
23	Optimization of micro metal injection molding for highest green strength by using taguchi method	International Journal of Mechanical and Materials Engineering	18230334	5	2	282-289	2010		Journal Article	Materials Science: General Materials Science  Engineering: Mechanics of Materials; Mechanical Engineering		Main Author
24	Development and characterization of titanium alloy foams	International Journal of Mechanical and Materials Engineering	18230334	5	2	244-250	2010		Journal Article	Materials Science: General Materials Science		UTM First Author

										Engineering: Mechanics of Materials; Mechanical Engineering		
25	Flow behaviour to determine the defects of green part in metal injection molding	International Journal of Mechanical and Materials Engineering	18230334	4	1	70-75	2009		Journal Article	Materials Science: General Materials Science  Engineering: Mechanics of Materials; Mechanical Engineering		Main Author
26	Rheological behavior of SS316L gas atomized powder in bimodal particle size distribution in a composite binder system	International Journal of Mechanical and Materials Engineering	18230334	3	2	108-114	2008		Journal Article	Materials Science: General Materials Science  Engineering: Mechanics of Materials; Mechanical Engineering		Main Author



### **PROCEEDINGS/CONFERENCE (Indexed in Scopus/ WOS)**

1. Noorazizi, M.S., Jamaludin, K.R. Sarip, S., Izamshah, R., Zamri, R., Abdullah, L., Maslan, M.N. An Investigation of chip formation on different penetration angle for orthopaedic surgical bone drilling. Proceedings of Mechanical Engineering Research Day 2019 (MerD'19), 2019. Pages 328-329
2. Jamaludin, K.R., Talib, H.H.A., Shah, S.A.R. Integrated Quality Environmental Management practices and its impact on operational and environmental performances in food processing SMEs. Proceedings of the International Conference on Industrial Engineering and Operations Management. Volume 2019, Issue MAR, 2019, Pages 32-429th International Conference on Industrial Engineering and Operations Management, IEOM 2019; JW Marriott Hotel, Bangkok; Thailand; 5 March 2019 through 7 March 2019
3. Khushairi, M.T.M., Sharif, S., Jamaludin, K.R., Razak, Z. Shah, Z.N. Suhaimi, M.A., Shayfull, Z. Development of metal filled epoxy inserts for injection moulding process. AIP Conference Proceedings Volume 2030, November 2018, Article 020084. 4th International Conference on Green Design and Manufacture 2018, IConGDM 2018; Eden Star Saigon Hotel Ho Chi Minh; Viet Nam; 29 April 2018 through 30 April 2018
4. Muhamad, W.Z.A.W., Jamaludin, K.R., Muhtazaruddin, M.N., Yahya, Z.R., Ramlie, F., Harudin, N. Optimal variable screening in automotive crankshaft remanufacturing process using statistical pattern recognition approach in the Mahalanobis-Taguchi system. AIP Conference Proceedings. Volume 2013, Oct. 2018, Article 020031. Volume 2013, 2 October 2018, Article number 020031 International Conference on Mathematics, Engineering and Industrial Applications 2018, ICoMEIA 2018; Menara Razak Universiti Teknologi Malaysia (UTM)Kuala Lumpur; Malaysia; 24 July 2018 through 26 July 2018
5. Muhamad, W.Z.A.W., Jamaludin, K.R., Saad, S.A., Yahya, Z.R., Zakaria, S.A. Random binary search algorithm based feature selection in Mahalanobis Taguchi system for breast cancer diagnosis. AIP Conference Proceedings. Volume 1974, June 2018, Article 020027. 25th National Symposium on Mathematical Sciences: Mathematical Sciences as the Core of Intellectual Excellence, SKSM 2017; Kuantan, Pahang; Malaysia; 27 August 2017 through 29 August 2017
6. Muhamad, W.Z.A.W., Jamaludin, K.R., Zakaria, S.A., Yahya, Z.R., Saad, S.A. Combination of feature selection approaches with random binary search and Mahalanobis Taguchi System in credit scoring. AIP Conference Proceedings. Volume 1974, June 2018, Article 020004. 25th National Symposium on Mathematical Sciences: Mathematical Sciences as the Core of Intellectual Excellence, SKSM 2017; Kuantan, Pahang; Malaysia; 27 August 2017 through 29 August 2017
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  11. Daud, Y., Raman, N.A., Aziz, S.A., Jamaludin, K.R. Design of ultrasonic compaction tool for powder metallurgy, Applied Mechanics and Materials, Vol. 465-466, pp.1016-1020. 4th International Conference on Mechanical and Manufacturing Engineering, ICME 2013; Bangi, Putrajaya; Malaysia; 17 December 2013 through 18 December 2013
  12. Mad Rosip N. I., Ahmad S., Arpawi N. L., Jamaluddin K. R., Mat Noor F. The Effect of Sintering Temperature and Composition for Density and Porosity of SS316L Foam. Applied Mechanics and Materials Vols. 465-466, pp 988-992. 4th International Conference on Mechanical and Manufacturing Engineering, ICME 2013; Bangi-Putrajaya; Malaysia; 17 December 2013 through 18 December 2013
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### **THESIS**

- i) PhD Thesis: Influence of SS316L Powder Particle Size and Shape on Metal Injection Molding Parameters Using Design of Experiment (2009)
- ii) MSc Dissertation: Flow Behind Cubes and Hemisphere (1998)

### **ORIGINAL BOOK**

- i) Khairur Rijal Jamaludin, *Reka Bentuk Sistem Kuasa Bendalir*, Penerbit UTM, (2004).

### **TEACHING MODULES**

- i) Khairur Rijal Jamaludin, *Reka Bentuk Sistem Kuasa Bendalir*, Cetakan Awal PPD, UTM, 2002
- ii) Khairur Rijal Jamaludin, *Kuasa Bendalir*, PPD, UTM, 1999

### **BOOK CHAPTER**

- i) Matsumoto, M., Chinen, K., Jamaludin, K.R., Yusoff, B.S.M. From Sustainable Production, Life Cycle Engineering and Management, Barriers for Remanufacturing Business in Southeast Asia: The Role of Governments in Circular Economy, Edited by Y. Kishita et al., Springer Nature Singapore Pte Ltd 2021, Pages 151-161.
- ii) Noor, F.M., Jamaludin, K.R., Ahmad, S. From Solid State Phenomena, Physical and mechanical characteristics of porous SS316L for biomedical implant, Edited by Sahar M.R., Rohani M.S., Trans Tech Publications Ltd, 2017, Pages 374-378
- iii) Noor, F.M., Jamaludin, K.R., Ahmad, S. From Materials Science Forum, Production of stainless steel 316L foam with different solid loading, Edited by Ahmad Z.A., Sulaiman M.Y.M., Abdullah Y., Yarmo M.A., Aziz F.A., Ismail K.N., Abdullah N.S., Ali W.F.F.W., Rejab N.A., Jamaludin A.R., Ali W.F.F.W., Trans Tech Publications Ltd, 2016, Pages 321-325

- iv) Yazid, A.M., Rijal, J.K., Awaluddin, M.S., Sari, E. From Procedia CIRP, Pattern Recognition on Remanufacturing Automotive Component as Support Decision Making using Mahalanobis-Taguchi System Edited by Seliger G., Mohd. Yusof N., Elsevier 2015, Vol. 26, Pages 258-263
- v) Mat Nor, M.F., Sharif, S., Jamaludin, K.R. From Applied Mechanics and Materials, Rheological properties of copper-graphite MIM feedstocks prepared with waste PET binder, Edited by Khalid A., Manshoor B., Abdullah K., Siswanto W.A., Rahim E.A., Khalid A., Manshoor B., Abdullah K., Rahim E.A., Khalid A., Siswanto W.A., Khalid A. Trans Tech Publications Ltd. 2014. Volume 660, Pages 209-213.
- vi) S. Ahmad, N. Muhamad, A. Muchtar, J. Sahari, KR Jamaludin, MHI Ibrahim & NH Mohamad Nor. From Key Engineering Materials, Optimisation of Processing Parameters of Titanium foams using Taguchi Method for compressive strength. Edited by Zhao, J; Kunieda, M; Yang, G; Yuan, XM, Trans Tech Publications Ltd, Vol. 447-448, 2010, pp. 671-675.
- vii) Jamaludin, K.R., Muhamad, N., Rahman, M.N.A., Ahmad, S., Ibrahim, M.H.I., Nor, N.H.M., Daud, M.Y.M, From Key Engineering Materials, Application of the Grey-Taguchi method to the optimization of Metal Injection Molding (MIM) process. Edited by Wang, J; Mathew, P; Li, XP; Huang, CZ; Zhu, HT Trans Tech Publications Ltd, Vol. 443, 2010, pp. 63-68.
- viii) Ibrahim, M.H.I., Muhamad, N., Sulong, A.B., Jamaludin, K.R., Nor, N.H.M., Ahmad, S., Harun, M.R., Zakaria, H. From Key Engineering Materials, Parameter optimization towards highest micro MIM density by using Taguchi method, Edited by Wang, J; Mathew, P; Li, XP; Huang, CZ; Zhu, HT, Trans Tech Publications Ltd, Vol. 443, 2010, pp. 705-710.
- ix) Khamis, N., Ab Rahman, M.N., Jamaludin, K.R., Ismail, A.R., Ghani, J.A., Zulkifli, R. From Lecture Notes in Engineering and Computer Science, Development of 5S Practice Checklist for Manufacturing Industry, Edited by Ao, SI; Gelman, L; Hukins, DWL; Hunter, A; Korsunsky, AM, Int. Assoc. Engineers-IAENG, Hong Kong, 2009, pages 545-549.
- x) Jamaludin, K.R., Muhamad, N., Ab Rahman, M.N. Amin, S.Y.M., Ahmad, S., Ibrahim, M.H.I, Hahadi, M., Nor, N.H.M. From Lecture Notes in Engineering and Computer Science, Molding Parameter Optimisation for the Best Sintered Density, Edited by Ao, SI; Gelman, L; Hukins, DWL; Hunter, A; Korsunsky, AM, Int. Assoc. Engineers-IAENG, Hong Kong, 2009, pages 590-594.

## **EXPERT REPORT FOR MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY**

1. Study on Exploring Re-manufacturing activities in Malaysia for Ministry of International Trade and Industry (MITI): 19/12/2011-1/6/2012: RM 99,935.00
2. Study on Sustainable Manufacturing Program - Remanufacturing (MITI): Feb 2016- Nov 2016: RM 1.9 million
3. Sustainable Remanufacturing Project – Linear Channel Sdn Bhd. Report on Remanufacturing Seven Key Process Area (R7KPA) Audit

and Gomi Muda Mura Muri Economic and Environmental Impact Assessment (G3M)

4. Sustainable Remanufacturing Project – Voith Turbo Sdn Bhd. Report on Remanufacturing Seven Key Process Area (R7KPA) Audit and Gomi Muda Mura Muri Economic and Environmental Impact Assessment (G3M)
5. Sustainable Remanufacturing Project – Adamo Vending Supply Sdn Bhd. Report on Remanufacturing Seven Key Process Area (R7KPA) Audit and Gomi Muda Mura Muri Economic and Environmental Impact Assessment (G3M)
6. Sustainable Remanufacturing Project – Dachser Integrated Logistics (M) Sdn Bhd. Report on Remanufacturing Seven Key Process Area (R7KPA) Audit and Gomi Muda Mura Muri Economic and Environmental Impact Assessment (G3M)
7. Sustainable Remanufacturing Project – Delta Perdana Sdn Bhd. Report on Remanufacturing Seven Key Process Area (R7KPA) Audit and Gomi Muda Mura Muri Economic and Environmental Impact Assessment (G3M)
8. Sustainable Remanufacturing Project – Rentwise Sdn Bhd. Report on Remanufacturing Seven Key Process Area (R7KPA) Audit and Gomi Muda Mura Muri Economic and Environmental Impact Assessment (G3M)
9. Sustainable Remanufacturing Project – MTU Services (M) Sdn Bhd. Report on Remanufacturing Seven Key Process Area (R7KPA) Audit and Gomi Muda Mura Muri Economic and Environmental Impact Assessment (G3M)

## ***RESEARCH MONOGRAPH***

Overall Performance Measurement for Logistics Operation, 2008. Research Management Centre, UTM

## **NATIONAL POLICY PAPERS FOR GOVERNMENT OF MALAYSIA**

1. National Remanufacturing Policy/ Kertas Polisi Pembuatan Semula  
Kementerian Perdagangan Antarabangsa dan Industri Malaysia 2017
2. Pelan Strategi Industri Pembuatan Semula Negara. Kementerian  
Perdagangan Antarabangsa dan Industri Malaysia 2015
3. Kertas Halatuju dan Aktiviti RMK11 Industri Pembuatan Semula Kementerian  
Perdagangan Antarabangsa dan Industri Malaysia 2015

## **SIRIM STANDARD**

1. Sirim 12:2017. Lean Management - Part 1: Requirements for key activities
2. Sirim 13:2017. Lean Management - Part 2: Requirements for competent persons

## **PLENARY/CHAIRPERSON/ORAL POSTER PRESENTER/KEYNOTE ADDRESS / INVITED GUEST SPEAKER**

NO	ROLE	TITLE OF PROGRAMME	DATE	LOCATION
1	Keynote Address	International Conference of Robust Quality Engineering (ICRQE 2021)	10-17 September 2021	Tokyo, Japan
2	Plenary	Expert Forum of Taguchi Method and Mahalanobis Taguchi System at the 3rd International Conference on Robust Engineering	20-21 January 2017	Mumbai, India
3	Keynote Address	Ministry of Public Work Malaysia Technical Seminar	14 Sept 2017	Public Work Ministry, Malaysia
4	Invited Guest Lecture	Workshop on Predictive Engineering Analytical for Sustainability and Recent Trends.	20/7/2017	Universiti Putra Malaysia

5	Invited Guest Speaker	2nd Asia Pasific Remanufacturing Summit 2015	12th -13th Nov 2015	Singapore
6	Keynote Speaker	Malaysia Automotive Institute (MAI) Aftermarket Conference 2015	19 March 2015	Kuala Lumpur
7	Invited Guest Speaker	1nd Asia Pasific Remanufacturing Summit 2014	20th -21th Nov 2014	Singapore
8	Keynote Address	2nd International Conference on Robust Quality Engineering	15 Dec 2014	Bangalore, India
9	Invited Guest Speaker	Asia Pacific Economic Cooperation (APEC) at APEC Market Access Group Workshop; Academic and Scientific Perspectives on Remanufacturing, Surabaya, Indonesia - April 11, 2013. The invitation was from United States Agency, International Development, and United State of America Government.	11 April 2013	Surabaya, Indonesia
10	Invited Guest Speaker	Topic: Powder Metallurgy Research in Malaysia	20 January 2012	Istanbul Ticaret University, Turkiye.
11	Invited Guest Speaker	Topic: Sustainable Binder development in Metal Injection Molding Research	18 January 2012	Bartın University, Turkiye.
12	Plenary	NevilleClarke-UTM Lean Sigma Tea Talk	18 July 2012	UTM KL

## PROFESSIONAL SERVICES

### Consultation and Training

NO	ROLE	TITLE OF PROGRAMME	DATE	LOCATION	TOTAL INCOME GENERATED (RM)
1	Member	Development of a technopreneurship readiness profiling tool for Industry 4.0	30/1/2019-29/10/2019	MTDC	RM 200,000
2	Project Leader	Consultation projects for the Prime Minister Department (ICU-Pulau Pinang) for the development of Plant Factory Artificial Light	21/2/2018	Pulau Pinang	RM 220,374
3	Project Leader	Prime Minister Department (ICU-Pulau Pinang) as continuation project for coaching Bumiputera's mico sized industry to be certified by Halal JAKIM	21/2/2018	Pulau Pinang	RM 150,000
4	Project Leader	Projects for the Prime Minister Department (ICU-Pulau Pinang) for coaching Bumiputera's mico sized industry to be certified by Halal JAKIM	21/9/2017-20/12/2017	Pulau Pinang	RM 300,000
5	Member	Study and audit on G3M Economic and Environmental Impact Assessment for Remanufacturers in Malaysia. Project awarded by Ministry of International Trade and Industry (MITI)	10/5/2016-1/7/2017	MITI	RM 1,900,000



6	Member	Study on Exploring Re-manufacturing activities in Malaysia for Ministry of International Trade and Industry (MITI)	19/12/2011-1/6/2012	MITI	RM99,935.00
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### **Commercialisation**

NO	ROLE	NAME OF PRODUCT COMMERCIALISATION	DATE	TOTAL INCOME GENERATED (RM)
1	Co inventor	G3M Economic and Environmental Impact Assessment	10 May 2016	RM 1.9 Mil.

### **Community and University Services**

NO	ROLE	TITLE OF PROGRAMME	DATE	LEVEL	LOCATION
1	Team Member	Adopt a Kampung, Toy Library program	10/8/2018	University	Kampung Sening, Bachok, Kelantan

### **Endowment and Wakaf to University**

NO	NAME OF ENDOWMENT AND WAKAF	TOTAL CONTRIBUTION (RM)
1	Endowment via monthly salary deduction	RM 1000

### **Patent Granted and Filing**

NO	NAME OF PATENT	STATUS OF PATENT
1	F-N-C-O MEASUREMENT SYSTEM DESIGN FOR ETCHING PROCESS ROBUSTNESS	UTM IP Approved (IP/PT/2016/1991)

## **Copyright**

<b>NO</b>	<b>NAME OF COPYRIGHT</b>	<b>STATUS OF COPYRIGHT</b>
1	Bees Algorithm into the Mahalanobis Taguchi System	Approved (IP/CR/2016/0675)
2	G3M Economic and Environmental Impact Assessment tool.	UTM.J.14.01/27.13/1 JLD108(58)