UNIVERSITI PUTRA MALAYSIA

CURRICULUM VITAE

A. BIODATA

1. Name: **ASSOCIATE PROFESSOR DR. MOHAMAD RIDZWAN BIN ISHAK** also known as **M.R. Ishak**

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Scopus - (h-index: 29) (Total citation: 2480) (Document by Author: 150)
Google Scholar - (h-index: 35) (Total citation: 3739)

Author ID: **36809587400**
http://orcid.org/0000-0001-6923-2481

2. Department:

Department of Aerospace Engineering, Faculty of Engineering, Universiti Putra Malaysia

Field of Specialization:

Composite Materials, Natural Fibre Composites, Aerospace Ground Support Machines, Manufacturing Process

3. Date of Birth: **6th October 1984 / 35 Years Old**

4. **Education and Academic Qualification**

Degree	University Awarded	Year
PhD (Materials Engineering)	University Putra Malaysia Thesis title: Properties Enhancement of Sugar Palm Fibre Reinforced Unsaturated Polyester Composites via Vacuum Resin Impregnation Supervisor: Associate Professor Dr. Zulkiflle Leman	2012 Date of viva: 29 June 2012 Conferment of the degree: 12 August 2012 Thesis submitted in 4th semester of candidature
Master of Science (Materials and Design Engineering)	University Putra Malaysia Thesis title: Mechanical Properties of Treated and Untreated Woven Sugar Palm Fibre-Reinforced Unsaturated Polyester Composites Supervisor: Associate Professor Dr. Zulkiflle Leman	2009 Date of viva: 30 September 2009 Conferment of the degree: 23 December 2009 Thesis submitted in 2nd semester of candidature
Bachelor Degree (Bachelor of Manufacturing Engineering	Universiti Teknikal Malaysia Melaka (UTeM)	2007

(Manufacturing Process) with Honors	UNIVERSITI TEKNIKAL MALAYSIA MELAKA	

5. ACADEMIC POSTS AND OTHER RELEVANT APPOINTMENTS

No.	Position	Department/Faculty/Other Institution	Year	Duration
1.	Design and Process Engineer	Maerotech Sdn Bhd **(1-year Industrial Attachment)**	2019	1 September 2019 – 31 August 2020
2.	Associate Professor Grade: DS54 Date of Present Appointment: 1 August 2019	Department of Aerospace Engineering, Faculty of Engineering, Universiti Putra Malaysia	2018	1 August 2019 - now
3.	Senior Lecturer Grade: DS51 Date of Present Appointment: 2 January 2013 Date of Confirmation: 18 June 2014	Department of Aerospace Engineering, Faculty of Engineering, Universiti Putra Malaysia	2018	2 January 2013 – 31 July 2019
4.	Principal/Key Researcher	Aerospace Malaysia Research Centre (AMRC), Faculty of Engineering, Universiti Putra Malaysia	2018	2018 - now
5.	Research Associate	Aerospace Manufacturing Research Centre (AMRC), Faculty of Engineering, Universiti Putra Malaysia	2018	2013- now
6.	Research Associate	Biocomposite Technology Laboratory Institute of Tropical Forestry and Forest Product (INTROP) Universiti Putra Malaysia	2017	1 September 2017 – 31 August 2019
7.	Honorary Research Assistant	School of Engineering, University of Liverpool, UK	2012	1 March 2012 - 31 May 2012
8.	Research Assistant	Department of Mechanical and Manufacturing Engineering, UPM – Ministry of Agriculture and Agro-Based Industry (MoA) Science Fund project no. 05-01-04-SF1114	2010	1 January 2010 - 31 July 2011

9.	Research Assistant	Department of Mechanical and Manufacturing Engineering, UPM – Ministry of Science, Technology and Innovation (MOSTI) science fund project no. 03-01-04-SF0810	2008	1 April 2008 - 31 December 2009

6. TEACHING EXPERIENCES

No.	Course Code	Course Name	Credit hours	No. of Students	Teaching Assessment Mark/5	Semester
Teaching at undergraduate levels						
1.	EAS 3703	Aerospace Vehicle Design I	3	2	NA	2 - 12/13
2.	EAS 3703	Aerospace Vehicle Design I	3	30	4.6	1 - 13/14
3.	EAS 3721	Engineering Drawing	2	38	4.23	1 - 13/14
4.	EAS 3704	Aerospace Vehicle Design 1II	3	30	4.8	2 - 13/14
5.	EAS 3712	Engineering Design	2	25	4.37	2 - 13/14
6.	EAS 3721	Engineering Drawing	2	NA	NA	2 - 13/14
7.	EAS 3721	Engineering Drawing	2	42	4.39	1 - 14/15
8.	EAS 3712	Engineering Design	2	44	4.15	2 - 14/15
9.	EAS 3721	Engineering Design	2	39	4.06	1 - 15/16
10.	EAS 4999A	Final Year Project	2	39	4.27	1 - 15/16
11.	EAS 3712	Engineering Design	2	32	4.25	2 - 15/16
12.	EAS 3999B	Final Year Project	NA	1	4.8	2 - 15/16
13.	EAS 4999A	Final Year Project	2	1	NA	2 - 15/16
14.	EAS 4999B	Final Year Project	4	38	NA	2 - 15/16
15.	EMM 3518	Computer Aided Engineering Drawing	3	41	4.84	1 - 16/17
16.	EAS 4999B	Final Year Project	4	2	NA	1 - 16/17
17.	EAS 3712	Engineering Design	2	18	4.62	2 - 16/17
18.	EAS 4402	Failure Analysis	3	32	4.48	2 - 16/17
19.	EAS 4402	Failure Analysis	3	17	4.57	1 - 17/18
20.	EAS 3712	Engineering Design	2	29	4.42	2 - 17/18
21.	EAS 3411	Aerospace Materials and Processes	2	66	NA	1 - 18/19
22.	EMM 3518	Computer Aided Engineering Drawing	3	55	NA	1 - 18/19
23.	EMM 3105	Dynamic	3	31	NA	2 - 18/19
Teaching labs at undergraduate levels						
1.	EAS 3921	Aerospace Laboratory I	1	28	4.6	2 - 12/13
2.	EAS 3922	Aerospace Laboratory II	1	16	4.33	1 - 13/14
3.	EAS 4901	Industrial Training	5	NA	NA	2 - 13/14
4.	EAS 4901	Industrial Training	5	32	4.64	1 - 14/15
5.	EAS 4901	Industrial Training	5	40	4.22	1 - 15/16
6.	EAS 3922	Aerospace Laboratory II	1	44	NA	1 - 16/17

7.	EAS 3931	Aerospace Laboratory I	1	NA	NA	1 - 17/18
8.	EAS 3931	Aerospace Laboratory I	1	50	NA	1 - 18/19
Teaching at postgraduate levels						
1.	EAB 5900	Research Methodology	3	10	4.47	1 – 17/18
2.	EAB 5900 / EAS 5100	Research Methodology	3	12	NA	1 – 18/19
3.	EAS 5100	Research Methodology	3	9	NA	2 – 18/19

7. MALAY/ENGLISH PROFICIENCY

i. English: Speaking and writing (fluent)

ii. Malay: Speaking and writing (fluent)

Subjects Taught in Malay (Undergraduate Level): N/A

9. ADMINISTRATIVE WORKS AND OTHER RESPONSIBALITIES

No.	Position	Department/Faculty/Other Institution	Year	Duration
1.	Post Graduate Studies Coordinator	Department of Aerospace Engineering, Faculty of Engineering, UPM	2017-2019	3 January 2017 – 31 August 2019
2.	Development Coordinator	Department of Aerospace Engineering, Faculty of Engineering, UPM	2015-2017	16 August 2015 – 2 January 2017
3.	Industry, Community Relations Coordinator	Department of Aerospace Engineering, Faculty of Engineering, UPM	2013-2015	1 July 2013 – 1 July 2015
4.	Coordinator of Final Year Project	Department of Aerospace Engineering, Faculty of Engineering, UPM	2015-2016	February 2015 – September 2016
5.	Coordinator of Industrial Training Placement	Department of Aerospace Engineering, Faculty of Engineering, UPM	2013-2015	September 2013 – February 2015

6. RESEARCH ACTIVITIES

a. Research Grants

No	Title	Role (Main/Co-researcher)	Sponsor/Grant and Amount (RM)	Period (year)	Status (Completed/Ongoing)
INDUSTRIAL GRANT/PRIVATE SECTOR GRANT (MAIN RESEARCHER)					
1.	Design and Development of Motorised Adjustable Vertical Platform (MAVeP) for Satellite Assembly, Integration and Testing Facility	Main Researcher	Source of Fund: Malaysia Space Agency, National Space Centre, Banting, Selangor, Malaysia Amount: RM 369,920	April 2015-July 2017	Completed
COMMUNITY-BASED PROJECT GRANT (MAIN RESEARCHER)					
1.	Pemindahan Ilmu Proses Moden Penyadapan Nira Bagi Meningkatkan Kecekapan dan Produktiviti Gula Enau	Main Researcher	Knowledge Transfer Grant Scheme, Jaringan Industri dan Masyarakat (KTGS JINM), Universiti Putra Malaysia Amount: RM 25,000 Reference: UPM/900-3/2/KTG/1	April 2017-March 2018	Completed
COMMUNITY-BASED PROJECT GRANT (CO-RESEARCHER)					
1.	Pemindahan Ilmu Bagi Pembangunan Produk Kejuruteraan Berasaskan Pokok Enau di Kg. Kuala Jempol	Co-Researcher	UCTC Fund Scheme, under the initiative of National Blue Ocean Strategy (NBOS) No. 1, year 2015 Ministry of Education (Head of project) (Community grant) Amount: RM 156,100.00 Project code: UCTCF-05-007	7 July 2015 - 7 Sept 2016	Completed
2.	Novel Pineapple Leaf Fibre	Co-Researcher	Knowledge Transfer Grant	April 2017-	Completed

	Preparation for Composite Application; From Waste To Fibre		Scheme, Jaringan Industri dan Masyarakat (KTGS JINM), Universiti Putra Malaysia Amount: RM 25,000 Reference:	March 2018	
COMMERSIALISATION-BASED PROJECT GRANT (MAIN RESEARCHER)					
1.	Production of Commercial Grade Starch from the Sugar Palm Tree	Main Researcher	Source of fund: UPM Putra Science Park (PSP), UPM Amount: RM 14 500	May 2018 - Jan 2020	Ongoing
PUBLIC GRANT (MAIN RESEARCHER)					
1.	Mechanical Characterization, Effect of Hygrothermal Conditioning and Failure Analysis Research on Carbon/Flax Fibre-Based Epoxy Al Metal Laminate (FML) For Future Use In Aircrafts	Main Researcher	Source of fund: Ministry of Higher Education (MOHE) – FRGS Grant 5524741 Amount: RM 113 800	Nov 2015 – Nov 2018	Completed
2.	Investigation of The Filament Wounded Sandwich Structures as a Substitute to the Existing Pultruded Glass Fibre Reinforced Polymer Composite in the Cross-Arm Structure of the High Transmission Towers	Main Researcher	Source of fund: Ministry of Higher Education (MOHE) – FRGS Grant 5540205 Amount: RM 149 000	1 Sept 2019 – 1 Sept 2022	Ongoing
PUBLIC GRANT (CO-RESEARCHER)					

1.	Upstream Fundamental Research in Bamboo – Determining the Characterization of Different Species of Bamboo Found in Peninsular Malaysia as Reinforced Composite Material	Co-Researcher	Source of fund: Ministry of Higher Education (MOHE) – FRGS Grant Amount: RM 79000 Vote No.: 5524499 Head: Dr Mohamed Thariq Hameed Sultan	1 July 2014-30 June 2016	Completed
UPM BASED GRANT (MAIN RESEARCHER)					
1.	Preparation and Properties of Kenaf Santoprene Filled Composites	Main Researcher	Source of fund: UPM Putra Grant-IPM 9422100 Amount: RM 47,000 G-IPM//2013/9422100	2014-2015	Completed
2.	Investigation of Mechanical, Physical and Thermal Properties Of Geopolymer Binder Based On Rice Hask Ash (RHA) For Suitable Coating And Panel Applications Using Statistical Analysis Approach	Main Researcher	Source of Fund: UPM Putra Grant-IPS 9466800 Amount: RM 20,000	Dec 2015-Dec 2017	Completed
3.	Performance of Hybrid Kenaf Cylinder on Vertical Axis Wind Turbine Energy	Main Researcher	Source of Fund: UPM Putra Grant-IPS 9486800 Amount: RM 15,000	June 2016-June 2018	Completed
4.	Effect of Various Metal Surface Pre-Treatments on Mechanical Properties of the	Main Researcher	Source of Fund: UPM Putra Grant-IPS Amount: RM 25,000	Apr 2018 - Aug 2019	Completed

	Hybrid Flax/Carbon Fibre Metal Laminate (FML)				
5.	Study the Effect of Different Reinforcement on Mechanical Behaviour of Hybrid Reinforced Composites	Main Researcher	Source of Fund: UPM Putra Grant-IPS 9633700 Amount: RM 25,000	Apr 2018 – Apr 2020	Ongoing
6.	Material Characterization of Failed Pultruded Composites Products	Main Researcher	Source of Fund: UPM Putra Grant-IPS 9633600 Amount: RM 25,000	Apr 2018 - Apr 2020	Ongoing
7.	Design, Simulation and Characterization of New Composite Cross Arm of Power Transmission	Main Researcher	Source of Fund: UPM Putra Grant-GP 9634000 Amount: RM 26,000	Apr 2018 - Apr 2020	Ongoing
UPM BASED GRANT (CO-RESEARCHER)					
1	A New Developed Method to Impregnated Kenaf/Silica Aerogel (SiAK) Reinforced Epoxy Composites Sandwich with Smart Material for Aircraft Damping and Thermal Applications	Co-researcher	UPM Putra Grant-GP IPB Amount: RM 125,000, Head: Dr Norkhairunnisa Mazlan	2014-2016	Completed
2.	Testing and Characterization of Crash Box and Food Tray Tables Fabricated with Bamboo/Roselle-Based Hybrid Composite Materials	Co-Researcher	UPM Putra Grant-GP IPB Amount: RM 99,300, Head: Associate Professor Ir. Dr Mohamed Thariq Hameed Sultan GP-IPB/2016/9490600	24 months	Completed

3.	Characterisation of Interfacial Adhesive Strength of Sugar Palm Fibre Reinforced Polymer Composites by Pull-Out Tests	Co-Researcher	RUGS - 9199822 Amount: RM65,000.00 Head: Associate Professor Dr Zulkille Leman	24 months	Completed
4.	Characteristic of Tribological Properties of Sugar Palm Fibre Reinforced Composites Materials	Co-Researcher	Source of Fund: UPM Putra Grant-IPS 9447200 Amount: RM 15,000 Head: Associate Professor Dr Zulkille Leman	24 months	Completed
5.	Impregnation of Silica Nanoparticles into Kenaf Fibre To Reinforce Epoxy Thermoset Resin	Co-Researcher	Source of Fund: UPM Putra Grant-IPS 9463900 Amount: RM20,000 Head: Dr Norkhairunnisa Mazlan	27 months	Completed
6.	Glass and Sugar Palm Fibre Reinforced Polypropylene Hybrid Composite for Automotive Side Door Impact Beam	Co-Researcher	Source of Fund: UPM Putra Grant-IPS 9513500 Amount: RM 20,000 Head: Associate Professor Dr Zulkille Leman	24 months	Completed
7.	Mechanical and Flammability Properties of Lightweight Structure Made of Flax-Based Composite for Aerospace Application	Co-Researcher	Source of Fund: UPM Putra Grant-IPS 9663200 Amount: RM 20,000 Head: Dr Mohd Zuhri Mohamed Yusoff	24 months	Ongoing

B. Patent/IP/Commercialisation

No.	Title	Date	File/Patent No.	Status (Granted/Pending)

IP – TRADEMARK				
1.	S.M. Sapuan, **M.R. Ishak** and Z. Leman Sugar palm fibers® Trade Mark, Class 31 Registered with Intellectual Property Corporation of Malaysia (MyIPO) under Trade Marks Act 1976	Date issued 19 July 2017	Trade Mark number: 2016004674	Registered
2.	S.M. Sapuan, **M.R. Ishak** and Z. Leman Sugar palm starch® Trade Mark, Class 30 Intellectual Property Corporation of Malaysia (MyIPO) under Trade Marks Act 1976	Date issued 26 Oct 2017	Trade Mark number: 2016004673	Registered
IP – COPYRIGHT				
1.	Mohd Sapuan bin Salit, Zulkiflle bin Leman and **Mohamad Ridzwan bin Ishak** Produk dari pokok enau video, youtube link: https://youtube.be/1a7_svn963Q Statutory Declaration under Copy right act 1987	14 Sept 2017	Commissioner for Oaths No: W720	Registered
2.	Mohd Sapuan bin Salit, Edi Syams bin Zainudin, Mohamad Ridzwan bin Ishak and **Ahmad Ilyas bin Rushdan** Operation manual for extraction and characterization of cellulose from sugar palm fibre (*Arenga pinnata*) via delignification and mercerization treatment (7 pages report) Statutory Declaration Under Copyright Act 1987 Statutory Declarations Act, 1960	27th August 2019	Commissioner for Oaths No: B429 Risdianto bin Rasyidin Taman Pinggiran Putra, Seri Kembangan, Selangor	Registered
3.	Mohd Sapuan bin Salit, Edi Syams bin Zainudin, Mohamad Ridzwan bin Ishak and **Ahmad Ilyas bin Rushdan** Operation manual for extraction and characterization of nanocrystalline (NCC) from sugar palm (*Arenga pinnata*) via acid hydrolysis treatment (7 pages report)	27th August 2019	Commissioner for Oaths No: B429 Risdianto bin Rasyidin Taman Pinggiran Putra, Seri Kembangan, Selangor	Registered

	Statutory Declaration Under Copyright Act 1987 Statutory Declarations Act, 1960			
4.	Mohd Sapuan bin Salit, Edi Syams bin Zainudin, Mohamad Ridzwan bin Ishak and **Ahmad Ilyas bin Rushdan** Operation manual for fabrication of sugar palm nanocrystalline cellulose (SPNCCs) reinforced sugar palm starch bionanocomposites (8 pages report) Statutory Declaration Under Copyright Act 1987 Statutory Declarations Act, 1960	27th August 2019	Commissioner for Oaths No: B429 Risdianto bin Rasyidin Taman Pinggiran Putra, Seri Kembangan, Selangor	Registered
5.	Mohd Sapuan bin Salit, Edi Syams bin Zainudin, Mohamad Ridzwan bin Ishak and **Ahmad Ilyas bin Rushdan** Operation manual for extraction and characterization of nanofibrillated cellulose from sugar palm (Arenga pinnata) via high pressurize homogenization mechanical treatment (7 pages report) Statutory Declaration Under Copyright Act 1987 Statutory Declarations Act, 1960	27th August 2019	Commissioner for Oaths No: B429 Risdianto bin Rasyidin Taman Pinggiran Putra, Seri Kembangan, Selangor	Registered
6.	Mohd Sapuan bin Salit, Edi Syams bin Zainudin, Mohamad Ridzwan bin Ishak and **Ahmad Ilyas bin Rushdan** Operation manual for fabrication of sugar palm nanofibrillated cellulose (SPNFCs) reinforced sugar palm starch bionanocomposites (7 pages report) Statutory Declaration Under Copyright Act 1987 Statutory Declarations Act, 1960	27th August 2019	Commissioner for Oaths No: B429 Risdianto bin Rasyidin Taman Pinggiran Putra, Seri Kembangan, Selangor	Registered
COMMERCIALIZATION				
1.	Commercialization of Sugar palm starch and sugar palm fibres, through community project; UCTC NBOS project	2015	Commercialization representative: JKKK Kampung Kuala Jempol,	Amount of sales Sugar palm starch: RM 2550

			Bahau, Negeri Sembilan	Sugar palm fibre: RM 7450

10. STUDENT SUPERVISION

	Program Level	Name of Students and Title of Thesis/Project	Main Supervisor/Co-supervisor	Status (Completed/ Ongoing)	Year Graduated
	PhD CANDIDATES SUPERVISED AS MAIN SUPERVISOR COMPLETED				
1.	PhD	**Dr. Sairizal Misri** (Malaysian) Mechanical Properties of Kenaf Fibre Reinforced Composites using Filament Winding Method	Main Supervisor	Completed	2016
2.	PhD	**Dr. Chandrasekar Muthukumar** (Indian) Effect of Various Treatments on Mechanical Properties of Hybrid Fibre Metal Laminates	Main Supervisor	Completed	2019
	PHD CANDIDATES SUPERVISED AS CO-SUPERVISOR (COMPLETED)				
1.	PhD	**Dr. Faris Mohammed Khair Faris Al-Oqla** (Jordanian) Enhancement of Evaluation Methodologies for Natural Fiber Composites Material Selection System	Co-supervisor	Completed	2015
2.	PhD	**Dr. Nadlene Razali** (Malaysian) Development of Hybrid Roselle/Sugar Palm Fibre Thermoset Composites	Co-supervisor	Completed	2016
3.	PhD	**Dr. Mohd Ridhwan Jumaidin** (Malaysia) Development and Characterization of Seaweed Waste and Sugar Palm Fiber Reinforced Agar/Thermoplastic Sugar Palm Starch Polymer Blend Hybrid Composites	Co-supervisor	Completed	2017
4.	PhD	**Dr. Mohamed Mohamed. M. Alkateb (Libyan)** Crushing Behaviour of Natural Fibre Reinforced Elliptical Composite Cones	Co-supervisor	Completed	2018
5.	PhD	**Dr. Ahmad Ilyas Rushdan** (Malaysian)	Co-supervisor	Completed	2018

		Development and Characterization of Sugar Palm Nanocellulose Fibre Reinforced Sugar Palm Starch Biopolymer Composite			
6.	PhD	**Dr. Siti Zubaidah binti Mat Daud** (Malaysian) (Passed Comprehensive Examination 2018)	Co-supervisor	Completed	2018
7.	PhD	**Dr. Mukhtar Isma'ila** (Nigerian)	Co-supervisor	Completed	2018
8.	PhD	**Dr. Muhammed Lamin Sanyang** (Gambian) Biodegradable Composite Films from Modified Sugar Palm (*Arenga Pinnata (Wurmb) Merr.*) Starch for Food Packaging Applications	Co-supervisor	Completed	2015
9.	PhD	**Dr. Munir Faraj AlMabruk** (Libyan) (2016) Crushing Bahaviour of Natural Fiber (Kenaf) Reinforced Hexagonal Composite Tube	Co-supervisor	Completed	2016
10.	PhD	**Dr. Zahra Dashtizadeh** (Iranian)	Co-supervisor	Completed	2018
11.	PhD	**Dr. Alaa Mohammed Razzaq** (Iraqi)	Co-supervisor	Completed	2018
12.	PhD	**Dr. Atiqah binti Mohd Afdzaluddin** (Malaysian)	Co-supervisor	Completed	2018
13.	PhD	**Dr. Mohd Asim Khan** (Indian)	Co-supervisor	Completed	2017
14.	PhD	**Dr. Bushra Rashid Mohammed** (Iraqi)	Co-supervisor	Completed	2017
15.	PhD	**Dr. Suhad Dawood Salman** (Iraqi)	Co-supervisor	Completed	2017
16.	PhD	**Dr. Mohd Salahuddin bin Mohd Basri** (Malaysian)	Co-supervisor	Completed	2017
17.	PhD	**Dr. Mohaiman Jaffar Kashkol** (Iraqi)	Co-supervisor	Completed	2017
18.	PhD	**Dr. Ahmad Hamdan bin Ariffin** (Malaysian)	Co-supervisor	Completed	2016
	PhD AS MAIN SUPERVISOR (ONGOING)				
1.	PhD	**Nur Afifah binti Zakaria** (Malaysian)	Main Supervisor	Ongoing	

		(Passed Comprehensive Examination 2016)			
2.	PhD	**Shazmira Azwa binti Sauli** (Malaysian) (Passed Comprehensive Examination 2015)	Main Supervisor	Ongoing	
3.	PhD	**Waqas Ashraf** (Pakistani)	Main Supervisor	Ongoing	
4.	PhD	**Sharaf Hussein Kadhim Sharaf** (Iraqi)	Main Supervisor	Ongoing	
5.	PhD	**Muhammad Asyraf bin Muhammad Rizal** (Malaysian)	Main Supervisor	Ongoing	
	PhD CANDIDATES SUPERVISED AS CO-SUPERVISOR (ON-GOING)				
1.	PhD	**Noor Azammi Abdul Murat** (Malaysian) (Passed Comprehensive Examination 2016) Kenaf Filled TPNR Composites for Automotive Engine Rubber Mounting	Co-supervisor	Ongoing	
2.	PhD	**Mohd Sufian Abu Bakar** (Malaysian) (Passed Comprehensive Examination 2017) Effect of Winding Angles and Hybridization on Static and Quasi-Static Crushing Behavior of Kenaf-Fibre glass Hybrid Reinforced Composite Tubes	Co-supervisor	Ongoing	
3.	PhD	**Muhammad Huzaifah Mohd Roslim** (Malaysian) (Passed Comprehensive Examination 2018) Properties of Sugar Palm (*Arenga Pinnata*) Fibre Reinforced Vinyl Ester Composites with Reinforcements Obtained from Different Geographical Location	Co-supervisor	Ongoing	
4.	PhD	**Azhar Abdullah** (Malaysian) (Passed Comprehensive Examination 2018) Characterization of Sugar Palm Fibre Reinforced Epoxy Composites	Co-supervisor	Ongoing	

5.	PhD	**Halimatul Saadiah Muhd Julkapli** (Malaysian) (Passed Comprehensive Examination 2015) Sugar Palm Filler Reinforced Sago Starch Composites	Co-supervisor	Ongoing	
6.	PhD	**Siti Madiha binti Muhammad Amir** (Malaysian)	Co-supervisor	Ongoing	
7.	PhD	**Saleh Naji Musaed Alsubari** (Yemen) Sandwich/PLA Composites	Co-supervisor	Ongoing	
8.	PhD	**Ayad Abdullah Mohammed Mutafi** (Iraqi)	Co-supervisor	Ongoing	
9.	PhD	**Babak Mahjoub** (Iraqi)	Co-supervisor	Ongoing	
10.	PhD	**Ayorinde Oladele Oladipo** (Nigerian)	Co-supervisor	Ongoing	
11.	PhD	**Albuhamdan Sadeq Salman Abed** (Iraqi)	Co-supervisor	Ongoing	
	MASTER OF SCIENCE CANDIDATE SUPERVISED AS MAIN SUPERVISOR (COMPLETED)				
1.	Master	**Nur Sofeana Zulaika binti Mohd Munawar** (Malaysian) (2018) Properties of Resin Impregnated Sugar Palm Fibre Reinforced Epoxy Composites	Main Supervisor	Completed	2018
2.	Master	**Rao Muhammad Shahroze Ali** (Pakistani), A Study on the Effect of Nanoclay and Silica Aerogel on Mechanical, Thermal and Physical Properties of Sugar Palm Fiber Reinforced Unsaturated Polyester Composites	Main Supervisor	Completed	2018
	MASTER OF SCIENCE CANDIDATE SUPERVISER AS CO-SUPERVISOR (COMPLETED)				
1.	Master	**Farid bin Bajuri** (Malaysian)	Co-supervisor	Completed	2018
2.	Master	**Afiqah Musa** (Malaysian)	Co-supervisor	Completed	2018
3.	Master	**Muhammad Ammar bin Ishak** (Malaysian)	Co-supervisor	Completed	2018
4.	Master	**Mohd Saffuan bin Yaakob** (Malaysian)	Co-supervisor	Completed	2001

5.	Master	**Mohd Na'im bin Abdullah** (Malaysian)	Co-supervisor	Completed	2002
	MASTER OF SCIENCE CANDIDATE SUPERVISED AS MAIN SUPERVISOR (ONGOING)				
1.	Master	**Mohamad Norazmi bin Kamarolzaman** (Malaysian)	Main-supervisor	Ongoing	
2.	Master	**Ahmad Syahmi bin Mohamed Latiff** (Malaysian)	Main-supervisor	Ongoing	
3.	Master	**Ahmad Nazrin bin Johari** (Malaysian)	Main-supervisor	Ongoing	
	MASTER OF SCIENCE CANDIDATE SUPERVISED AS CO-SUPERVISOR (ON-GOING)				
	Master	**Nur Aqilah binti Sairy** (Malaysian)	Co-supervisor	Ongoing	
	MASTER DEGREE BY COURSE WORK (WITHOUT THESIS) AS SUPERVISOR OF DISSERTATION (COMPLETED)				
1.	Master of Engineering in Innovation and Engineering Design (MEID)	**Sanusi Bin Hamat** (Malaysian) Structural Analysis of Lifting Machine Scissor System by Using Finite Element Analysis (FEA)	Main-supervisor	Completed	2016
2.	Master of Engineering in Innovation and Engineering Design (MEID)	**Siti Naderah Binti Sulin** (Malaysian) Design and Simulation Comparison Of Selected Savonius Blade With Vent to The Conventional Savonius Blade	Main-supervisor	Completed	2017
	Bachelor of Engineering Final Year Project Supervisor				
1.	Bachelor of Aerospace Engineering	**Nur Nadia Mohd Kassim (160312)** (Malaysian) Torsional Behaviour Of Filament Wound Kenaf Yarn Fibre Reinforced Unsaturated Polyester	Main-supervisor	Completed	2014

		Composite Hollow Shafts Using Finite Element Method			
2.	Bachelor of Aerospace Engineering	**Dyg Nadya Syafiqah Abg. Saifuddin (160259)** (Malaysian) Kenaf Filament Wound Reinforced Composite Unsaturated Polyester Hollow Tube	Main-supervisor	Completed	2014
3.	Bachelor of Aerospace Engineering	**Aiza Suzila Mohd Kamal (162295)** Parameters Optimisation of Kenaf Yarn Fibre Reinforced Polyester Via Vacuum Resin Impregnation	Main-supervisor	Completed	2015
4.	Bachelor of Aerospace Engineering	**Mohamad Shahir Mohd Jamani (161264)** Fabrication and characterization of filament wound kenaf yarn fibre-reinforced unsaturated polyester composite pressure vessel	Main-supervisor	Completed	2015
5.	Bachelor of Aerospace Engineering	**Khairul Izwan Ismail** Design and Fabrication of Motorised Adjustable Vertical Platform (MAVeP) Prototype	Main-supervisor	Completed	2016
6.	Bachelor of Aerospace Engineering	**Aiman Manan** Structural Analysis of Motorised Adjustable Vertical Platform (MAVeP) Prototype	Main-supervisor	Completed	2016
7.	Bachelor of Aerospace Engineering	**Ahmad Nazrin Johari (174916)** Fabrication and Cut-In Speed Enhancement of Savonius Vertical Axis Wind Turbine (Svawt) With Hinged Blade Composites	Main-supervisor	Completed	2017
8.	Bachelor of Aerospace	**Mohamad Afzal Bin Abdul Hameed (172069)** Impregnation of Sugar Palm Fibre With Epoxy Resin to	Main-supervisor	Completed	2017

	Engineering	Enhance the Biocomposites Properties			
9.	Bachelor of Aerospace Engineering	**Muhammad Anas Bin Mahmad (177854)** Tensile And Compressive Properties of Pultruded Glass Fibre Reinforced Unsaturated Polyester Composites	Main-supervisor	Completed	2018
10.	Bachelor of Aerospace Engineering	**Muhammad Adzim Razak (137279)** Design and Development of Low-Output-Voltage Power Generation System for Roof Turbine Ventilators	Main-supervisor	Completed	2018
11.	Bachelor of Aerospace Engineering	**'Izzat Nafis Fawwaz Ibrahim (183472)** Design, fabrication and test of hinged-blade vertical axis wind turbines	Main-supervisor	Completed	2019

12. PUBLICATIONS

A. Journals Indexed in Journal Citation Report, Clarivate Analytics (With Impact Factor)

No.	Authors	Title	Year	Source Title	Vol.	Page
1	Ilyas R.A., Sapuan S.M., **Ishak M.R.,** Zainudin E.S.	Sugar palm nanofibrillated cellulose (*Arenga pinnata (Wurmb.) Merr*): Effect of cycles on their yield, physic-chemical, morphological and thermal behavior	2019	International Journal of Biological Macromolecules	123	379

2	Ilyas R.A., Sapuan S.M., **Ishak M.R.**, Zainudin E.S.	Development and characterization of sugar palm nanocrystalline cellulose reinforced sugar palm starch bionanocomposites	2018	Carbohydrate Polymers	202	186
3	Atiqah A., Jawaid M., Sapuan S.M., **Ishak M.R.**, Alothman O.Y.	Thermal properties of sugar palm/glass fiber reinforced thermoplastic polyurethane hybrid composites	2018	Composite Structures	202	954
4	Azammi A.M.N., Sapuan S.M., **Ishak M.R.**, Sultan M.T.H.	Conceptual design of automobile engine rubber mounting composite using TRIZ-Morphological chart-analytic network process technique	2018	Defence Technology	14	268
5	Alkateb M., Sapuan S.M., Leman Z., **Ishak M.R.**, Jawaid M.	Vertex angles effects in the energy absorption of axially crushed kenaf fibre-epoxy reinforced elliptical composite cones	2018	Defence Technology	14	327
6	Asim M., Jawaid M., Abdan K., **Ishak M.R.**	The Effect of Silane Treated Fibre Loading on Mechanical Properties of Pineapple Leaf/Kenaf Fibre Filler Phenolic Composites	2018	Journal of Polymers and the Environment	26	1520
7	Atiqah A., Jawaid M., **Ishak M.R.**, Sapuan S.M.	Effect of Alkali and Silane Treatments on Mechanical and Interfacial Bonding Strength of Sugar Palm Fibers with Thermoplastic Polyurethane	2018	Journal of Natural Fibers	15	251

8	Salman S.D., Leman Z., **Ishak M.R.**, Sultan M.T.H., Cardona F.	Quasi-static penetration behavior of plain woven kenaf/aramid reinforced polyvinyl butyral hybrid laminates	2018	Journal of Industrial Textiles	47	1427
9	Noor Azammi A.M., Sapuan S.M., **Ishak M.R.,** Sultan M.T.H.	Mechanical and Thermal Properties of Kenaf Reinforced Thermoplastic Polyurethane (TPU)-Natural Rubber (NR) Composites	2018	Fibers and Polymers	19	446
10	Atiqah A., Jawaid M., Sapuan S.M., **Ishak M.R.**	Effect of surface treatment on the mechanical properties of sugar palm/glass fiber-reinforced thermoplastic polyurethane hybrid composites	2018	BioResources	13	1174
11	Ilyas R.A., Sapuan S.M., **Ishak M.R.**	Isolation and characterization of nanocrystalline cellulose from sugar palm fibres (Arenga Pinnata)	2018	Carbohydrate Polymers	181	1038
12	Mukhtar I., Leman Z., Zainudin E.S., **Ishak M.R.**	Effectiveness of Alkali and Sodium Bicarbonate Treatments on Sugar Palm Fiber: Mechanical, Thermal, and Chemical Investigations	2018	Journal of Natural Fibers		
13	Afzaluddin A., Jawaid M., Salit M.S., **Ishak M.R.**	Physical and mechanical properties of sugar palm/glass fiber reinforced thermoplastic polyurethane hybrid composites	2018	Journal of Materials Research and Technology		

14	Noor Azammi M.A., Sapuan S.M., **Ishak M.R.**, Sultan M.T.H.	Mechanical properties of kenaf fiber thermoplastic polyurethane-natural rubber composites	2018	Polimery/ Polymers	63	524
15	Atiqah A., Jawaid M., Sapuan S.M., **Ishak M.R.**	Dynamic mechanical properties of sugar palm/glass fiber reinforced thermoplastic polyurethane hybrid composites	2018	Polymer Composites		
16	Alkateb M., Sapuan S.M., Leman Z., Jawaid M., **Ishak M.R.**	Crushing behavior of kenaf fiber/wooden stick reinforced epoxy hybrid "green" composite elliptical tubes	2018	Polimery/ Polymers	63	436
17	Asim M., Jawaid M., Abdan K., **Ishak M.R.**, Alothman O.Y.	Effect of Hybridization on the Mechanical Properties of Pineapple Leaf Fiber/Kenaf Phenolic Hybrid Composites	2018	Journal of Renewable Materials	6	38
18	Nadlene R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Yusriah L.	The effects of chemical treatment on the structural and thermal, physical, and mechanical and morphological properties of roselle fiber-reinforced vinyl ester composites	2018	Polymer Composites	39	274
19	Jumaidin R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Seaweeds as renewable sources for biopolymers and its composites: A review	2018	Current Analytical Chemistry	14	249

20	Ilyas R.A., Sapuan S.M., Sanyang M.L., **Ishak M.R.,** Zainudin E.S.	Nanocrystalline cellulose as reinforcement for polymeric matrix nanocomposites and its potential applications: A review	2018	Current Analytical Chemistry	14	203
21	Alkbir M.F.M., Sapuan S.M., Nuraini A.A., Hamouda A.M.S., **Ishak M.R.**, Mahdi E.	On the effects of geometrical shapes in failure modes in natural – Conventional fiber reinforced composite tube: A review	2018	Current Analytical Chemistry	14	241
22	Muhammad Amir S.M., Sultan M.T.H., Jawaid M., Ariffin A.H., **Ishak M.R.**, ReusmazzranYusof M., Mohd S., Salleh K.A.M.	Effect of gamma radiation on compressive properties of Kevlar/oil palm empty fruit bunch hybrid composites	2018	BioResources	13	7628
23	M. Chandrasekar, **M. R. Ishak**, Mohd Sapuan Salit, Z. Leman, M. Jawaid, and J. Naveen	Mechanical properties of a novel fibre metal laminate reinforced with the carbon, flax, and sugar palm fibres	2018	BioResources	13	5725
24	M. Alkateb, S. M. Sapuan, Z. Leman, M. Jawaid, and **M. R. Ishak**	Quasi-static crush behaviour of environmentally friendly kenaf/wool epoxy composites elliptical tube	2018	Journal of Mechanical Engineering and Sciences	12	3671

25	R. A. Ilyas, S. M. Sapuan, **M. R. Ishak** and E. S. Zainudin	Water transport properties of bio-nanocomposites reinforced by sugar palm (Arenga pinnata) nanofibrillated cellulose	2018	Journal of Advanced Research in Fluid Mechanics and Thermal Sciences	51	234
26	R. M. Shahroze, M. R. Ishak, M.S. Salit, Z. Leman, M. Asim and M. Chandrasekar	Effect of organo-modified nanoclay on the mechanical properties of sugar palm fibre-reinforced polyester composites	2018	BioResources	13	7430
27	A. Atiqah, M. Jawaid, S.M Sapuan and M. R. Ishak	Mechanical and thermal properties of sugar palm fiber reinforced thermoplastic polyurethane composites: effect of silicane treatment and fiber loading	2018	Journal of Renewable Materials	6	477
28	Bushra Rashid, Zulkiflle Leman, Mohammad Jawaid, Mariyam Jameelah Ghazali, and **Mohamad Ridzwan Ishak**	Dynamic Mechanical Analysis of Treated and Untreated Sugar Palm Fibre-based Phenolic Composites	2017	BioResources	12	3448
29	Razzaq A.M., Majid D.L., **Ishak M.R.**, Basheer U.M.	Effect of fly ash addition on the physical and mechanical properties of AA6063 alloy reinforcement	2017	Metals	7	1
30	Ilyas R.A., Sapuan S.M., **Ishak M.R.,** Zainudin E.S.	Effect of delignification on the physical, thermal, chemical, and structural properties of sugar palm fibre	2017	BioResources	12	8734

31	Huzaifah M.R.M., Sapuan S.M., Leman Z., **Ishak M.R.**	Comparative study on chemical composition, physical, tensile, and thermal properties of sugar palm fiber (Arenga pinnata) obtained from different geographical locations	2017	BioResources	12	9366
32	Jumaidin R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Effect of agar on physical properties of thermoplastic starch derived from sugar palm tree	2017	Pertanika Journal of Science and Technology	25	1235
33	Salman S.D., Leman Z., Sultan M.T.H., **Ishak M.R.,** Cardona F.	Effect of kenaf fibers on trauma penetration depth and ballistic impact resistance for laminated composites	2017	Textile Research Journal	87	2051
34	Dashtizadeh Z., Abdan K., Jawaid M., Khan M.A., Behmanesh M., Dashtizadeh M., Cardona F., **Ishak M. R.**	Mechanical and thermal properties of natural fibre based hybrid composites: A review	2017	Pertanika Journal of Science and Technology	25	1103
35	Rashid B., Leman Z., Jawaid M., Ghazali M.J., **Ishak M.R.**	Effect of Treatments on the Physical and Morphological Properties of SPF/Phenolic Composites	2017	Journal of Natural Fibers	14	645
36	Bajuri F., Mazlan N., **Ishak M.R.**	Effect of silica nanoparticles in kenaf reinforced epoxy: Flexural and compressive properties	2017	Pertanika Journal of Science and Technology	25	1029
37	Alkateb M., Sapuan S.M., Leman Z., Jawaid M., **Ishak M.R.**	Energy absorption capacities of kenaf fibre-reinforced epoxy composite elliptical cones with circumferential holes	2017	Fibers and Polymers	18	1187

38	Jumaidin R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Effect of seaweed on mechanical, thermal, and biodegradation properties of thermoplastic sugar palm starch/agar composites	2017	International Journal of Biological Macromolecules	99	265
39	Asim M., Jawaid M., Abdan K., **Ishak M.R.**	Effect of pineapple leaf fibre and kenaf fibre treatment on mechanical performance of phenolic hybrid composites	2017	Fibers and Polymers	18	940
40	Jumaidin R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Characteristics of Eucheuma cottonii waste from East Malaysia: physical, thermal and chemical composition	2017	European Journal of Phycology	52	200
41	Jumaidin R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Thermal, mechanical, and physical properties of seaweed/sugar palm fibre reinforced thermoplastic sugar palm Starch/Agar hybrid composites	2017	International Journal of Biological Macromolecules	97	606
42	Chandrasekar M., **Ishak M.R.**, Sapuan S.M., Leman Z., Jawaid M.	A review on the characterisation of natural fibres and their composites after alkali treatment and water absorption	2017	Plastics, Rubber and Composites	46	119
43	Jumaidin R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Effect of agar on flexural, impact, and thermogravimetric properties of thermoplastic sugar palm starch	2017	Current Organic Synthesis	14	200
44	Sahari J., Sapuan S.M., Zainudin E.S., **Ishak M.R.**, Maleque M.A., Zuhri M.Y.M., Akhtar R.	Nanoindentation and the low velocity impact response of biofibre, biopolymer and its biocomposite	2017	Current Organic Synthesis	14	227

		derived from sugar palm tree				
45	Chandrasekar M., **Ishak M.R.**, Jawaid M., Leman Z., Sapuan S.M.	An experimental review on the mechanical properties and hygrothermal behaviour of fibre metal laminates	2017	Journal of Reinforced Plastics and Composites	36	72
46	Razzaq A.M., Majid D.L., Uday M.B., **Ishak M.R.**, Hashim N.	Effect of equal channel angular pressing on yield stress and fatigue properties of Al 6063 alloy	2017	Journal of Engineering and Applied Sciences	12	2143
47	Huzaifah M.R.M., Sapuan S.M., Leman Z., **Ishak M.R.**, Maleque M.A.	A review of sugar palm (Arenga pinnata): Application, fibre characterisation and composites	2017	Multidiscipline Modeling in Materials and Structures	13	678
48	Rashid B., Leman Z., Jawaid M., Ghazali M.J., **Ishak M.R.**	Influence of treatments on the mechanical and thermal properties of sugar palm fibre reinforced phenolic composites	2017	BioResources	12	1447
49	Rashid B., Leman Z., Jawaid M., Ghazali M.J., **Ishak M.R.**, Abdelgnei M.A.	Dry sliding wear behavior of untreated and treated sugar palm fiber filled phenolic composites using factorial technique	2017	Wear	380-381	26
50	M. F. Alkbir, S.M. Sapuan, A.A. Nuraini and **M. R. Ishak**	Fibre preparation and crashworthiness parameters in natural fibre-reinforced polymer composite tubes: A literature review	2016	Composite Structures		59

51	Jumaidin R., Sapuan S.M., Jawaid M., Ishak M.R., Sahari J.	Effect of seaweed on physical properties of thermoplastic sugar palm starch/agar composites	2016	Journal of Mechanical Engineering and Sciences	10	2214
52	Rashid B., Leman Z., Jawaid M., Ghazali M.J., **Ishak M.R.**	Physicochemical and thermal properties of lignocellulosic fiber from sugar palm fibers: effect of treatment	2016	Cellulose	23	2905
53	Sanyang M.L., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Development and characterization of sugar palm starch and poly(lactic acid) bilayer films	2016	Carbohydrate Polymers	146	36
54	Rashid B., Leman Z., Jawaid M., Ghazali M.J., **Ishak M.R.**	The mechanical performance of sugar palm fibres (ijuk) reinforced phenolic composites	2016	International Journal of Precision Engineering and Manufacturing	17	1001
55	Jumaidin R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Characteristics of thermoplastic sugar palm Starch/Agar blend: Thermal, tensile, and physical properties	2016	International Journal of Biological Macromolecules	89	575
56	Alkbir M.F.M., Sapuan S.M., Nuraini A.A., **Ishak M.R.**	Fibre properties and crashworthiness parameters of natural fibre-reinforced composite structure: A literature review	2016	Composite Structures	148	59
57	Asim M., Jawaid M., Abdan K., **Ishak M.R.**	Effect of Alkali and Silane Treatments on Mechanical and Fibre-matrix Bond Strength of Kenaf and Pineapple Leaf Fibres	2016	Journal of Bionic Engineering	13	426

58	Alkbir M.F.A., Salit M.S., Aziz N.A., **Ishak M.R.**	Lateral crushing properties of non-woven kenaf (mat)-reinforced epoxy composite hexagonal tubes	2016	International Journal of Precision Engineering and Manufacturing	17	965
59	Misri S., **Ishak M.R.**, Sapuan S.M., Leman Z.	Split-disk properties of kenaf yarn fibre-reinforced unsaturated polyester composites using filament winding method	2016	Pertanika Journal of Science and Technology	24	475
60	Sanyang M.L., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Effect of sugar palm-derived cellulose reinforcement on the mechanical and water barrier properties of sugar palm starch biocomposite films	2016	BioResources	11	4134
61	Salman S.D., Sharba M.J., Leman Z., Sultan M.T.H., **Ishak M.R.**, Cardona F.	Tension-compression fatigue behavior of plain woven kenaf/kevlar hybrid composites	2016	BioResources	11	3575
62	Al-Oqla F.M., Sapuan S.M., **Ishak M.R.**, Nuraini A.A.	A decision-making model for selecting the most appropriate natural fiber - Polypropylene-based composites for automotive applications	2016	Journal of Composite Materials	50	543
63	Sanyang M.L., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Recent developments in sugar palm (Arenga pinnata) based biocomposites and their potential industrial applications: A review	2016	Renewable and Sustainable Energy Reviews	54	533
64	Nadlene R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Yusriah L.	A Review on Roselle Fiber and Its Composites	2016	Journal of Natural Fibers	13	10

65	Mukhtar I., Leman Z., **Ishak M.R.**, Zainudin E.S.	Sugar palm fibre and its composites: A review of recent developments	2016	BioResources	11	10756
66	Bajuri F., Mazlan N., **Ishak M.R.**	Flexural properties of hybrid hydrophilic silica nanoparticles/kenaf reinforced epoxy composites	2016	ARPN Journal of Engineering and Applied Sciences	11	12343
67	Alkbir M.F.M., Sapuan S.M., Nuraini A.A., **Ishak M.R.**	The effect of fiber content on the crashworthiness parameters of natural kenaf fiber-reinforced hexagonal composite tubes	2016	Journal of Engineered Fibers and Fabrics	11	75
68	Sanyang M.L., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Effect of plasticizer type and concentration on physical properties of biodegradable films based on sugar palm (arenga pinnata) starch for food packaging	2016	Journal of Food Science and Technology	53	326
69	Sharba M.J., Leman Z., Sultan M.T.H., **Ishak M.R.**, Azmah Hanim M.A.	Effects of kenaf fiber orientation on mechanical properties and fatigue life of glass/kenaf hybrid composites	2016	BioResources	11	1448
70	Salman S.D., Leman Z., Sultan M.T.H., **Ishak M.R.**, Cardona F.	Influence of Fiber Content on Mechanical and Morphological Properties of Woven Kenaf Reinforced PVB Film Produced Using a Hot Press Technique	2016	International Journal of Polymer Science	2016	1
71	Salman S.D., Leman Z., Sultan M.T.H., **Ishak M.R.**, Cardona F.	Ballistic impact resistance of plain woven kenaf/aramid reinforced polyvinyl butyral laminated hybrid composite	2016	BioResources	11	7282

72	Sharba M.J., Leman Z., Sultan M.T.H., **Ishak M.R.**, Hanim M.A.A.	Tensile and Compressive Properties of Woven Kenaf/Glass Sandwich Hybrid Composites	2016	International Journal of Polymer Science	2016	1
73	Sharba M.J., Leman Z., Sultan M.T.H., **Ishak M.R.**, Azmah Hanim M.A.	Partial replacement of glass fiber by woven kenaf in hybrid composites and its effect on monotonic and fatigue properties	2016	BioResources	11	2665
74	Salman S.D., Leman Z., Sultan M.T., **Ishak M.R.**, Cardona F.	The effects of orientation on the mechanical and morphological properties of woven kenaf-reinforced poly vinyl butyral film	2016	BioResources	11	1176
75	Hamdan A., Mustapha F., Ahmad K.A., Mohd Rafie A.S., **Ishak M.R.**, Ismail A.E.	The bonded macro fiber composite (MFC) and woven kenaf effect analyses on the micro energy harvester performance of kenaf plate using modal testing and Taguchi method	2016	Journal of Vibroengineering	18	699
76	Hamdan A., Mustapha F., Ahmad K.A., Mohd Rafie A.S., **Ishak M.R.**, Ismail A.E.	The Effect of Customized Woven and Stacked Layer Orientation on Tensile and Flexural Properties of Woven Kenaf Fibre Reinforced Epoxy Composites	2016	International Journal of Polymer Science	2016	11
77	Misri S., **Ishak M.R.**, Sapuan S.M., Leman Z.	The effect of winding angles on crushing behavior of filament wound hollow kenaf yarn fibre reinforced unsaturated polyester composites	2015	Fibers and Polymers	16	2266

78	AL-Oqla F.M., Sapuan S.M., **Ishak M.R.**, Nuraini A.A.	Predicting the potential of agro waste fibers for sustainable automotive industry using a decision making model	2015	Computers and Electronics in Agriculture	113	116
79	Al-Oqla F.M., Salit M.S., **Ishak M.R.**, Aziz N.A.	Selecting natural fibers for bio-based materials with conflicting criteria	2015	American Journal of Applied Sciences	12	64
80	Misri S., Sapuan S.M., Leman Z., **Ishak M.R.**	Torsional behaviour of filament wound kenaf yarn fibre reinforced unsaturated polyester composite hollow shafts	2015	Materials and Design	65	953
81	Al-Oqla F.M., Salit M.S., **Ishak M.R.**, Aziz N.A.	A novel evaluation tool for enhancing the selection of natural fibers for polymeric composites based on fiber moisture content criterion	2015	BioResources	10	299
82	AL-Oqla F.M., Sapuan S.M., **Ishak M.R.**, Nuraini A.A.	Decision making model for optimal reinforcement condition of natural fiber composites	2015	Fibers and Polymers	16	153
83	AL-Oqla F.M., Sapuan S.M., **Ishak M.R.**, Nuraini A.A.	A Model for Evaluating and Determining the Most Appropriate Polymer Matrix Type for Natural Fiber Composites	2015	International Journal of Polymer Analysis and Characterization	20	191
84	Sanyang M.L., Sapuan S.M., Jawaid M., **Ishak M.R.,** Sahari J.	Effect of Plasticizer Type and Concentration on Dynamic Mechanical Properties of Sugar Palm Starch–Based Films	2015	International Journal of Polymer Analysis and Characterization	20	627

85	Razali N., Salit M.S., Jawaid M., **Ishak M.R.,** Lazim Y.	A study on chemical composition, physical, tensile, morphological, and thermal properties of roselle fibre: Effect of fibre maturity	2015	BioResources	10	1803
86	Nadlene R., Sapuan S.M., Jawaid M., **Ishak M.R.**, Yusriah L.	Material characterization of roselle fibre (Hibiscus sabdariffa L.) as potential reinforcement material for polymer composites	2015	Fibres and Textiles in Eastern Europe	23	23
87	Sanyang M.L., Sapuan S.M., Jawaid M., **Ishak M.R.**, Sahari J.	Effect of plasticizer type and concentration on tensile, thermal and barrier properties of biodegradable films based on sugar palm (Arenga pinnata) starch	2015	Polymers	7	1106
88	Salman S.D., Leman Z., Sultan M.T.H., **Ishak M.R.**, Cardona F.	Kenaf/synthetic and Kevlar®/cellulosic fiber-reinforced hybrid composites: A review	2015	BioResources	10	8580
89	Sharba M.J., Salman S.D., Leman Z., Sultan M.T.H., **Ishak M.R.**, Azmah Hanim M.A.	Effects of processing method, moisture content, and resin system on physical and mechanical properties of woven kenaf plant fiber composites	2015	BioResources	11	1466
90	Salman S.D., Sharba M.J., Leman Z., Sultan M.T.H., **Ishak M.R.**, Cardona F.	Physical, Mechanical, and Morphological Properties of Woven Kenaf/Polymer Composites Produced Using a Vacuum Infusion Technique	2015	International Journal of Polymer Science	2015	1

91	Asim M., Abdan K., Jawaid M., Nasir M., Dashtizadeh Z., **Ishak M.R.**, Hoque M.E., Deng Y.	A review on pineapple leaves fibre and its composites	2015	International Journal of Polymer Science	2015	1
92	Al-Oqla F.M., Salit M.S., **Ishak M.R.**, Aziz N.A.	Combined multi-criteria evaluation stage technique as an agro waste evaluation indicator for polymeric composites: Date palm fibers as a case study	2014	BioResources	9	4608
93	Alkbir M.F.M., Sapuan S.M., Nuraini A.A., **Ishak M.R.**	Effect of geometry on crashworthiness parameters of natural kenaf fibre reinforced composite hexagonal tubes	2014	Materials and Design	60	85
94	Abral H., Kadriadi D., Rodianus A., Mastariyanto P., Ilhamdi, Arief S., Sapuan S.M., **Ishak M.R.**	Mechanical properties of water hyacinth fibers - polyester composites before and after immersion in water	2014	Materials and Design	58	125
95	Sapuan S.M., Lok H.Y., **Ishak M.R.**, Misri S.	Mechanical properties of hybrid glass/sugar palm fibre reinforced unsaturated polyester composites	2013	Chinese Journal of Polymer Science (English Edition)	31	1394
96	Abral H., Putra H., Sapuan S.M., **Ishak M.R.**	Effect of Alkalization on Mechanical Properties of Water Hyacinth Fibers-Unsaturated Polyester Composites	2013	Polymer - Plastics Technology and Engineering	52	446
97	**Ishak M.R.**, Leman Z., Sapuan S.M., Rahman M.Z.A., Anwar U.M.K.	Impregnation modification of sugar palm fibres with phenol formaldehyde and unsaturated polyester	2013	Fibers and Polymers	14	250

98	**Ishak M.R.**, Leman Z., Salit M.S., Rahman M.Z.A., Anwar Uyup M.K., Akhtar R.	IFSS, TG, FT-IR spectra of impregnated sugar palm (Arenga pinnata) fibres and mechanical properties of their composites	2013	Journal of Thermal Analysis and Calorimetry	111	1375
99	**Ishak M.R.**, Sapuan S.M., Leman Z., Rahman M.Z.A., Anwar U.M.K., Siregar J.P.	Sugar palm (Arenga pinnata): Its fibres, polymers and composites	2013	Carbohydrate Polymers	91	699
100	**Ishak M.R.**, Leman Z., Sapuan S.M., Rahman M.Z.A., Anwar U.M.K.	Chemical Composition and FT-IR Spectra of Sugar Palm (Arenga pinnata) Fibers Obtained from Different Heights	2013	Journal of Natural Fibers	10	83
101	Abral H., Andriyanto H., Samera R., Sapuan S.M., **Ishak M.R.**	Mechanical Properties of Screw Pine (Pandanus Odoratissimus) Fibers-Unsaturated Polyester Composites	2012	Polymer - Plastics Technology and Engineering	51	500
102	Abral H., Gafar M.F., Andriyanto H., Ilhamdi, Sapuan S.M., **Ishak M.R.**, Evitayani	Alkali Treatment of Screw Pine (Pandanus Odoratissimus) Fibers and Its Effect on Unsaturated Polyester Composites	2012	Polymer - Plastics Technology and Engineering	51	12
103	**M. R. Ishak**, S.M. Sapuan, Z. Leman, M.Z.A. Rahman and U.M.K. Anwar	Characterization of sugar palm (*Arenga pinnata*) fibres: tensile and thermal properties	2012	Journal of Thermal Analysis and Calorimetry	109	981

104	**M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman and U.M.K. Anwar	Effect of impregnation time on physical and tensile properties of impregnated sugar palm (Arenga pinnata) fibre	2011	Key Engineering Materials	471-472	1147
105	**M. R. Ishak**, Z. Leman, S. M. Sapuan, M. Z. A. Rahman and U. M. K. Anwar	Effects of Impregnation Pressure on Physical and Tensile Properties of Impregnated Sugar Palm (Arenga pinnata) Fibres	2011	Key Engineering Materials	471-472	1153
106	Sapuan S.M., Mun N.K., Hambali A., Lok H.Y., Fairuz A.M., **Ishak M.R.**	Prototype expert system for material selection of polymeric composite automotive dashboard	2011	International Journal of Physical Sciences	6	5988
107	Leman Z., Sapuan S.M., **Ishak M.R.**, Ahmad M.M.H.M.	Pre-treatment by water retting to improve the interfacial bonding strength of sugar palm fibre reinforced epoxy composite	2010	Polymers from Renewable Resources	1	35
108	**Ishak M.R.**, Leman Z., Sapuan S.M., Salleh M.Y., Misri S.	The effect of sea water treatment on the impact and flexural strength of sugar palm fibre reinforced epoxy composites	2009	International Journal of Mechanical and Materials Engineering	4	316

109	Syaubari, M. Saari, T.G. Chuah, G. Zulkafli, **M. Ishak** and S.M. Sapuan	Preparation of conjugated p-aminobenzamidine on thermo-sensitive poly (NIPAM) by irradiation grafted process	2008	Polymer-Plastics Technology and Engineering	47	692

B. Journals Indexed in Clarivate Analytics (Isi Master Journal List Emerging Resources Citation Index) and Chemical Abstract

1. R. Nadlene, S.M. Sapuan, M. Jawaid, **M. R. Ishak**, Mercerization effect on morphology and tensile properties of roselle fibre, *Applied Mechanics and Materials*, **754-755**, pp 955-959, 2015(Chemical Abstract).
2. S. Misri, **M. R. Ishak**, S.M. Sapuan and Z. Leman, Mechanical and physical performance of filament wound kenaf/unsaturated polyester composites, *Biointerface Research in Applied Chemistry*, **6**, no. 6, pp. 1770-1776, 2016 (Indexed in Clarivate Analytic Emerging Sources Citation Index (ESCI).

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3. R.A. Ilyas, S.M. Sapuan, **M. R. Ishak** and E.S. Zainudin, Sugar palm cellulosic fibres (*Arenga pinnata*) hierarchy: A comprehensive approach from macro to nano scales, *Journal of Materials Research and Technology*, submitted.

4. R.A. Ilyas, S.M. Sapuan, **M. R. Ishak** and E.S. Zainudin, Sugar palm nanocrystalline cellulose (*Arenga pinnata (wurmb. Merr)*): Effect of hydrolysis time on their physic-chemical, morphological and thermal behavior, *Journal of Materials Research and Technology*, submitted.

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9. M.J. Halimatul**,** S.M. Sapuan**,** M. Jawaid and **M. R. Ishak**, Effect of sago starch and plasticizer contents on thermoplastic sago films: mechanical and repeated soaking and drying test, *Polimery*, submitted.

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E. Authored Books

1. S.M. Sapuan, **M. R. Ishak**, and Z. Leman, *Pokok Enau: Potensi dan Pembangunan Produk*, UPM Press, Serdang, Selangor, Malaysia, 2017, ISBN 978-967-344-747-3, 150 pages (Won National Book Award, 2018)

F. Edited Books

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2. S.M. Sapuan, J. Sahari, **M. R. Ishak** and M.L. Sanyang, *Sugar Palm: Biofibers, Biopolymers, and Biocomposites*, CRC Press, An Imprint of Taylor & Francis, Boca Raton, FL., USA, to be published in 15th August 2018. ISBN-13: 978-149875302-9, ISBN-10: 1498753027, 328 pages.

G. Chapters in Book

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7. R. Yahaya, S.M. Sapuan, **M. R. Ishak**, Z. Leman and M. Jawaid, Ballistic properties of hybrid kenaf composites, in *Kenaf Fibers and Composites*, (Editors: S.M. Sapuan, **M. R. Ishak**, J. Sahari and M. L. Sanyang), CRC Press, An Imprint

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H. Journals Special Issues as Guest Editors

1. S.M. Sapuan, F. Mustapha, D.L. Majid, Z. Leman, A.H.M. Ariff, M.K.A. Ariffin, M.Y.M. Zuhri, **M. R. Ishak** and J. Sahari, Editors, Composite Science and Technology, *Key Engineering Materials*, **vol. 471-472**, part 1, 2011 (Scopus).

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I. Editor of Conference/Seminar Proceedings

1. S.M. Sapuan, **M. R. Ishak**, J. Sahari, L. Yusriah, M.S. Ibrahim, S. Misri and M. Haron (Editors), *Proceedings of the UPM-UniKL Symposium on Polymeric Materials and the Third Postgraduate Seminar on Natural Fibre Composites 2012*, UniKL, MiCET, Melaka, 2nd February 2012, ISBN 978-983-2408-06-2.

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J. Invited Lectures in Conferences/Workshops/Seminars

1. S.M. Sapuan, **M. R. Ishak** and R. Wirawan, Overview of natural fibre reinforced polymer composites in Malaysia**,** Presented at *2010 SAMPE (Society for the Advancement of Material and Process Engineering) Asia Conference*, 19th – 20th January 2010, Kuala Lumpur, Malaysia.

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5. M. L. Sanyang, S. M. Sapuan, M. Jawaid, **M. R. Ishak** and J. Sahari, Effect of glycerol and sorbitol plasticizers on physical and thermal properties of sugar palm starch based films, Presented at *the 13th International Conference on Environment, Ecosystems and Development (EED15)*, 23-25 April 2015, Renaisanne Kuala Lumpur Hotel, Kuala Lumpur, Malaysia.

K. Papers Published in (International) Conference Proceedings

1. **M. R. Ishak**, S.M. Sapuan, Z. Leman, J. Sahari and M.S. Ibrahim, The effect of natural degradation on tensile properties of sugar palm (*Arenga pinnata*) fibres. *Proceedings of, Conference on Manufacturing & Technology Management (CMTM), World Engineering Congress 2010,* Kuching, Sarawak, Malaysia, 2nd – 5th August 2010 (7 pages) (CD Rom proceedings)

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4. **M.R. Ishak**, Z. Leman, S.M. Sapuan and S. Misri, The effects of fibre content on flexural and impact properties of woven sugar palm fibre reinforced unsaturated polyester composites, *Proceedings of the 9th National Symposium on Polymeric Materials*, 14-16 December 2009, Putrajaya, Malaysia, (CD ROM Proceedings, ISBN 978-967-960-255-5).

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36. R. Jumaidin, S.M. Sapuan, M. Jawaid, **M. R. Ishak** and J. Sahari, Natural fibre reinforced thermoplastic starch composite: A review, *Proceedings of the 5th Postgraduate Seminar on Natural Fiber Composites*, 28th December 2016, Serdang, Selangor, Malaysia, pp.16-19.

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38. M.R.M. Huzaifah, S.M. Sapuan, Z. Leman and **M.R. Ishak**, A review on Sugar Palm (*Arenga Pinnata*): Characterization of sugar palm fibre, *Proceedings of the 5th Postgraduate Seminar on Natural Fiber Composites*, 28th December 2016, Serdang, Selangor, Malaysia, pp.49-52.

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41. M.J. Halimatul, S.M. Sapuan, M. Jawaid and **M.R. Ishak**, Effect of sago starch and plasticizer concentrations on tear properties of thermoplastic sago films, *Proceedings of the 5th Postgraduate Seminar on Natural Fiber Composites*, 28th December 2016, Serdang, Selangor, Malaysia, pp.77-81.

42. R.A. Ilyas, S.M. Sapuan, M.L. Sanyang and **M.R. Ishak**, Nanocrystalline cellulose reinforced starch-based nanocomposite: A review, *Proceedings of the 5th Postgraduate Seminar on Natural Fiber Composites*, 28th December 2016, Serdang, Selangor, Malaysia, pp.82-87.

M. Conference Papers (Abstract Published in Book of Abstract)

1. **M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman and U.M.K. Anwar, Effect of impregnation time on physical and tensile properties of impregnated sugar palm (Arenga pinnata) fibre, Presented *at the 8th International Conference on Composite Science and Technology (ICCST8)*, Kuala Lumpur, 22-24 March 2011, p. 198, ISBN 978-967-960-291-3 (**Book of Abstract** (CD ROM)).

2. **M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman and U.M.K. Anwar, Effect of impregnation pressure on tensile and physical and properties of impregnated sugar palm (*Arenga pinnata*) fibre, Presented at *the 8th International Conference on Composite Science and Technology (ICCST8)*, Kuala Lumpur, 22-24 March 2011, p. 199, ISBN 978-967-960-291-3 (**Book of Abstract** (CD ROM)).

3. **M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman and U.M.K. Uyup, Mechanical properties of impregnated sugar palm fibre reinforced unsaturated polyester composite, Presented at *International Conference on Innovation in Polymer Science and Technology 2011 (IPST2011)*, Sanur Paradise Plaza Hotel, Bali, Indonesia, 28 Nov. – 1 Dec. 2011, p. 84 (Program and **Abstract Book**).

4. **M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman, U.M.K. Uyup and J.C. Chua, Physical properties of impregnated sugar palm fibre reinforced unsaturated polyester composite, Presented at *International Conference on Innovation in Polymer Science and Technology 2011 (IPST2011)*, Sanur Paradise Plaza Hotel, Bali, Indonesia, 28 Nov. – 1 Dec. 2011, p. 161 (Program and **Abstract Book**).

5. Munir Faraj M.A. Kbir, S.M. Sapuan, Nuraini Abdul Aziz and **M. R. Ishak**, Experimental quasi-static axial crushing of non-woven kenaf fibre/epoxy hexagonal composite tubes, presented at *International Conference on Advances in Mechanical and Manufacturing Engineering (ICAM^{2}E),* Kuala Lumpur, 26-28 November 2013, **Book of Abstract**, pp. 78-79.

6. S. Misri, S.M. Sapuan, Z. Leman and **M. R. Ishak**, Tensile properties of kenaf yarn fibre reinforced unsaturated polyester composites at different fibre orientations, presented at *International Conference on Advances in Mechanical and Manufacturing Engineering (ICAM^{2}E),* Kuala Lumpur, 26-28 November 2013, **book of Abstract**, pp. 79-80.

7. M. F. A. Alkbir, S. M. Sapuan, A.A. Nuraini and **M. R. Ishak**, Quasi-static lateral crushing of non-woven kenaf fibre reinforced composite hexagonal tubes, Presented at *2015 6th International Conference on Mechanical, Industrial, and Manufacturing Technologies (MIMT 2015)*, Melaka, Malaysia, 6-7 March 2015 (**Book of Abstract**/Program. p. 28).

8. R. Jumaidin, S.M. Sapuan, M. Jawaid, **M. R. Ishak** and J. Sahari, Effect of agar on physical properties of thermoplastic starch derived from sugar palm tree, Presented at *Introp Research Colloquium 2015*, 1-2 December 2015, Putrajaya, Malaysia, **Book of Abstract**, p. 17.

9. S. Misri, **M. R. Ishak**, S.M. Sapuan and Z. Leman, Split disk properties of kenaf yarn fibre-reinforced unsaturated polyester composites processed by filament winding, presented *at the 2nd International Conference on Computational Methods in Engineering and Health Sciences (ICCMEH- 2015)***,** December 19 - 20, 2015, Serdang, Selangor, Malaysia, **Book of Abstract**.

10. A. Atiqah, M. Jawaid, **M. R. Ishak** and S.M. Sapuan, Moisture absorption and thickness swelling behavior of sugar palm fibre reinforced thermoplastic polyurethane, Presented at *the Advances in Materials and Processing Technologies Conference (AMPT2016),* 8th – 11th November 2016, Pullman Hotel, Kuala Lumpur, Malaysia **(Book of Abstract).**

11. R. Jumaidin, S.M. Sapuan, M. Jawaid, **M. R. Ishak** and J. Sahari, Sugar palm fibre reinforced polymer composites: A review, Presented at *the 4th International Symposium on Applied Engineering and Sciences (SAEM2016)*, 17-18 December 2016, Tobata, Kyusu, Japan **(Book of Abstract).**

12. S.M. Sapuan, **M. R. Ishak**, Z. Leman, M.Y. Yuhazri, R.A. Ilyas, M.M.M. Huzaifah and M. I. Ammar, Product development of sugar palm, presented *at International Conference on Agriculture Extension (AGREX'17)*, 14 -16th February 2017, Serdang, Selangor, Malaysia, **book of abstract** page 42.

13. A. Atiqah, M. Jawaid, S. M. Sapuan and **M. R. Ishak**, Thermal properties of sugar palm/glass fibre reinforced thermoplastic polyurethane hybrid composites Presented at *the International Conference on Composite Structures (ICCS20),* 4-7 September 2017, CNAM, Paris, France **(Book of Abstract).**

14. A. Atiqah, M. Jawaid, S. M. Sapuan and **M. R. Ishak**, Physical properties of treated sugar palm fiber reinforced thermoplastic polyurethane, Presented at *Wood and Biofiber International Conference 2017 (WOBIC 2017)*, Putrajaya, Malaysia, 21-23 November 2017, **Book of Abstract**, p. 9.

15. R.A. Ilyas, S.M. Sapuan and **M. R. Ishak**, Degradation and water barrier properties of sugar palm starch-based nanocomposites reinforced with sugar palm nanocrystalline cellulose, Presented at *Wood and Biofiber International Conference 2017 (WOBIC 2017)*, Putrajaya, Malaysia, 21-23 November 2017**,** **Book of Abstract**, p. 25.

16. R.A. Ilyas, S.M. Sapuan, **M. R. Ishak**, E.S. Zainudin and M.S.N. Atikah, Degradation and physicochemical properties of SPNFCs/SPS Bionanocomposite, presented at *the First International Conference on Safe Biodegredable Packaging Technology (SafeBioPack 2018),* 24-26 July 2018, Might Partnership Hub, Cyberjaya, Malaysia, Abstract published in **Book of Abstract**, pp. 45.

N. Conference Papers Presented (Orally)

1. R. Nadlene, S.M. Sapuan, M. Jawaid, and **M. R. Ishak**, Mercerization effect on morphology and tensile properties of roselle fibre, Presented at *the 3rd International Conference on Advanced Material Engineering & Technology 2014(ICAMET 2014)*, Ho Chi Minh City, Vietnam, 4-5 December 2014.
2. R. Nadlene, S.M. Sapuan, M. Jawaid, **M. R. Ishak** and L. Yusriah, Flexural and morphological properties of roselle fibre reinforced vinylester, Presented at *the 2nd International Conference on Green Chemical Engineering Technology (GCET 2015)*, 24-25 November 2015, Melaka, Malaysia.

O. Seminar/Workshop/Colloquium Presented (Orally)

P. Other Presentations (Poster/Product/Exhibition/Showcase)

1 Zulkiflle Leman, Sairizal Misri, **Mohamad Ridzwan Ishak**, Mohd Sapuan Salit and Umar Abdul Hanan,Development of ijuk (Arenga pinnata) fiber biocomposite for small boat application, ***Exhibition*** *of Invention, Research and Innovation UPM 2010 (PRPI 10),* 20th – 22nd July 2010, Pusat Kebudayaan dan Kesenian Sultan Salahudin Abdul Aziz Shah, UPM, Serdang, Selangor, Malaysia.

2 **M.R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman, U.M.K. Anwar, J.C. Chua and J.K. Chin, Development of properties enhancement process of sugar palm (*Arenga pinnata*) fibre composites via vacuum resin impregnation, **Poster** presented at *SAMPE Asia 2012 Conference and Exhibition*, KLCC, Kuala Lumpur, Malaysia, 21st – 23rd February 2012.

3 S.M. Sapuan**, M.R. Ishak** and Z. Leman, Biocomposite productspresented during *Pelancaran Program Pemindahan Ilmu Bagi Pembangunan Produk Kejuruteraan Berasaskan Pokok Enau (Sugar Palm)*, 22 November 2015, Kampung Kuala Jempol, Bahau, Negeri Sembilan, Malaysia.

4 S.M. Sapuan, **M.R. Ishak** and Z. Leman, *Demonstration of* ***product*** *from sugar palm*, 18 February 2016, Kampung Kuala Jempol, Bahau, Negeri Sembilan, Malaysia.

5 S.M. Sapuan, **M.R. Ishak** and Z. Leman, 12 sugar palm products, **Poster** presented at *CEO@FACULTY PROGRAMME 2016*, Serdang, Selangor, Malaysia, 13th October 2016.

6 S.M. Sapuan, **M.R. Ishak** and Z. Leman, 12 Sugar palm products, *Agricultural* ***Expo*** *and 40th Convocation Fiesta UPM*, 20-26 October 2018, Bukit Ekspo, Serdang, Selangor, Malaysia.

7 S.M. Sapuan, **M.R. Ishak**, Z. Leman, M.I. Ammar, M.R. Huzaifah and R.A. Ilyas, Sugar palm-based products, ***Exhibition*** *of Invention, Research and Innovation UPM 2016 (PRPI16)*, 15-16 November 2016, Dewan Besar, PKKSSAAS, UPM Serdang, Selangor, Malaysia.

8 S.M. Sapuan, **M.R. Ishak**, Z. Leman and M.I. Ammar, Pembangunan produk daripada pokok enau, **Products** exhibited at *Malaysia Agriculture, Horticulture and Agrotourism Show (MAHA 2016),* 1-11 December 2016, MAEPS, Serdang, Selangor, Malaysia.

9 S.M. Sapuan, **M.R. Ishak**, Z. Leman and M.I. Ammar, Product development from sugar palm (pokok enau), **Poster** presented at *UPM Innovation Open Day (IOD): A Decade of INTROP (2006-2016*), 15 December 2016, Serdang, Malaysia.

Q. Invited Motivational/Publication Seminars

R. OTHER EQUIVALENT OUTCOMES (MONOGRAPH/MODULE/POPULAR WRITING & ARTICLE/DESIGN ETC)

Research Bulletin

1. **M.R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman, U.M.K. Anwar, J.C. Chua and J.K. Chin. Zainudin, Development of high performance of sugar palm (Arenga pinnata) fibre composite via resin impregnation, *INTROPica*, Issue 6, July – Dec 2011, pp. 23, ISSN. No. 1985-4951.
2 **Mohamad Ridzwan Ishak** and Mohd Sapuan Salit, Biocomposite manufacturing using filament winding: Machine improvement for kenaf fibre reinforced composite applications, pp. 13-15, *INTROPica*, Issue 10, Jan - June 2015, p. 3, ISSN 1985-4951.
3 S.M. Sapuan, **M.R. Ishak**, Z. Leman, I M. Ammar, M.R.M. Huzaifah and R.A. Ilyas, Development of products from sugar palm trees (*Arenga pinnata wurm. Merr*): A community project, *INTROPica*, Issue 13, July – Dec. 2016, pp. 12-13, ISSN 1985-4951.

Published Research Directory

1. S.M Sapuan, **M.R. Ishak**, Z. Leman and Ammar, M.I., Product development from sugar palm (Pokok Enau), 10 Years *Research Highlights, Sustaining Growth 2.0*, INTROP, UPM, 2016, p. 26.

12. CONSULTATION WORKS

a. Consultation Projects

No.	Name of Consultant(s)	Name of Project/Program	Sponsor	Amount (RM)	Year	Status (Completed/Ongoing)
	Mohamad Ridzwan Ishak, Faizal Mustapha, Mohamed Thariq Hameed Sultan, Noorfaizal Yidris, Chia Chen Ciang	Tensile and Compressive Tests of (23L) 132 kV Quad Tower Composite Crossarms (QTCC) Type 3 Top Phase For TMJA-PTAI, Negeri Sembilan Assembly	Electrius Sdn Bhd, Puchong, Selangor	RM 14,831.52	2017-2018	Ongoing (Project Leader)
	Noorfaizal Yidris, **Mohamad Ridzwan Ishak**, Faizal Mustapha, Mohamed Thariq Hameed Sultan, Chia Chen Ciang	Structural Analysis of (23L) 132 kV Quad Tower Composite Crossarms (QTCC) Type 3 Top Phase For TMJA-PTAI, Negeri Sembilan Assembly	Electrius Sdn Bhd, Puchong, Selangor	RM 30,000.00	2017-2018	Completed (Project Member)

b. Consultation Report(s)

No.	Name of Consultant (s)	Title of Report	Sponsor	Date Submitted
	Noorfaizal Yidris, **Mohamad Ridzwan Ishak**, Faizal Mustapha, Mohamed Thariq Hameed Sultan, Chia Chen Ciang	Structural Analysis of (23L) 132 kV Quad Tower Composite Crossarms (QTCC) Type 3 Top Phase For TMJA-PTAI, Negeri Sembilan Assembly	Electrius Sdn Bhd, Puchong, Selangor	March 2018

K. Extension and other public services

13. CONFERENCES/SEMINAR ATTENDED

No.	Conferences/Seminar	Paper Title	Participation	
1.	Proceedings of Conference on Aerospace and Mechanical Engineering (CAME), World Engineering Congress 2010,	S.M. Sapuan, D. Bachtiar and **M. R. Ishak**, Advances in sugar palm fibre reinforced polymer composites research	**Invited presenter**	2nd-5th August 2010, Kuching, Sarawak, Malaysia, pp. 529-536
2.	2010 SAMPE (Society for the Advancement of Material and Process Engineering) Asia Conference,	S.M. Sapuan, **M. R. Ishak** and R. Wirawan, Overview of natural fibre reinforced polymer composites in Malaysia	**Invited presenter**	19th – 20th January 2010, Kuala Lumpur, Malaysia.
3.	Institute Tropical Agriculture (ITA) Research Seminar	**M.R. Ishak**, S.M. Sapuan, Z. Leman, M.S. Ibrahim and J. Sahari, Research and development of sugar palm (*Arenga pinnata*) industry as a new Tropical agriculture in UPM	**Invited Speaker**	Institute of Tropical Agriculture, Universiti Putra Malaysia, 25th March 2010.
4.	Colloquium on Biocomposite Technology 2014,	S. Misri, **M. R. Ishak**, S.M. Sapuan and Z. Leman, Split disk properties of kenaf yarn fibre-reinforced unsaturated polyester composites processed by filament winding,		Serdang, Selangor, Malaysia, 24 November 2014, Book of Abstract, p. 5.
5.	Conference on Manufacturing & Technology Management (CMTM), World	**M. R. Ishak**, S.M. Sapuan, Z. Leman, J. Sahari and M.S. Ibrahim, The effect of natural		Kuching, Sarawak, Malaysia, 2nd – 5th August 2010 (7

	Engineering Congress 2010,	degradation on tensile properties of sugar palm (*Arenga pinnata*) fibres		pages) (CD Rom proceedings)
6.	International Conference on Design & Concurrent Engineering 2010 (iDECON 2010)	**M. R. Ishak**, S.M. Sapuan, Z. Leman, J. sahari and M.S. Ibrahim, Chemical composition of sugar palm (*Arenga pinnata*) fibres: the effects of natural degradation		Renaissance Hotel, Melaka, Malaysia, 20-21 September 2010, pp. 136-140 (CD Rom Proceedings).
7.	Proceedings of Postgraduate Seminar on Engineering Towards Safety, Health & Environmental Excellence, 2008	**M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Y. Salleh and S. Misri, Biological treatment: a novel eco-friendly method for surface treatment of sugar palm fibre reinforced epoxy composites		18th October 2008, Serdang, Selangor, Malaysia, pp. 316-327, ISBN 978-967-344-062-7, Published by UPM Press.
8.	The 9th National Symposium on Polymeric Materials,	**M.R. Ishak**, Z. Leman, S.M. Sapuan and S. Misri, The effects of fibre content on flexural and impact properties of woven sugar palm fibre reinforced unsaturated polyester composites,		14-16 December 2009, Putrajaya, Malaysia, (CD ROM Proceedings, ISBN 978-967-960-255-5).
9.	The 9th National Symposium on Polymeric Materials,	**M. R. Ishak**, Z. Leman, S.M. Sapuan and S. Misri, Effects of sea water treatment on tensile and impact properties of woven sugar palm fibre reinforced unsaturated		14-16 December 2009, Putrajaya, Malaysia, (CD ROM Proceedings, ISBN 978-967-960-255-5).

		polyester composites		
10.	The 9th National Symposium on Polymeric Materials,	S. Misri, **M. R. Ishak**, Z. Leman, S.M. Sapuan and A.M.M. Edeerozey, Effects of moisture content to impact properties of kenaf bast fibre reinforced unsaturated polyester composites,		14-16 December 2009, Putrajaya, Malaysia, (CD ROM Proceedings, ISBN 978-967-960-255-5).
11.	The 9th National Symposium on Polymeric Materials,	**M. R. Ishak**, Z. Leman, S.M. Sapuan, A.M.M. Edeerozey and I.S. Othman, Flexural and impact properties of kenaf bast and core fibre reinforced unsaturated polyester composites,		14-16 December 2009, Putrajaya, Malaysia, (CD ROM Proceedings, ISBN 978-967-960-255-5).
12.	the 2nd Postgraduate Seminar on Natural Fibre Composites,	**M. R. Ishak**, S.M. Sapuan, Z. Leman, J. Sahari and M.S. Ibrahim, Development of dimensionally stable sugar palm fibre composites,		Serdang, Selangor, Malaysia, 18 – 19 February 2010, pp. 17-27, ISBN 978-983-2408-04-8.
13.	Proceedings of the Tenth National Symposium on Polymeric Materials (NSPM 2010),	**M. R. Ishak**, Z. Leman, S.M. Sapuan, J. Sahari and M.S. Ibrahim, Thermogravimetric analysis of sugar palm Arenga pinnnata fibres,		Langkawi, Kedah, Malaysia, 8 – 10 November 2010 (7 pages) (CD Rom Proceedings).
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16.	the Postgraduate Symposium on Composites Science and Technology 2014 & 4th Postgraduate Seminar on Natural Fibre Composites 2014,	M.F.M. Al Kbir, S.M. Sapuan, A.A. Nuraini and **M. R. Ishak**, Effect of length in crashworthiness parameters of non-woven kenaf fibre/epoxy composite hexagonal tubes,		28th January 2014, Putrajaya, Malaysia, pp. 172-175, ISBN 978-983-2408-15-4.
17.	Postgraduate Symposium on Biocomposite Technology 2015,	M.L. Sanyang, S.M. Sapuan**,** M. Jawaid, **M.R. Ishak** and J. Sahari, Plasticizing and anti-plasticizing effect of different plasticizerson tensile properties of sugar palm starch films,		Serdang, Malaysia, 3rd March 2015, pp. 174-180 (ISBN 978-983-2408-24-6).
18.	the 5th Postgraduate Seminar on Natural Fiber Composites,	R.A. Ilyas, S.M. Sapuan, M.L. Sanyang and **M.R. Ishak**, Nanocrystalline cellulose reinforced starch-based nanocomposite: A review,		28th December 2016, Serdang, Selangor, Malaysia, pp.82-87.
19.	the 8th International Conference on Composite Science	**M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A.		Kuala Lumpur, 22-24 March

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20.	the 8th International Conference on Composite Science and Technology (ICCST8),	**M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman and U.M.K. Anwar, Effect of impregnation pressure on tensile and physical and properties of impregnated sugar palm (*Arenga pinnata*) fibre,		Kuala Lumpur, 22-24 March 2011, p. 199, ISBN 978-967-960-291-3
21.	International Conference on Innovation in Polymer Science and Technology 2011 (IPST2011),	**M. R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman and U.M.K. Uyup, Mechanical properties of impregnated sugar palm fibre reinforced unsaturated polyester composite,		Sanur Paradise Plaza Hotel, Bali, Indonesia, 28 Nov. – 1 Dec. 2011, p. 84
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23.	International Conference on Advances in Mechanical and	Munir Faraj M.A. Kbir, S.M. Sapuan, Nuraini Abdul Aziz and **M. R. Ishak**,		Kuala Lumpur, 26-28 November 2013

	Manufacturing Engineering (ICAM^{2}E),	Experimental quasi-static axial crushing of non-woven kenaf fibre/epoxy hexagonal composite tubes		
24.	International Conference on Advances in Mechanical and Manufacturing Engineering (ICAM^{2}E),	S. Misri, S.M. Sapuan, Z. Leman and **M. R. Ishak**, Tensile properties of kenaf yarn fibre reinforced unsaturated polyester composites at different fibre orientations		Kuala Lumpur, 26-28 November 2013
25.	the 2nd International Conference on Computational Methods in Engineering and Health Sciences (ICCMEH-2015	S. Misri, **M. R. Ishak**, S.M. Sapuan and Z. Leman, Split disk properties of kenaf yarn fibre-reinforced unsaturated polyester composites processed by filament winding		December 19 - 20, 2015, Serdang, Selangor, Malaysia
26.	the 4th International Symposium on Applied Engineering and Sciences (SAEM2016)	R. Jumaidin, S.M. Sapuan, M. Jawaid, **M. R. Ishak** and J. Sahari Sugar palm fibre reinforced polymer composites: A review		17-18 December 2016, Tobata, Kyusu, Japan
27.	**Exhibition** of Invention, Research and Innovation UPM 2010 (PRPI 10),	Zulkiflle Leman, Sairizal Misri, **Mohamad Ridzwan Ishak**, Mohd Sapuan Salit and Umar Abdul Hanan,Development of ijuk (Arenga pinnata) fiber biocomposite for		20th – 22nd July 2010, Pusat Kebudayaan dan Kesenian Sultan Salahudin Abdul Aziz Shah, UPM, Serdang,

		small boat application		Selangor, Malaysia
28.	SAMPE Asia 2012 Conference and Exhibition	**M.R. Ishak**, Z. Leman, S.M. Sapuan, M.Z.A. Rahman, U.M.K. Anwar, J.C. Chua and J.K. Chin, Development of properties enhancement process of sugar palm (*Arenga pinnata*) fibre composites via vacuum resin impregnation	**Poster** presentation	KLCC, Kuala Lumpur, Malaysia, 21st – 23rd February 2012.
29.	Pelancaran Program Pemindahan Ilmu Bagi Pembangunan Produk Kejuruteraan Berasaskan Pokok Enau (Sugar Palm),	S.M. Sapuan**, M.R. Ishak** and Z. Leman, Biocomposite products		22 November 2015, Kampung Kuala Jempol, Bahau, Negeri Sembilan, Malaysia.
30.	Demonstration of **product** from sugar palm	S.M. Sapuan, **M.R. Ishak** and Z. Leman		18 February 2016, Kampung Kuala Jempol, Bahau, Negeri Sembilan, Malaysia.
31.	CEO@FACULTY PROGRAMME 2016	S.M. Sapuan, **M.R. Ishak** and Z. Leman, 12 sugar palm products	**Poster** presentation	UPM White Building, RMC Building, Serdang, Selangor, Malaysia, 13th October 2016.
32.	UPM Innovation Open Day (IOD): A	S.M. Sapuan, **M.R. Ishak**, Z. Leman	**Poster** presentation	at, 15 December

	Decade of INTROP (2006-2016)	and M.I. Ammar, Product development from sugar palm (pokok enau)		2016, Serdang, Malaysia.
33.	Malaysia Agriculture, Horticulture and Agrotourism Show (MAHA 2016)	S.M. Sapuan, **M.R. Ishak**, Z. Leman and M.I. Ammar, Pembangunan produk daripada pokok enau	**Products** exhibited	1-11 December 2016, MAEPS, Serdang, Selangor, Malaysia.
34.	**Exhibition** of Invention, Research and Innovation UPM 2016 (PRPI16)	S.M. Sapuan, **M.R. Ishak**, Z. Leman, M.I. Ammar, M.R. Huzaifah and R.A. Ilyas, Sugar palm based products	**Products** exhibited	15-16 November 2016, Dewan Besar, PKKSSAAS, UPM Serdang, Selangor, Malaysia.
35.	Agricultural **Expo** and 40th Convocation Fiesta UPM,	S.M. Sapuan, **M.R. Ishak** and Z. Leman		20-26 October 2018, Bukit Ekspo, Serdang, Selangor, Malaysia.

PhD/MSc Thesis Examiner (Current)

No.	Programme	Category	Matric No.	Name

PhD/MSc Thesis Examiner (Graduated)

No.	Programme	Category	Matric No.	Name
1	PhD	Member	GS43732	Mohd Nurazzi bin Norizan
2	Master	Chairman	GS40672	Muhammad Rijaluddin bin Bahiki
3	PhD	Member	GS45161	Ibrahim Mohammed
4	PhD	Chairman	GS33772	Syakirah binti Kamarbhari
5	Master	Member	GS44690	Nor Hafizah binti Manan
6	Master	Chairman	GS43017	Nurul Reffa Azyan bt Nasrudin
7	PhD	Member	GS42642	Ain Umaira binti Md. Shah
8	PhD	Member	GS40330	Ahmed Faraj Ibrahim Hissen Edhirej

9	PhD	Chairman	GS37463	Nima Ghamarian
10	PhD	Chairman	GS39884	Mohammed Sabah Ali
11	PhD	Chairman	GS36854	Omar Faruqi bin Marzuki
12	PhD	Member	GS41580	Mastura binti Mohammad Taha
13	Master	Member	GS45380	Sivasanghari a/p Karunakaran
14	PhD	Member	GS32468	Muhammad Ibrahim-Nadiir Bheekhun
15	PhD	Chairman	GS43134	Ramengmawii
16	PhD	Chairman	GS43514	Mohd Radzi bin Ali
17	PhD	Member	GS39366	Norhafizah binti Mohamad Dasuki
18	PhD	Member	GS42459	Syafiqah Nur Azrie bt Safri
19	PhD	Member	GS42466	Noorshazlin binti Razali
20	Master	Chairman	GS47435	Ariff Farhan bin Mohd Nor
21	Master	Member	GS45839	Muhammad Faizzuddin bin Ismail
22	Master	Member	GS47432	Ahmad Mustafa bin Rayney Azmi

14. PUBLIC SERVICES

15. CO-CURRICULAR ACTIVITIES

Professional Bodies

1. **Board of Engineers Malaysia (BEM) – Graduate Engineer, Registration No. 85120A**
2. **The Institution of Engineers, Malaysia (IEM) – Manufacturing, Student Member 31629**
3. **The Plastic and Rubber Institute Malaysia (PRIM) – Student Member**

Society

4. **Academic Staff Society of UPM (PPUPM) – Member, Registration No. PPA-FK-A04068**
5. **Sugar Palm Development and Industrialization Malaysia – Vice President**
6. **UPM Alumni Society – M 6420**
7. **Rakan Alam Sekitar – Membership No. – 10-129579**