



## CURRICULUM VITAE

Muhammad Hazwan Hamzah  
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 Faculty of Engineering,  
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### Education

1.	PhD, Chemical Engineering, 2018, University of Birmingham
2.	MSc, Agricultural Waste Engineering, 2013, Universiti Putra Malaysia
3.	BEng, Agricultural and Biosystems, 2010, Universiti Putra Malaysia

### Areas of Interest

1.	Agricultural Process Engineering
2.	Green Technology and Energy
3.	Bio-environmental Engineering
4.	Post-harvest Engineering
5.	Engineering Education

### Professional Qualification / Membership / Affiliation

1.	American Society of Agricultural and Biological Engineers (ASABE)	Member 2013 - Present
2.	Malaysian Society of Agricultural and Food Engineers (MSAE)	Professional Member 2014 – Present Secretary 2018 -2020 Vice Treasurer 2021- Present
3.	Board of Engineers Malaysia (BEM)	Graduate Member 2011 – Present
4.	The Institution of Engineers Malaysia (IEM)	Graduate Member 2013 – Present
5.	Association of Academician of UPM	Member 2018 – Present
6.	Malaysia Board of Technologists	Professional Technologist 2021– Present

### Appointments

1.	Industry and Community Relations Coordinator, Department of Biological and Agricultural Engineering, Faculty of Engineering, Universiti Putra Malaysia	February 2022 - Present
2.	Head of Biomaterial Processing Laboratory, Department of Biological and Agricultural Engineering, Faculty of Engineering, Universiti Putra Malaysia	2020 - Present
3.	Promotion Coordinator, Department of Biological and Agricultural Engineering, Faculty of Engineering, Universiti Putra Malaysia	August 2021 – February 2022
4.	Academic Coordinator I, Department of Biological and Agricultural Engineering, Faculty of Engineering, Universiti Putra Malaysia	March 2018 – July 2021
5.	Alumni Coordinator, Department of Biological and Agricultural Engineering, Faculty of Engineering, Universiti Putra Malaysia	January 2018 - March 2018
6.	Seminar Coordinator, Department of Biological and Agricultural Engineering, Faculty of Engineering, Universiti Putra Malaysia	January 2013 – December 2013
7.	<i>Rakan Kolej</i> , 10 <sup>th</sup> College, Universiti Putra Malaysia	January 2011- April 2013

Appointments		
8.	Assistant Fellow, 10 <sup>th</sup> College, Universiti Putra Malaysia	May 2013 – March 2014

Publications		
Journals		
1.	<b>Muhammad Hazwan Hamzah</b> , Anies Zulaikha Md Rahim, Bernard Maringgal, Mohd Salahuddin Mohd Basri, Salis Ibrahim (2022). Optimization of Silk Fibroin Coating during Storage using Response Surface Methodology and its Effect on the Physicochemical Properties of <i>Solanum ferox</i> ( <i>S. ferox</i> ). Journal of Food Measurement and Characterization, 1-17	
2.	Adila Fazliyana Aili Hamzah, <b>Muhammad Hazwan Hamzah</b> , Hasfalina Che Man, Nur Syakina Jamali, Shamsul Izhar Siajam, Pau Loke Show (2022). Biogas Production through Mono- and Co-digestion of Pineapple Waste and Cow Dung at Different Substrate Ratios. BioEnergy Research, 1-12	
3.	<b>Muhammad Hazwan Hamzah</b> , Steve Bowra, Philip Cox (2021). Organosolv Lignin Aggregation Behaviour of Soluble Lignin Extract from <i>Miscanthus x giganteus</i> at Different Ethanol Concentration and Its Influence on the Lignin Esterification. Chemical and Biological Technologies in Agriculture. 8(65): 1-13.	
4.	Adila Fazliyana Aili Hamzah, <b>Muhammad Hazwan Hamzah</b> , Hasfalina Che Man, Nur Syakina Jamali, Shamsul Izhar Siajam, Muhammad Heikal Ismail (2021). Recent Updates on the Conversion of Pineapple Waste ( <i>Ananas comosus</i> ) to Value-Added Products, Future Perspective and Challenges. Agronomy. 11(11): 1-27.	
5.	Nur Zafirah Mohd Sopi, <b>Muhammad Hazwan Hamzah</b> , Hasfalina Che Man, Mohd Zuhair Mohd Nor, Mohd Nazren Radzuan (2021). Process Optimization of Ultrasonic-Assisted-S Soxhlet Extraction of Essential Oil from <i>Citrus hystrix</i> using Response Surface Methodology. Agricultural Mechanisation in Asia, Africa and Latin America. 35(3): 1-19.	
6.	Siti Nurumairah Mohamed Razali, <b>Muhammad Hazwan Hamzah</b> , Hasfalina Che Man, Mohd Zuhair Mohd Nor (2021). Converting Durian-Based Traditional Dessert into Ready-To-Eat Durian Stick through Sausage Technology Application. Advances in Agricultural and Food Research Journal. 2(1): 1-16.	
7.	Tie Hieng Ong, <b>Muhammad Hazwan Hamzah</b> and Hasfalina Che Man (2021). Optimization of Palm Oil Extraction from Decanter Cake using Soxhlet Extraction and Effects of Microwaves Pre-treatment on Extraction Yield and Physicochemical Properties of Palm Oil. Food Research. 5(1): 25-32.	
8.	Bernard Maringgal, Norhashila Hashim, Intan Syafinaz Mohamed Amin Tawakkal, Mahmud Tengku Muda Mohamed, <b>Muhammad Hazwan Hamzah</b> and Maimunah Mohd Ali (2021). Effect of Kelulut Honey Nanoparticles Coating on the Changes of Respiration Rate, Ascorbic Acid, and Total Phenolic Content of Papaya ( <i>Carica papaya</i> L.) during Cold Storage. Foods. 10(432): 1-16.	
9.	Mohammed Umar Abba, Hasfalina Che Man, Raba'ah Syahidah Azis, Aida Isma Idris, <b>Muhammad Hazwan Hamzah</b> , Khairul Faezah Yunos and Kamil Kayode Katibi (2021). Novel PVDF-PVP Hollow Fiber Membrane Augmented with TiO <sub>2</sub> Nanoparticles: Preparation, Characterization and Application for Copper Removal from Leachate. Nanomaterials. 11(399): 1-17.	
10.	Bernard Maringgal, Norhashila Hashim, Intan Syafinaz Mohamed Amin Tawakkal, Mahmud Tengku Muda Mohamed and <b>Muhammad Hazwan Hamzah</b> (2021). Phytochemical Content, Antioxidant Activity and Mineral Elements of Honey Produced by Four Different Species of Malaysian Stingless Bees. Food Research. 5(1): 39-46.	
11.	Mohammed Umar Abba, Hasfalina Che Man, Raba'ah Syahidah Azis, Aida Isma Idris, <b>Muhammad Hazwan Hamzah</b> and Mohammed Abdulsalam (2021). Synthesis of Nano-Magnetite from Industrial Mill Chips for the Application of Boron Removal: Characterization and Adsorption Efficacy. International Journal of Environmental Research and Public Health. 18(4):1-18.	
12.	Hasfalina Che Man, Norshafiqah Khairul Anuar, <b>Muhammad Hazwan Hamzah</b> , Syazwani Idrus, and Nik Norsyahariati Nik Daud (2021). The Potential Use of Decanter Cake Waste as Co-substrate for Methane Production under Mesophilic Condition. Journal of Engineering Science and Technology. 16(3): (June 2021).	
13.	Bernard Maringgal, Norhashila Hashim, Intan Syafinaz Mohamed Amin Tawakkal, Mahmud Tengku Muda Mohamed, <b>Muhammad Hazwan Hamzah</b> , Maimunah Mohd Ali and Mohd Faizol Haffiz Abd Razak (2020). Kinetics of Quality Changes in Papayas ( <i>Carica papaya</i> L.) coated with Malaysian Stingless Bee Honey. Scientia Horticulturae. 267: 1-11.	

Publications	
14.	Hasfalina Che Man, Mohammed Umar Abba, Mohammed Abdulsalam, Raba'ah Syahidah Azis, Aida Isma Idris and <b>Muhammad Hazwan Hamzah</b> (2020). Utilization of Nano-TiO <sub>2</sub> as an Influential Additive for Complementing Separation Performance of a Hybrid PVDF-PVP Hollow Fiber: Boron Removal from Leachate. <i>Polymers</i> . 12 (11): 1-19.
15.	Adila Fazliyana Aili Hamzah, <b>Muhammad Hazwan Hamzah</b> , Fauzan Najmi Ahmad Mazlan, Hasfalina Che Man, Nur Syakina Jamali and Shamsul Izhar Siajam (2020). Anaerobic Co-digestion of Pineapple Wastes with Cow Dung: Effect of Different Total Solid Content on Biomethane Yield. <i>Advances in Agricultural and Food Research Journal</i> . 1 (1): 1-12.
16.	Bernard Maringgal, Norhashila Hashim, Intan Syafinaz Mohamed Amin Tawakkal, <b>Muhammad Hazwan Hamzah</b> and Mahmud Tengku Muda Mohamed (2020). Biosynthesis of CaO Nanoparticles using <i>Trigona</i> sp. Honey: Physicochemical Characterization, Antifungal Activity, and Cytotoxicity Properties. <i>Journal of Materials Research and Technology</i> . 9 (5): 11756-11768.
17.	<b>Muhammad Hazwan Hamzah</b> , Steve Bowra and Philip Cox (2020). Effects of Ethanol Concentration on Organosolv Lignin Precipitation and Aggregation from <i>Miscanthus x giganteus</i> . <i>Processes</i> . 8 (7): 1-17.
18.	Mohammed Abdulsalam, Hasfalina Che Man, Khairul Faezah Yunos, Zurina Zainal Abidin, Aida Ismail and <b>Muhammad Hazwan Hamzah</b> (2020). Augmented Yeast-Extract and Dairy-Waste for Enhancing Bio-Decolourization of Palm Oil Mill Effluent using Activated Sludge. <i>Journal of Water Process Engineering</i> . 36: 1-4.
19.	Muhammad Heikal Ismail, Tinia Idaty Mohd. Ghazi, <b>Muhammad Hazwan Hamzah</b> , Latifah Abd Manaf, Ramli Mohd Tahir, Ahadi Mohd Nasir and Ammar Ehsan Omar (2020). Impact of Movement Control Order (MCO) due to coronavirus disease (COVID-19) on food waste generation: A case study in Klang Valley, Malaysia. <i>Sustainability</i> . 12 (21): 1-17.
20.	Hasfalina Che Man, Chai Yun Xie, Khairul Faezah Md Yunos, Abdulsalam Mohammed and <b>Muhammad Hazwan Hamzah</b> (2020). Optimizing hydrogen production from the landfill leachate by electro-coagulation technique. <i>Journal of Agricultural and Food Engineering</i> . 1(3): 1-7.
21.	<b>Muhammad Hazwan Hamzah</b> , Steve Bowra and Philip Cox (2020). Purity and structural composition of lignin isolated from <i>Miscanthus x giganteus</i> by sub-critical water extraction with associated modifiers. <i>Journal of Agricultural and Food Engineering</i> . 1(1): 1-12.
22.	<b>Muhammad Hazwan Hamzah</b> , Nurulhuda Khairudin, Anas Mohd Mustafah, Mahirah Jahari, and Diyana Jamaludin (2020). STEM Enculturation in Agricultural Engineering: The Needs for Government, Academia, Industry and Community Collaborations. <i>Advances in Agricultural and Food Research Journal</i> . 1 (1): 1-4.
23.	<b>Muhammad Hazwan Hamzah</b> , Muhammad Fitri Ahmad Asri, Hasfalina Che Man and Abdulsalam Mohammed (2019). Prospective Application of Palm Oil Mill Boiler Ash as a Bio-sorbent: Effect of Microwave Irradiation and Palm Oil Mill Effluent Decolorization by Adsorption. <i>International Journal of Environmental Research and Public Health</i> . 16(18):1-18.
24.	Bernard Maringgal, Norhashila Hashim, Intan Syafinaz Mohamed Amin Tawakkal, Mahmud Tengku Muda Mohamed, <b>Muhammad Hazwan Hamzah</b> and Nur Indah Abdul Shukor (2019). The Causal Agent of Anthracnose in Papaya Fruit and Control by Three Different Malaysian Stingless Bee Honeys, and The Chemical Profile. <i>Scientia Horticulturae</i> . 257: 1-9.
25.	Hasfalina Che Man, Mohammad Nazri Ebrahim, Mohamed Azwan Mohamed Zawawi and <b>Muhammad Hazwan Hamzah</b> . Prediction of Groundwater Contaminants from Cattle Farm using Visual MODFLOW (2019). <i>Journal of Science and Technology</i> . 27(4): 2265-2279.
26.	<b>Muhammad Hazwan Hamzah</b> , Hasfalina Che Man, Zurina Zainal Abidin and Hishamuddin Jamaludin (2014). Comparison of Citronella Oil Extraction Methods from <i>Cymbopogon nardus</i> Grass by Ohmic-Heated Hydro Distillation, Hydro Distillation and Steam Distillation. <i>BioResources</i> . 9(1): 256-272.
27.	<b>Muhammad Hazwan, H.</b> , Hasfalina, C.M., Hishamuddin, J. and Zurina, Z.A. (2012). Optimization and Kinetics of Essential Oil Extraction from Citronella Grass by Ohmic Heated Hydro Distillation. <i>International Journal of Chemical Engineering and Applications</i> . 3(3): 173-177.
<b>Other Publications (Conference Proceedings, Magazines, etc)</b>	
1.	<b>Muhammad Hazwan Hamzah</b> (2021). Transformasi Kurikulum Kejuruteraan Pertanian Depani Revolusi Pertanian 4.0. <i>Sinar Harian</i> (20 Ogos 2021).
2.	<b>Muhammad Hazwan Hamzah</b> (2021). UPM terima mesin memproses padi bernilai RM100,000 dari IPMA Industry Sdn Bhd. <i>Tribun Putra Bil 103</i> , Halaman 7

Publications	
3.	<b>Muhammad Hazwan Hamzah</b> , Nurulhuda Khairudin, Anas Mustafah, Diyana Jamaludin and Mahirah Jahari (2021). STEM Enculturation - Cultivating Interest in Agricultural Engineering in School and Community. The Ingenieur Board of Engineers Malaysia. 84: 42-46.
4.	Anas Mohd Mustafah, Diyana Jamaludin, Mahirah Jahari, <b>Muhammad Hazwan Hamzah</b> and Nurulhuda Khairudin (2019). Urban AgriSchool: Urban Agriculture Education through the Greenhouse Module. National Innovation Invention in Engineering and Built Environment. 24-26, 26 August 2019. Selangor, Malaysia.
5.	<b>M.H. Hamzah</b> , S. Bowra, P.W. Cox and M.J.H. Simmons (2019). The Influence of Chemical Properties of Organosolv Lignin Aggregates at Different Lignin Concentration on the Efficacy of Lignin Esterification. 14 <sup>th</sup> International UMT Annual Symposium. 1-11, 23-25 July 2019. Terengganu, Malaysia.
6.	Norshafiqah, K.A, Hasfalina, C.M, <b>M. Hazwan, H.</b> , Syazwani, I., Nik Norsyahariati, N.D. and Wan Azlina, W.A.K. (2019). Methane Production from Anaerobic Co-digestion of Sewage Sludge and Decanter Cake. National Convention of Agricultural and Food Engineering 2019. 49-53, 21 March 2019, Putrajaya, Malaysia. (eISBN 9789671614518)
7.	Hasfalina, C.M, Corolin, B., M. Rashid, M.Y. and <b>Muhammad Hazwan, H.</b> (2019). The Potential Use of Palm Oil Fuel Ash (POFA) As Properties of Lightweight Concrete. National Convention of Agricultural and Food Engineering 2019. 44-48, 21 March 2019, Putrajaya, Malaysia. (eISBN 9789671614518)
8.	M. Nuramanina, <b>H. Muhammad Hazwan</b> and C.M. Hasfalina (2019). Ultrasonic Pretreatment Prior to Soxhlet Extraction for Essential Oil from Basil Leaves ( <i>Ocimum Basilicum L.</i> ). National Convention of Agricultural and Food Engineering 2019. 156-160, 21 March 2019, Putrajaya, Malaysia. (eISBN 9789671614518)
9.	Hasfalina, C.M., <b>Muhammad Hazwan, H.</b> , Adam, L. and Nurul Hanira, M.L (2018). The Potential Use Of Carbide Lime Waste For Ammonia Stripping. 6th International Symposium on Applied Engineering and Sciences (SAES2018). 27-29, 15-16 December 2018, Kyutech, Japan.
10.	<b>M.H. Hamzah</b> , M.J.H. Simmons, S. Bowra and P.W. Cox. (2018). A Morphological Study of Organosolv Lignin Aggregates from <i>Miscanthus x giganteus</i> at Different Ethanol Concentration. Malaysian Society of Agricultural Engineers Conference. 12-17, 7-8 February 2018, Selangor, Malaysia. (eISBN 97896716145)
11.	<b>M.H. Hamzah</b> , H. Roslie and H.C. Man (2018). Ultrasonic: A Pre-Treatment Prior to Solvent Extraction for Agarwood Essential Oil. National Conference on Mechanical Engineering. 1-10, 25 September 2018, Kelantan, Malaysia. (eISBN 97899671663905)
12.	Adam Lim, Hasfalina Che Man, Nurul Hanira Mat Lazim and <b>Muhammad Hazwan Hamzah</b> (2018). The Characterization of Carbide Lime Waste for Leachate Treatment. National Conference on Mechanical Engineering. 215-224, 25 September 2018, Kelantan, Malaysia. (eISBN 97899671663905)
13.	<b>M.H. Hamzah</b> , S. Bowra, M.J.H. Simmons and P.W. Cox (2016). The Impact of Process Parameters on the Purity and Chemical Properties of Lignin Extracted from <i>Miscanthus x giganteus</i> using a Modified Organosolv Method. 24th European Biomass Conference and Exhibition. 1754-1759, 6-9 June 2016, Amsterdam, The Netherlands. (Scopus)
14.	<b>M.H. Hamzah</b> , S. Bowra, P.W. Cox. and M.J.H. Simmons (2016). The Effect of Ethanol Concentration upon Formation of Organosolv Lignin Aggregates from <i>Miscanthus x giganteus</i> . 4 <sup>th</sup> CIGR Agricultural Engineering Conference. 1-8, 26-29 June 2016, Aarhus, Denmark.
15.	<b>Hamzah M.H.</b> , Azlina M.F., Hasfalina C.M., Zurina Z.A. and Hishamuddin J. (2013). Optimization and Kinetic Study of Gaharu Oil Extraction. World Academy of Science, Engineering and Technology, International Science Index 78, 7(6), 1919-1922, 20-21 June 2013. Istanbul, Turkey.
16.	H.C. Man, <b>M.H. Hamzah</b> , H. Jamaludin and Z.Z. Abidin (2012). Preliminary Study: Kinetics of Oil Extraction from Citronella Grass by Ohmic Heated Hydro Distillation. 2 <sup>nd</sup> International Conference on Chemistry and Chemical Process. APCBEE Procedia. (3): 124-128. 5-6 May 2012, Kuala Lumpur, Malaysia.
17.	<b>Hamzah, M.H.</b> , Sudin, S.S., Tengku Ab Mutalib, T.N.A., Malek, N.F.H.A., Yusof, N., Jamaludin, H., Jamaludin, N.F., Che Man, H. and Abidin, Z.Z. (2011). Preliminary Study of Ohmic Heated Hydro Distillation for Essential Oil's Plant Extraction. IEEE Student Conference on Research and Development (SCoReD). 211-214, 19-20 December 2011, Cyberjaya, Malaysia. (Scopus)
Newspaper Cutting / Features	
1.	Semua pihak perlu ganding bahu bantu belia. Sinar Harian Nasional, Halaman 2 (20 Mei 2022)

Publications	
2.	Pelajar UPM bantu masyarakat setempat usahakan kebun komuniti Sinar Bestari Sinar Harian (2021)

Grants/ Projects Awarded		
No	Year	Grant / Project
1.	2022-2023	University Consortium Seed Fund for Collaborative Research Grant – Southeast Asian Regional Center for Graduate Study and Research in Agriculture (USD 5000) <b>Leader</b> Quality Assessment of Oil Extracted from Dabai ( <i>Canarium Odontophyllum</i> ), The Exotic Fruit of Borneo through Ohmic Heated Hydro Distillation
2.	2021-2024	Fundamental Research Grant Scheme (RM185,500) <b>Leader</b> Elucidating the Ammonia Inhibition Behaviour in Biogas Production Through an Experimental Data Driven and Model-Based Approaches
3.	2021-2023	Research Incentive Grant for Teaching and Learning (RM20,000) <b>Member</b> Beyond Silos: Enhancing Transdisciplinary Engagement among Engineering Students Through First-Year Seminar
4.	2020-2023	Fundamental Research Grant Scheme (RM 138,600) <b>Member</b> Effects of Ohmic Heating Pre-treatment on Delignification Kinetics for Integrated Biohydrogen Production
4.	2020-2021	Knowledge Transfer Programme Grant (RM 49,000) <b>Member</b> Knowledge Transfer of Food Waste Treatment for Lifelong Income Opportunity to the B40 Community in Sri Serdang
5.	2018-2022	Putra Young Initiative Grant (RM 60,000) <b>Leader</b> Co-Digestion of Pineapple Waste for Mesophilic Bio-Methane Production
6.	2012-2013	Research University Grant Scheme (RM 15,000) <b>Member</b> Gaharu Oil Extraction by Ohmic Heater Hydrodistillation

Intellectual Properties / Copyright		
No	Year	Title
1.	2021	Diyana Jamaludin, Anas Mohd Mustafah, <b>Muhammad Hazwan Hamzah</b> , Mahirah Jahari, Nurulhuda Khairuddin  Pendidikan Pertanian Bandaran Melalui Konsep Dinding Hijau-Modul Pelajar (Copyright No: LY2021E06094)
2.	2021	Diyana Jamaludin, Anas Mohd Mustafah, <b>Muhammad Hazwan Hamzah</b> , Mahirah Jahari, Nurulhuda Khairuddin  Pendidikan Pertanian Bandaran Melalui Konsep Dinding Hijau-Modul Pengajar (Copyright No: LY2021E06096)
3.	2020	Mohd Shahrizal Dolah , Saiful Ramli, Saiful H. Ramli, Raja Ahmad Effendi, Rashid, Raizal S.M., Fakhrul, Hassan, M. K. Hassan, Mohd Khair Hassan, Mohd Khair B. Hassan, Mohd Khair Bin Hassan, Mohd K. B. Hassan, Mohd Khair, E. E. Supeni, <b>Muhammad Hazwan Hamzah</b> , Syazwani, Niknor, Badronnisa, Mohd Mustafah, A, mansorat, Loh T.C., Ooi Peck Toung, Mohd Azmi, M.L, Alli, H, , Hasfalina, Che Man, Haron, Nuzul Azam, Jesse, F. F.A.  Modern Pig Farming Model (MPF) UPM (Copyright No: AR2020003562)
4.	2019	Anas Mohd Mustafah, <b>Muhammad Hazwan Hamzah</b> , Diyana Jamaludin, Mahirah Jahari, Nurulhuda Khairuddin  Urban Agrischool: Greenhouse (Copyright No: LY2019006287)



Intellectual Properties / Copyright		
5.	2019	<p>Mohd Salahuddin Mohd Basri, Mohd Zuhair Mohd Nor, Intan Syafinaz Mohamed Amin Tawakkal, Noor Zafira Noor Hasnan, Siti Hajar Ariffin, Mohd Roslan Rosnon, <b>Muhammad Hazwan Hamzah</b></p> <p>Modul Makanan – Penerokaan Sains dan Matematik Menerusi Alam Berteraskan Makanan (Copyright No: LY2019005965)</p>

Awards / Recognition					
No	Awards	Title	Authority	Level	Year
1.	Gold Award	Optimization of Subcritical Water Pre-treatment for Biogas Enhancement on Co-digestion of Pineapple Waste and Cow Dung using Response Surface Methodology	Food Engineering Network of Thailand (FENETT) FENETT 2022 Online International and National Conference	International	2022
2.	Silver Award	New Edible Coating Derived from Malaysian Stingless Bee Honeys to Control The Papaya Anthracnose Disease	Sustainable Agricultural and Food Technology Innovation Competition Malaysian Society of Agricultural and Food Engineers	National	2021
3.	Silver Award (Poster) Gold Award (Video)	The Vertical Farming Model: A Sustainable Putra Green Community Outreach Project	7 <sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention	International	2021
4.	Silver Award (Video) The Most Favourite Video	Implementing Zero Waste Concept by Food Waste Composting using <i>Eisenia fetina</i> sp.	7 <sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention	International	2021
5.	Bronze Award (Video) The Most Favourite Poster	Farm to Fork	7 <sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention	International	2021
6.	Gold Award	Optimization of Ultrasonic Pretreatment prior to Soxhlet Extraction for Essential Oil from <i>Citrus hystrix</i>	Final Year Project Open Day, Faculty of Engineering UPM	UPM	2021
7.	Gold Award	Enhancing Student's Learning Experience Through Interactive Infographic And Virtual Presentation In Agricultural Process Engineering	Putra InnoCreative Carnival in Teaching and Learning	International	2020

Awards / Recognition					
No	Awards	Title	Authority	Level	Year
8.	Silver Award	Boron Removal From Schedule Waste Leachate Using Integrated System Of Sorbent And Membrane Filtration	Mass Materials Technology Challenges	National	2020
9.	Gold Award	KIDDIE FOODIE: Culturally Responsive Teaching of Mathematics and Science among Orang Asli Students	6 <sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention	International	2020
10.	Silver Award	Organic Water Filtration System for Sustainable Agriculture	6 <sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention	International	2020
11.	Silver Award	Boron Removal from Schedule Waste Leachate using Integrated System of Sorbent and Membrane Filtration	Virtual Materials Technology Challenges 4.0 (v-MTC4.0)	National	2020
12.	Gold Award	Control of Papaya Anthracnose Disease Caused by <i>Colletotrichum brevisporum</i> by Antifungal Properties of Malaysian Stingless Bee Honey	Innovation Technology Expo, UNIMAS	International	2019
13.	Gold Award and Best Poster Award	Decolourization of Palm Oil Mill Effluent by Treated Palm Oil Mill Boiler Ashes	5 <sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention	International	2019
14.	Silver Award	Development of Ohmic-Heated Hydrodistillation for Citronella Oil Extraction	5 <sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention	International	2019
15.	Silver Award	Optimization of Palm Oil Extraction from Decanter Cake by Soxhlet Extractor	Final Year Project Open Day, Faculty of Engineering UPM	UPM	2019
16.	Bronze Award	Urban AgriSchool: Urban Agriculture Education through the Greenhouse Module	National Innovation Invention in Engineering and Built Environment	National	2019
17.	Best Paper Award	The Potential Use of Palm Oil Fuel Ash as Properties of Lightweight Concrete	National Convention of Agricultural and Food Engineering, Malaysian Society of Agricultural Engineers	National	2019

Awards / Recognition					
No	Awards	Title	Authority	Level	Year
18.	Teaching Award	Excellence Award in Teaching	Faculty of Engineering	UPM	2019, 2018
19.	Service Award	Excellent Service Award	UPM	UPM	2019, 2018, 2012
20.	Gold Award The Most Creative Project Award	Compost Your Kitchen Sponge?	GLOBAL I-Lead STEM Camp 1Malaysia	National	2017
21.	Vice Chancellor Award	-	Universiti Putra Malaysia	UPM	2010
22.	Seri Gemilang Award	-	10 <sup>th</sup> College, UPM	UPM	2010

Professional Services			
No	Role	Title	Year
<b>Manuscript</b>			
1.	Reviewer	Processes	2022
2.	Reviewer	Journal of Food Measurement and Characterization	2022
3.	Editorial Board	Journal of Engineering and Sustainable Development	2022
4.	Reviewer	Egyptian Journal of Chemistry	2022
5.	Reviewer	Foods	2022
6.	Reviewer	Sustainability	2021-2022
7.	Reviewer	Agronomy	2021-2022
8.	Reviewer	Pollution	2021-2022
9.	Reviewer	International Food Research Journal	2021
10.	Reviewer	Groundwater for Sustainable Development	2021
11.	Reviewer	Journal of Engineering and Sustainable Development	2021
12.	Reviewer	Carbon Capture Science & Technology	2021
13.	Reviewer	Pakistan Journal of Analytical and Environmental Chemistry	2021
14.	Editorial Board	Advances in Agricultural and Food Research Journal	2020-2024
15.	Reviewer	Journal of Engineering and Technological Sciences	2020
16.	Reviewer	Asian Journal of Environment and Ecology	2020
17.	Reviewer	Basrah Journal of Agricultural Sciences	2020
18.	Reviewer	American Journal of Agricultural and Biological Sciences	2019
19.	Reviewer	Journal of Desalination and Water Purification	2019
20.	Reviewer	Innovative Food Science and Emerging Technologies	2018
21.	Reviewer	Separation Science and Technology	2018
22.	Reviewer	Pertanika Journal of Science and Technology	2018



Professional Services			
Conference			
1.	Chairperson	National Agricultural and Food Engineering Convention	2022
2.	Chairperson	The 4 <sup>th</sup> International Conference on Materials Engineering and Science (IConMEAS 2021)	2021
3.	Judge	The 1 <sup>st</sup> International Business and Management Virtual Innovation and Invention of Ideas (VIIC) 2021	2021
4.	Judge	International Eureka Innovation Exhibition 2021	2021
5.	Judge/Secretariat	7th Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention 2021 (ARC2021)	2021
6.	Reviewer	The 5 <sup>th</sup> International Conference on Agricultural and Food Engineering	2020
7.	Reviewer	Malaysian Society of Agricultural and Food Engineers Conference	2020
8.	Reviewer/Editorial Board	Proceedings National Convention of Agricultural and Food Engineering	2019
9.	Judge	Presentation: Recent Issue in Agricultural and Food, 5 <sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention	2019
10.	Judge (Oral presentation)	14 <sup>th</sup> UMT International Annual Symposium	2019
11.	Judge	International Invention and Innovative Competition	2019
12.	Reviewer/Editorial Board	Malaysian Society of Agricultural Engineers Conference Proceedings	2018
13.	Reviewer/Judge Best Poster	4 <sup>th</sup> International Conference on Agricultural and Food Engineering	2018

Community and Industry Linkages			
No	Role	Title	Year
1.	Member	BAEPONICS 1.0: Knowledge Transfer Smart Farming Technology SDN Taji 1 Kecamatan Jabung, Kabupaten Malang, Indonesia	2022
2.	Leader	PUTRA GREEN 1.0: Low Cost Flat Taman Sri Serdang	2021
3.	Member	Knowledge Transfer Programme Greenwall Module SMK Pengerang Utama, Johor	2020-2021
4.	Expert	PUTRA Knowledge Transfer: AgriYouth Aquaponic	2020
5.	Deputy Director	Urban AgriSchool community project: Teaching module design and program implementation for urban agriculture in Sekolah Kebangsaan Sedenak, Johor	2019
6.	Interview Panel	Student Assessment Centre (SAC) <i>Program Pelajar Cemerlang</i> Public Service Departments	2019
7.	Expert	PUTRA Knowledge Transfer: Adaptation of Modern Pig Farming System Melaka	2019
8.	Deputy Executive Secretary	Malaysian Society of Agricultural and Food Engineers	2019
9.	Member	KIDDIE FOODIE community project: Knowledge transfer in learning science and mathematics for Orang Asli	2019
10.	Member	Hydroponic community project with Islamic Relief Malaysia: Knowledge transfer for Orang Asli community	2019

Community and Industry Linkages			
11.	Executive Secretary	Malaysian Society of Agricultural Engineers	2018
12.	Speaker	<i>Program Kerjaya Teknokrat</i> Melaka Matriculation College	2018
13.	Facilitator	<i>Program Pembudayaan KBAT Sains dan Matematik: Jelajah Minda Sains Gemilang</i>	2018
14.	Project Advisor	GLOBAL I-Lead STEM Camp 1Malaysia	2017

Supervision			
PhD (Co-Supervisor)			
No	Name	Title	Status
1.	Abba Mohammed Umar	Boron Removal from Scheduled Waste Leachate using a Hybrid Adsorption-Membrane System Augmented with TiO <sub>2</sub> Nanoparticles	Graduated
2.	Bernard Anak Maringgal	Synthesis of Kelulut Honey Nanoparticles as Edible Coating on the Physicochemical Properties and Respiration Rate of <i>Carica papaya</i> L.	Graduated
3.	Izzah Farhana Ab Aziz	Optimization of Biohydrogen Production from Pretreatment Empty Fruit Bunches and Palm Oil Mill Effluent Treatment Co-Fermentation by Dark and Photo Fermentation	Ongoing
Master (Supervisor)			
No	Name	Title	Status
1.	Adila Fazliyana Aili Hamzah	Enhancement of Biogas Production in Anaerobic Co-digestion of Pineapple Waste and Cow Dung by Subcritical Water Pretreatment	Graduated
Master (Co-Supervisor)			
1.	Veknesh A/L Arumugam	Effect of Additive Organisms in Food Waste Composting on Soil Fertility, Nutrient Dynamics and Plant Growth <i>Capsicum annuum</i> L.	Ongoing
Undergraduate (Supervisor)			
No	Name	Title	Status
1.	Nurfatin Ahmad Fadhil	Bio-methane Production by Co-digestion of Rice Husk and Activated Sewage Sludge	Graduated
2.	Nuramanina Muzaiyin	Ultrasonic Pretreatment prior to Soxhlet Extraction for Essential Oil from Basil Leaves ( <i>Ocimum Basilicum</i> L.)	Graduated
3.	Tie Hieng Ong	Optimization of Palm Oil Extraction from Decanter Cake by using Soxhlet Extraction (Silver Medal Final Year Project Open Day 2019)	Graduated
4.	Fauzan Najmi Ahmad Mazlan	Co-digestion of Pineapple Wastes with Cow Dung in Mesophilic Condition for Bio-Methane Production	Graduated
5.	Siti Nurumairah Mohamed Razali	Converting Durian-Based Traditional Dessert into Ready-To- Eat Food by Adopting the Sausage Technology	Graduated
6.	Anies Zulaikha Md Rahim	Utilisation of Silk Fibroin as Edible Coatings for <i>Litsea Garciae</i> , a Tropical Fruit of Borneo	Graduated
7.	Nur Izzati Mazlan	Optimization of Sub-Critical Water Pretreatment for Mesophilic Biogas Production from Co-digestion of Pineapple Waste and Cow Dung (Best Final Year Project <i>Anugerah Kecemerlangan Graduan</i> 2021)	Graduated
8.	Nur Zafirah Mohd Sopi	Optimization of Ultrasonic Pretreatment prior to Soxhlet Extraction for Essential Oil from <i>Citrus hystrix</i> (Gold Medal Final Year Project Open Day 2021)	Graduated

Supervision			
9.	Siti Khairunnisa Ibrahim	Electrochemical Pretreatment for Enhancing Essential Oil Extraction from <i>Backhousia citriodora</i> Leaves	Ongoing
10.	Ainaa Syaheera Amran	Durian Waste Husks as Low-Cost Adsorbents in Improving Soaking Process during the Retting Process of <i>Piper nigrum</i> L.	Ongoing
11.	Muhammad Shahreen Shamsuddin	Production, Physicochemical and Morphological Characterization of <i>Clitoria ternatea</i> Flower-Based Marker Ink	Ongoing

Teaching Experience		
Year	Course Code / Name	
2022	EAB3212 : Agricultural Process Engineering EAB3217 : Biosystems Environment EAB3216 : Biosystems Environment	
2021	EAB3212 : Agricultural Process Engineering EAB3216 : Biosystems Environment	
2020	EAB3212 : Agricultural Process Engineering EAB3204 : Agricultural Process Engineering EAB3216 : Biosystems Environment	
2019	EAB3212 : Agricultural Process Engineering EAB3216 : Biosystems Environment EAB4911 : Industrial Training	
2018	EAB3206 : Biosystems Environment EAB3216 : Biosystems Environment EAB4911 : Industrial Training	
2013	ECC3001 : Engineering Mathematics I ECC3004 : Engineering Statistics ECV3202 : Structure Analysis I	