

## CURRICULUM VITAE



Assoc. Prof. Dr. Nazmi Mat Nawi,  
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### Education

1. B. Eng (Biological and Agricultural), 2005, Universiti Putra Malaysia
2. M. Eng (Agricultural Engineering), 2009, University of Southern Queensland, Australia
3. PhD (Agricultural Engineering), 2014, University of Southern Queensland, Australia

### Areas of Interest

1. Farm Machinery Design
2. Post-Harvest Engineering
3. Non-Invasive Assessment of Fruit Quality
4. Emergency Response and Planning

### Professional Qualification/Membership/Affiliation

1. Professional Member, Malaysian Society of Agricultural and Food Engineers (MSAE)
2. Graduate Member, Board of Engineers Malaysia (BEM)
3. Graduate Member, Institute of Engineers Malaysia (IEM)
4. Faculty Representative, UPM Academic Staff Association (PPAUPM)

### Appointments

Position	Duration
1. Associate Professor, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	Mac 2020 to date
2. Program Coordinator, Master of Emergency and Response Planning, Faculty of Engineering, UPM	Jan 2020 to Dec 2023
3. Design Engineer, Emdek Engineering Sdn Bhd, Seremban, Negeri Sembilan, Malaysia	Sept 2018-Aug 2019
4. Visiting Scientist, Chonnam National University, South Korea	July 2019 (1 month)
5. Visiting Scientist, Faculty of Agriculture, Ataturk University, Turkey.	Dec 2018 (2 weeks)
6. Visiting Scientist, Department of Bio-Industrial Mechatronics Engineering College of Bio-resources and Agriculture National Taiwan University, Taiwan	Dec 2017 (2 weeks)
7. Research Associate, Institute of Plantation Studies, UPM	Nov 2015 to Nov 2018

8. Research Associate, Smart Farming Technology Research Centre (SFTRC), UPM July 2014 to date
9. Senior Lecturer, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM March 2014 to date
10. Development Coordinator, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM March 2014 to Sept 2018
11. Head, Laboratory of Farm Machinery, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM March 2014 to date
12. Tutor, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM Dec 2005 to Feb 2014
13. Research Assistant, Institute of Sustainable resources, Queensland University of Technology (QUT), Australia Sept 2010 to Feb 2011
14. Casual Tutor and Marker, Faculty of Engineering and Surveying, University of Southern Queensland (USQ), Australia June 2010 to Nov 2010
15. Assistant Mill Engineer, Pasir Panjang Palm Oil Mill, Kota Tinggi, Johor, Malaysia May 2005 to Nov 2005

## Publications

### Journals

1. Khaled A. Y., Aziz S.A., Bejo S. K., **Nawi, N. M.**, Jamaludin, D., and Ibrahim N. U. A., (2020). A Comparative Study on Dimensionality Reduction of Dielectric Spectral Data for the Classification of Basal Stem Rot (BSR) Disease in Oil Palm. Computers and Electronics in Agriculture.170: 105288.
2. Isaak, M, Yahya, A, Mahadi, M. R. and **Nawi, N. M.** (2020). Mechanization status based on machinery utilization and workers' workload in sweet corn cultivation in Malaysia. Computers and Electronics in Agriculture, 169, 105-208.
3. Shehu, U. E., Chow, T.Q., Hafid, H. S., Mokhtar, M. N., Baharuddin, A. S. and **Nawi, N. M.** (2019). Kinetics of thermal hydrolysis of crude palm oil with mass and heat transfer in a closed system Food and Bioproducts Processing. 118, 187-197.
4. Al-Mitewty, M. I., Yahya, A, Mahadi, M. R. and **Nawi, N. M.** (2019). Physical and mechanical properties of sweet corn plant. AgricEngInt: CIGR Journal, 21(4),152-160.
5. Shehu, U.E., Mokhtar, M.N., Nor, M.Z.N., Baharuddin, A.S. and **Nawi, N.M.** (2019). A Study on the Use of Water as a Medium for the Thermal Inactivation of Endogenous Lipase in Oil of Palm Fruit. Energies, 12, 3981.
6. Elsoragaby, S., Yahya, A., Mahadi, M. R., **Nawi, N. M.**, and Mairghany, M. (2019). Analysis of energy use and greenhouse gas emissions (GHG) of transplanting and broadcast seeding wetland rice cultivation. Energy, 189, 116-160.
7. Elsoragaby, S., Yahya, A., Mahadi, M. R., **Nawi, N. M.**, Mairghany, M. (2019). Comparative field performances between conventional combine and mid-size combine in wetland rice cultivation. Heliyon, 5(4): 1-25.
8. Elsoragaby S. Yahya A., Mahadi, M. R., **Nawi N.M.**, and Mairghany, M. (2019). Energy utilization in major crop cultivation. Energy, 173:1285-1303.

9. Rasli, A.M.M., **Nawi, N. M.**, Ahmad, D. and Yahya, A. (2019). Effect of crop parameters on mechanical properties of oil palm fruitlets. *Scientia Horticulturae*, 250: 352-358.
10. Wagiman, N.A., **Nawi, N.M.**, Yahya, A, Su, A.S.M. and Nasir, R.M. (2019). Field performance comparison of the combine harvesters utilized for rice harvesting in Malaysia. *Food Research*. 3(2): 177 – 181.
11. Abdullah, N., **Nawi, N.M.**, Ding, P., Kassim. M.S.M. and Lazim, S.S.R.M. (2019). Preliminary study to predict moisture content of jackfruit skin using shortwave near infrared spectroscopy *Food Research*. 3(2):128 – 132.
12. Shehu, U.E., Baharuddin, A.S., **Nawi, N.M.** and Mokhtar, M.N. (2019). Modelling and simulation of heat penetration in palm fruitlets during thermal treatment process. *Food Research*. 3(2): 145 – 150.
13. Khaled A. Y., Aziz S.A., Bejo S. K., **Nawi, N. M.**, Seman I. A, & Izzuddin M. A. (2018). Development of classification models for basal stem rot (BSR) disease in oil palm using dielectric spectroscopy. *Computers and Electronics in Agriculture*, 124: 297–309.
14. Jayaselan, H. A. S., Ismail, W. I. W., **Nawi, N. M.** & Shariff, A. R. M. Mehdizadeh S. A. (2018). Application of Artificial Neural Network Classification to Determine Nutrient Content in Oil Palm Leaves. *Applied Engineering in Agriculture*. 34(3): 497-504.
15. Ali, M. M, Janius, R, **Nawi, N. M.**, and Hashim, N. (2018). Prediction of total soluble solids and pH in banana using near infrared spectroscopy, *Journal of Engineering Science and Technology*. 13 (1): 254 – 264.
16. Jayaselan, H. A. S., Ismail, W. I. W., **Nawi, N. M.** & Shariff, A. R. M. (2018). Determination of the Optimal Pre-processing Technique for Spectral Data of Oil Palm Leaves with Respect to Nutrients. *Pertanika Journal of Science and Technology*, 26(3): 1169 - 1182.
17. Khaled A. Y., Aziz S.A., Bejo S. K., **Nawi, N. M.**, and Seman I. A, (2018). Spectral features selection and classification of oil palm leaves infected by Basal stem rot (BSR) disease using dielectric spectroscopy. *Computers and Electronics in Agriculture*, 144: 297–309.
18. Khaled AY, Aziz S.A., Bejo S. K., **Nawi, N. M.**, Seman I. A, Onwude D. I. (2017). Early detection of diseases in plant tissues using spectroscopy – application and limitations. *Applied spectroscopy reviews*. 53(1): DOI:10.1080/05704928.2017.1352510.
19. Onwude, D. I., Hashim, N., Janius, R. B., **Nawi, N. M.** and Abdan, K. 2017. Color change kinetics and total carotenoid content of pumpkin as affected by drying temperature. *Italian Journal of Food Science*. Accepted. (Q4, IF: 0.504)
20. Jayaselan H. A. J., **Nawi N. M.**, Ismail W. I. W., Shariff A. R. M. S., Rajah V. J., Arulandoo X., (2017). Application of spectroscopy for nutrient prediction of oil palm. *Journal of Experimental Agriculture International*. 15(3): 1-9.
21. Ibrahim N. U. A., Aziz S. A and **Nawi, N. M.** (2017). Novel impedance measurement technique as potential measurement of SSC for banana fruit. *Pertanika Journal of Science and Technology*. 25 (2): 519-526.
22. Onwude D. I., Hashim, N., Janius, R., **Nawi N. M.**, and Abdan K. (2016). Modelling effective moisture diffusivity of pumpkin (*Cucurbita moshata*) slices under convective hot air drying condition. *International Journal of Food Engineering*. 12(5): 481-491.
23. Lazim, S. S. R. M., **Nawi, N. M.**, Chen, G., Jensen, T. and Rasli, A. M. M. (2016). Influence of different pre-processing methods in predicting sugarcane quality from near-infrared (NIR) spectral data. *International Food Research Journal*. 23 (suppl): S231-S236.

24. Onwude, D. I., Hashim, N., Janius, R. B., **Nawi, N. M.** and Abdan, K. (2016). Modeling the thin-layer drying of fruits and vegetables - a review. *Comprehensive Reviews in Food Science and Food Safety*. 15(3): 599-618. DOI: 10.1111/1541-4337.12196.
25. Onwude, D. I., Hashim, N., Janius, R. B., **Nawi, N. M.** and Abdan, K. (2016). Evaluation of a suitable thin layer model for drying of pumpkin under forced air convection. *International Food Research Journal*. 23(3): 1173-1181.
26. **Nawi, N. M.**, Rowshon, K. M., Chen, G, Jensen, T. (2014) 'Prediction of sugarcane quality parameters using visible-shortwave near infrared spectroradiometer', *Agriculture and Agricultural Science Procedia*, 2: 136-143.
27. **Nawi, N. M.**, Chen, G. and Jensen, T, (2014) 'Prediction of sugarcane quality from juice samples using portable spectroscopy', *Journal of Mechanical and Engineering Sciences*, 7, pp. 1219-1226.
28. **Nawi, N. M.**, Chen, G. and Jensen, T, (2014) "In-Field measurement and sampling technologies for monitoring quality in the sugarcane industry: A review", *Precision Agriculture*, 15: 684–703.
29. **Nawi, N. M.**, Chen, G. Jensen, T., and Mehdizadeh, S. A. (2013) "Prediction and classification of sugar content of sugarcane based on skin scanning using visible and shortwave near infrared", *Biosystems Engineering*, 115, pp. 154-161.
30. **Nawi, N. M.**, Chen, G. and Jensen, T, (2013) "Visible and shortwave near infrared spectroscopy for predicting sugar content of sugarcane based on a cross sectional scanning method", *Journal of Near Infrared Spectroscopy*, 21(4), pp. 289 – 297.
31. **Nawi, N. M.**, Chen, G. and Jensen, T. (2013) "Application of spectroscopic method to predict sugar content of sugarcane from internode samples", *Journal of Tropical Agriculture and Food Sciences*, 41(2), 211-220.
32. Pebrian, D.E., Yahya, A., **Nawi, N. M.**, Siang T.C. and Bockari-Gevao S.M (2013) "Monitoring and Auditing Human Energy Input for Oil Palm and Rice Production in Malaysia", *The Philippine Agricultural Scientist*. 96 (3), pp. 282-289.
33. **Nawi, N. M.**, Jensen, T., and Chen, G. (2012). "The application of spectroscopic methods to predict sugarcane quality based on stalk cross-sectional scanning". *Journal of American Society of Sugar Cane Technologists*, 32, pp. 16 -27.
34. **Nawi, N. M.**, A. Yahya, G. Chen, S. M. Bockari-Geva, and T. N Maraseni (2011). 'Human energy expenditure in lowland rice cultivation in Malaysia', *Journal of Agricultural Safety and Health*, 18(1): pp. 45-56.
35. **Nawi N. M**, Chen G, and Zare D. (2010) "The economics of using aeration storage to minimise the impact of weather damage during wheat harvesting". *Biosystems Engineering*, 105; pp. 323-331.
36. **Nawi N. M**, Chen G, and Zare D. (2010) 'The effect of different climatic conditions on wheat harvesting strategy and returns. *Biosystems Engineering*, 106; pp. 493-502.

#### Conference Proceedings

1. Masroon, M. H., **Nawi, N. M.**, Amin, M. E. S, Shukery, M. F. M., and Yahya A. (2019). Measurement of field performance for a mid-size combine harvester in field corn production.

Paper presented at the '7th International Symposium on Applied Engineering and Sciences (SAES2019), 11–12th Nov 2019, Serdang, Malaysia.

2. Amin, M. E. S., **Nawi, N. M.**, Masroon, M. H., Shukery, M. F. M., Hashim, N. (2019). Comparison of fuel consumption between medium and large size mobile dryers for infield drying of field corn. Paper presented at the '7th International Symposium on Applied Engineering and Sciences (SAES2019), 11–12th Nov 2019, Serdang, Malaysia.
3. Khaled, A. Y., Aziz, S. A., Bejo, S. K., **Nawi, N. M.**, Seman, I. A., & Izzuddin, M. A. (2018). Dielectric constant and chlorophyll content measurements for basal stem rot (BSR) disease detection. Paper presented in 'Signals and Systems (ICSigSys), International Conference hold on at Prama Sanur Beach Hotel, 1-3 May 2018 in Bali, Indonesia (pp. 69-72). IEEE. Scopus
4. Wagiman, N.A., **Nawi, N.M.**, Yahya, A, Su, A.S.M. and Nasir, R.M. (2018). Field performance comparison of the combine harvesters utilized for rice harvesting in Malaysia. Paper presented at the '4<sup>th</sup> International Conference on Agricultural and Food Engineering (Cafei2018), 7-9th Nov 2018, Putrajaya, Malaysia.
5. Abdullah, N., **Nawi, N.M.**, Ding, P., Kassim, M.S.M. and Lazim, S.S.R.M. (2018). Preliminary study to predict moisture content of jackfruit skin using shortwave near infrared spectroscopy Paper presented at the '4<sup>th</sup> International Conference on Agricultural and Food Engineering (Cafei2018), 7-9th Nov 2018, Putrajaya, Malaysia.
6. Shehu, U.E., Baharuddin, A.S., **Nawi, N.M.** and Mokhtar, M.N. (2018). Modelling and simulation of heat penetration in palm fruitlets during thermal treatment process. Paper presented at the '4<sup>th</sup> International Conference on Agricultural and Food Engineering (Cafei2018), 7-9th Nov 2018, Putrajaya, Malaysia.
7. **Nawi, N. M.**, Abdullah N, and S. S. R. M. Lazim. (2018). Prediction of Soluble Solids Content of Jackfruit Using Shortwave Near Infrared Spectroscopy. Paper presented at the XIX. World Congress of CIGR. 22-25 April 2018, Antalya, Turkey.
8. Wagiman, N. A., **Nawi, N. M.**, A. Yahya, A. S. M. Su, and R. M. Nasir (2018). Comparison of Field Performances between Half-track Tractor and Rubber Wheel Tractor in Rice Production. Paper presented at The 1st MSAE Conference 2018, 7 – 8 Feb 2018, Universiti Putra Malaysia.
9. Babekir, S. G., Mairghany, M., Yahya, A., Mahadi, M. R., **Nawi, N. M.** and Su A. S. M. (2018). Work Performance, Crop Yield, and Economics of Transplanting Against Broadcasting Method in Wet Rice Planting in Malaysia. Paper presented at The 1st MSAE Conference 2018, 7 – 8 Feb 2018, Universiti Putra Malaysia.
10. Mohammed, R. A., Ahmad, D., Ismail, W. I. W. and **Nawi N. M.** (2018). Development of an Improved Motorised Cutter for Harvesting Oil Palm Fresh Fruit Bunch. Paper presented at The 1st MSAE Conference 2018, 7 – 8 Feb 2018, Universiti Putra Malaysia.
11. Hommood M. I, Yahya, A, Mahadi M. R. and **Nawi N. M.** (2018). Mechanization Status in Sweet Corn Cultivation in Malaysia. Paper presented at The 1st MSAE Conference 2018, 7 – 8 Feb 2018, Universiti Putra Malaysia.
12. Hameed F.M., Yahya A, Mahadi, M. R. and **Nawi N. M.** (2018) Finite Element Method in Modeling the Tractive Performances of Flotation Tires Running on Wetland Paddy Fields in Malaysia. Paper presented at The 1st MSAE Conference 2018, 7 – 8 Feb 2018, Universiti Putra Malaysia.
13. Lazim S. S., **Nawi, N. M.**, Bejo, S. K., and Abdullah, N. (2018). Prediction of Soluble Solid Content in Watermelon using Visible Shortwave near Infrared Spectroscopy. Paper presented at The 1st

MSAE Conference 2018, 7 – 8 Feb 2018, Universiti Putra Malaysia.

14. Ishkandar, C. D. M., **Nawi, N. M.**, Janius R., Mazlan N., and Radzi, C. A. M. (2017). 'Detection of Pesticide Presence on Round Cabbages Using Visible Shortwave Near Infrared Spectroscopy', Proceedings of The International Conference on Big Data Application in Agriculture (ICBAA2017), 5-6 December 2017, Kuala Lumpur, Malaysia. Pp. 109-114.
15. C. D. M. Ishkandar., **N. M. Nawi**, G. Chen, T. Jensen and S. A. Mehdizadeh (2016). 'Comparison of chemometrics methods for classification of sugarcane brix using visible and shortwave near-infrared technology'. Proceedings of the International Conference on Agricultural and Food Engineering (Cafei2016), 23-25 August 2016, Kuala Lumpur. Pp: 214-219.
16. S. S. R. M. Lazim and **N. M. Nawi** (2016). 'Potential application of spectroscopic method for size and shape detection fruits: A review', Proceedings of the 'International Conference on Agricultural and Food Engineering (Cafei2016), 23-25 August 2016, Kuala Lumpur. Pp: 318-322.
17. Ishkandar C. D. M. and **Nawi, N. M.** (2016). In-field optical sensors for a detection of pesticides residues on vegetables – What are possible solutions? Paper presented at The 9th International Conference on Plant Protection in the Tropics (9THICPPT) 3rd-5th August 2016, Hilton Hotel, Kuching, Sarawak, Malaysia.
18. Khaled, A. Y., Aziz, S. A., Bejo, S. K., **Nawi, N. M.**, & Seman, I. A. (2016). Electrical analysis of oil palm leaves infected by basal stem rot disease. Paper Presented in "International Conference in Agricultural Engineering for Sustainable Agricultural Production (AESAP 2016), 13–14 December 2016, Bogor, Indonesia.
19. Nasri, N. N., **Nawi, N. M.**, Abdullah, N. & Lazim, S. S. R. M. (2016) 'Measurement of field efficiency for different field operations in sweet corn production', Proceedings of the Technology and Innovation National Conference (TECHON 2016), 24-26 May 2016, Kuching, Sarawak, Malaysia. pp. 233-241.
20. **Nawi, N. M.**, Lajis, G. A., Lazim, M.S.S., and Rasli, A.M.M. (2015). Application of Spectroscopic Method to Predict Oil Content of Oil Palm Fruitlet at Different Scanning Distances ,3rd International Conference on Sustainable Agriculture, Food, and Energy (SAFE2015), 17-18 November 2015, Ho Chi Minh, Vietnam.
21. Mohd Ali, M., Janius, R., **Nawi, N. M** and Hashim, N. (2015). Non-destructive Prediction of Sugar Content and pH in Banana using Near Infrared Spectroscopy. Paper presented at The 7th International Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context (ICSAFEI2015), 25-27 August 2015, Universiti Putra Malaysia.
22. Lazim S S R M, **Nawi, N. M**, Chen G, Jensen T, Rasli A R M.(2015). Influence of different pre-processing methods in predicting sugarcane quality from near-infrared (NIR) spectral data. Paper presented at The 7th International Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context (ICSAFEI2015), 25-27 August 2015, Universiti Putra Malaysia.
23. Onwude, I.D., Hashim, N., Janius, R.B. **Nawi, N. M.** and Abdan, K. (2015). Modelling the Convective Drying Process of Pumpkin Using an Artificial Neural Network. Paper presented at The 7th International Conference on 'Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context (ICSAFEI 2015), Faculty of Engineering UPM, Kuala Lumpur, 25-27 August 2015.



24. Onwude, I.D., Hashim, N., Janius, R.B. and **Nawi, N. M.** (2015). Computer Simulation of Convective Hot Air Drying Kinetics of Pumpkin (*Cucurbita Moschata*). ISBN 978-967-11279-2-6. Paper presented at The 8th Asia-Pacific Drying Conference (ADC 2015), Kuala Lumpur, Malaysia, 10-12 August 2015.
25. **Nawi, N. M.**, Rowshon, K. M., Chen, G, Jensen, T. (2014) 'Prediction of sugarcane quality parameters using visible-shortwave near infrared spectroradiometer', Paper presented the '2<sup>nd</sup> International Conference on Agricultural and Food Engineering (Cafei2018), 7-9th Nov 2014, Kuala Lumpur, Malaysia.136-143.
26. **Nawi, N. M.**, Chen G., and Jensen, T., (2013). "Visible and shortwave near infrared spectroscopy to predict sugarcane quality from clear and raw juice samples", In: SEAg 2013: Innovative Agricultural Technologies for a Sustainable Future, 22-25 Sep 2013, Perth, Australia.
27. **Nawi, N. M.**, Jensen T, and Chen G. (2013). "Application of visible and shortwave near infrared spectrometer to predict sugarcane quality from different sample forms", paper presented in 1<sup>st</sup> International Conference on Sensing Technologies for Biomaterial, Food and Agriculture, 23 to 25 April 2013, Yokohama, Japan.
28. **Nawi, N. M.**, Jensen T, Chen G. and Baillie C. (2012). 'Prediction of Sugar Content along the Height of Sugarcane Internodes Using Vis/NIR', In: CIGR-AgEng 2012: Agriculture and Engineering for a healthier Life, 8-12 July 2012, Valencia, Spain.
29. **Nawi, N. M.**, Chen G, Jensen T, and Baillie C. (2012). 'Potential Technologies to Measure Sugarcane Quality in the Field', In: CIGR-AgEng 2012: Agriculture and Engineering for a healthier Life, 8-12 July 2012, Valencia, Spain.
30. **Nawi, N. M.**, Jensen, T., Chen, G., and Baillie, C. (2011). 'The application of spectroscopic methods to predict sugarcane quality based on stalk cross-sectional scanning'. In: SEAg 2011: Diverse Challenges, Innovative Solutions, 29-30 Sep 2011, Gold Coast, Australia.
31. **Nawi, N. M.**, Chen G., Jensen, T., and Baillie, C. (2011). 'Transferring technology of measuring sugarcane quality from the laboratory to the field: what is possible?' In: SEAg 2011: Diverse Challenges, Innovative Solutions, 29-30 Sep 2011, Gold Coast, Australia.
32. D.E. Pebrian, A. Yahya, **N. M. Nawi**, T. C Siang and S.M, Bockari-Gevao. (2011). 'Monitoring and Auditing Human Energy Inputs in the Cultivations of Oil Palm and Rice in Malaysia'. Pages 392 to 399 in Proceeding 11th International Congress on Mechanisation and Energy in Agriculture, Istanbul, Turkey, 2011
33. **Nawi N. M**, Chen G. (2007) 'Economics of using on-farm aeration grain storage', Proceedings of the Biennial Conference of the Australian Society for Engineering in Agriculture (SEAg), published by SEAg, Editors : Banhazi T. and Sunders C. - 23-26 September 2007, Adelaide, South Australia. pp. 191-195.

#### Intellectual Properties

No	Year	Title
1.	2017	Integrated System for Processing Oil Palm Empty Fruit Bunches (OPEFBs) – Patent Pending

#### Research Grants

No	Project Title	Amount (RM)	Year	Source of Fund
1.	Dielectric Spectroscopy characterization of Oil	140,000	2012-	

	Content and Bunch Components in Oil Palm Bunch Analysis (Team Member)		2014	ScienceFund
2.	Integration of mechanized system for harvester, collector and transporter of oil palm FFB (Team Member)	200,000	2015-2017	Putra Grant IPB, UPM
3.	Application of a portable optical sensor system for in-field detection of multi-residue pesticides on cabbages (Principal Investigator)	107,700	2015-2017	FRGS
4.	Application of reflectance data to determine maturity level and volume of oil palm fresh fruit bunch (FFB) (Principal Investigator)	50,000	2015-2017	Putra Grant IPM, UPM
5.	Non-destructive spectroscopic method for early detection of rusty disease in jackfruit (Principal Investigator)	15,000	2016-2018	Putra Grant IPS, UPM
6.	Soil Interaction from Machinery Used in Rice Production (Team Member)	120,000	2016-2018	MADA
7.	Measurement of field performance for different machinery used in rice production and their effects on soil compaction (Principal Investigator)	25,000	2018-2020	Putra Grant IPS, UPM
8.	Determination of optimum drying conditions of mobile dryer for Malaysian field corn Production (Principal Investigator)	50,000	2018-2020	Putra Grant, UPM
9.	Evaluation on Post-Harvesting and Processing of Fresh Fruit Bunch Towards Minimizing Free Fatty Acids Accumulation in Palm Fruitlet and Crude Palm Oil (Team member)	25,000	2018-2020	Putra Grant IPS, UPM
10.	Application of a novel integrated harvesting and collecting implement for harvesting lemongrass on soft soil (Principal Investigator)	10,000	2019-2020	KTGS Grant, UPM
11	Development of clustered Misai Kucing Plots in Solar PV Farms for Natural Cooling Mechanism (Team Member)	1,327,500.00	2019-2021	Dana AAIBE, MESTECC

Professional Services/Consultation			
No.	Role	Event	Year
1.	Academic program Reviewer	Faculty of Agriculture, Ataturk University, Turkey,	2019
2.	Observer	Search and Rescue Exercise (SAREX) LIMA, Langkawi 2019	2019
3.	Deputy director	Exhibition for 4 <sup>th</sup> International Conference on Agricultural and Food Engineering for Life (CAFEi 2018)	
4.	Speaker and facilitator	Workshop on IR4.0 for Malaysian Commodities for Innovation day, Ministry of Primary Industry, Malaysia	2018
5.	Invited Speaker	Seminar on Labor and Mechanization in Plantation (LAMP 2018), Malacca, 2018, organized by Malaysian Palm Oil Board.	2018



6.	Poster Judge	4 <sup>th</sup> International Conference on Agricultural and Food Engineering for Life (CAFEi 2016), 7-9 Nov, 2018, Putrajaya	2018
7.	Committee	National Action Plan for Mechanization and Automation in Agro-industry, Ministry of Agriculture and agro-based industry, Malaysia	2018
8.	External Assessor	Diploma in Agricultural Mechanization, Kolej Vokasional Teluk Intan, Malaysia	2018
9.	Promotional Ambassador for UPM	National Carnival of Higher Education, Ministry of Higher Education, Malaysia	2018
10.	Evaluator	Community-Based Disaster Informatics for Building Resilient Cities (EBC-K), Selangor	2018
11.	Committee	Faculty development	
12.	Invited Speaker	International Conference on Big Data Application in Agriculture, (ICBAA, 2017)	2017
13.	Observer	Search and Rescue Exercise (SAREX) LIMA, Langkawi 2017	2017
14.	Speaker	Training on handling and maintaining of agricultural Machinery for <i>Lembaga Pertubuhan Peladang</i> (LPP)	2017
15.	Panel	Pre-Defence Research Proposal, Universiti Teknologi MARA, Shah Alam, Selangor	2017
16.	Poster Judge	International Symposium on Applied Engineering and Sciences (SAES, 2017)	2017
17.	Panel	Laboratory Curriculum for Bachelor of Education (Vocational Studies), Institute of Educational Studies, Ministry of Education	2017
18.	Panel	Academic program for Diploma in Agricultural Mechanization, Ministry of Education	2017
19.	Committee	Faculty staff welfare and health	2017
20.	Panel	Pre-Defence Research Proposal, Universiti Teknologi MARA, Shah Alam, Selangor	2016
21.	Technical evaluator	Branson tractor performance evaluation, conducted on behalf of Farmers Organization Authority, Malaysia	2016
22.	Poster Judge	International Conference on Agricultural and Food Engineering for Life (CAFEi 2016)	2016
23.	Session Chair	International Conference on Agricultural and Food Engineering for Life (CAFEi 2016)	2016
24.	Jury	International Conference on Agricultural and Food Engineering for Life (CAFEi 2016)	2016
25.	Committee	MAHA & Hari Peladang, Penternak dan Nelayan Kebangsaan Tahun 2016, appointed by <i>Lembaga Pertubuhan Peladang</i> (LPP)	2016

26.	Invited Speaker	Mechanization and Automation in corn plantation for animal feed, invited by <i>Lembaga Pertubuhan Peladang</i> (LPP)	2016
27.	Committee	MSKK program	2016
28.	Journal Reviewer	Biosystems Engineering	
29.	Journal Reviewer	Engineering in Agriculture, Environment and Food	
30.	Journal Reviewer	Pertanika Journal of Science and Technology	
31.	Journal Reviewer	International Journal of Agriculture and Biology	
32.	Journal Reviewer	Scientia Agriculture	
33.	Journal Reviewer	Engineering in Agriculture, Environment and Food	
34.	Journal Reviewer	Journal of Mechanical Engineering and Sciences	
35.	Journal Reviewer	Optics and Laser Technology	
36.	Journal Reviewer	Food Research	
37.	Journal Reviewer	Journal of Food Process Engineering	
38.	Journal Reviewer	Journal of Precision Agriculture	
39.	Journal Reviewer	International Journal of Agricultural and Biological Engineering	

Awards/Recognition(Current)					
No.	Name of awards	Title	Award Authority	Award Type	Year
1.	<i>Academic Award</i>	Excellent Teaching Award (Post-graduate)	Faculty of Engineering, Universiti Putra Malaysia	Faculty	2019
2.	<i>Academic Award</i>	Excellent Teaching Award (Under-graduate)	Faculty of Engineering, Universiti Putra Malaysia	Faculty	2019
3.	<i>Service Award</i>	Excellent Service Award	University Putra Malaysia (UPM)	University	2018
4.	<i>Academic Award</i>	Excellent teaching award	Faculty of Engineering, Universiti Putra Malaysia	Faculty	2016
5.	<i>Conference award</i>	Best presenter	Technology and Innovation conference (TECHON) 2016	National	2016
6.	<i>Service Award</i>	Excellent Service Award	University Putra Malaysia (UPM)	University	2012
7.	<i>Academic Awards</i>	USQ's NCEA PhD completion	University of Southern Queensland (USQ), Australia	University	2012

### Scholarship

8.	<i>Academic Awards</i>	Dean's Award for Graduate Research Excellence 2011	Faculty of Engineering and Surveying, University of Southern Queensland (USQ), Australia	Faculty	2011
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Student Supervision			
No.	Name	Title	Status
<b>PhD (Main-Supervisor)</b>			
1.	Mohamed Ezzeldien Salih Amin	Mathematical modeling of optimum drying conditions of mobile grain dryer for Malaysian field corn production	On-going
<b>PhD (Co-supervisor)</b>			
1.	Momtaz Isaak Hommood	Design and development of a small scale and self-propelled sweet corn harvester	Graduated
2.	Helena Anusia James Jayaselan	Nutrient Deficiency Detection for Oil Palm Using Spectrometer with Wavelet Analysis	Graduated
3.	Suha Gaafar Babekir Elsoragaby	Modelling for Energy Optimization in wet paddy cultivation in Malaysia	Graduated
4.	Chu Chang Jie	Integrated mechanical system for rotating, conveying, cleaning and oil recovery from Oil Palm Empty Fruit Bunch (OPEFB) using high pressure water spray process	On-going
5.	Abdurazag Mustafa	Modelling saline-sodic irrigation water on soil hydraulic conductivity	On-going
6.	Rafia Abdulstter Mohammaed Nori Al-Jawady	Integrated oil palm harvesting mechanization system	Graduated
7.	Umar Etsu Shehu	Effect of saturated steam distribution on fresh fruit bunches in relation to reaction kinetics	Graduated
8.	Al-Fadhli Yahya Khaled Al-Khaled	Dielectric Spectroscopy for Basal Stem Rot Disease Analysis In Oil Palm	Graduated
9.	Farkad Morteda Hameed Almusawi	Traction mechanics of low bearing pressure agricultural tyre on soft terrain	On-going

MS with thesis (Main Supervisor)			
1.	Ahmad Muslim Md Rasli	Development of Pendulum Impact Load Testing for Investigating the Behaviour of Mechanical Impact Damage of Oil Palm Fruitlets	Graduated
2.	Siti Saripa Rabiah Mat Lazim	Non-Destructive Measurement on Assessing Internal Quality of Watermelon Using Near Infrared Spectroscopy	Graduated

3.	Che Dini Maryani Che Mohammad	Evaluation of A Portable Spectroscopic Method for Detection of Pesticide Residues on Cabbages	Graduated
4.	Najidah Abdullah	Non-Destructive Spectroscopic Method for Early Detection of Rusty Disease in Jackfruit	Graduated
6.	Nurul Azimah Wagiman	Comparing Machinery Efficiency in Rice Production	On-going
7.	Mohamad Hairie Bin Masroon	Characterization and Performance Analysis of Agricultural Machinery Used in Field Corn Production	On-going

#### MS with thesis (Co-Supervisor)

1.	Onwude Daniel Iroemeha C.	Kinetic Model of Drying Process of Pumpkin (Cucurbita Moschata) In A Convective Hot Air Dryer	Graduated
2.	Radiyah Mat Nasir	Comparing the Effect of the Soil Physical Properties between Rubber and Half-Track Tractor for Rice Field	On-going

#### Ms Coursework

1.	Mr. Zulfahmi Bin Sutaji	Government Radio Emergency Communication Networks (Grecn): Their Effectiveness During Disaster Management at District of Temerloh, Pahang Darul Makmur	Graduated
2.	Mr. Hairudin Hashim	Hazard Identification, Risk Assessment & Risk Control (Hirarc) And Enhance Safety & Health Awareness at School	Graduated
3.	Muhammad Farhan bin Mohd Sabri	Assessment of Training Effectiveness in Emergency Preparedness and Response Planning for Industries in Selangor	Graduated
4.	Mr Endi Sherimi bin Mohd Adzmi	The Performance evaluation of Fire Voluntary Team (FVT) In State of Terengganu in Delivering Fire Fighting and Rescue Services	On-going

#### Teaching Experiences

No.	Course Code	Course name	Year of Teaching
1.	EAB3008	Computer Aided Engineering Drawing	2014-2016
2.	EAB4504	Off-road Vehicle Engineering	2014-2019
3.	EAB3506	Field Machinery	2014-2019
4.	EAB3406	Project Management	2015-2017
5.	EAB5401	Hazard, risk and ethic	2017
6.	EAB5404	Emergency Response & Planning Networking	2016-2018
7.	EAB4514	Hydraulic and Pneumatics controls	2017
8.	EAB5403	Disaster Recovery and Contingency Planning	2019