

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 |

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|--|-------------------------|
| 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. Masroon, M. H., **Nawi, N. M.** Yahya, A. Shukery, M. F. M, and Amin M. E. S. (2020). Performance of Mid-Size Combine Harvester of Grain Corn on The Field Efficiency and Energy Consumption at The Northern Johor of Malaysia. Journal of Science and Technology. Accepted for publication.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. Elsoragaby S. Yahya A., Mahadi, M. R., **Nawi N.M.**, and Mairghany, M. (2019). Energy utilization in major crop cultivation. *Energy*, 173:1285-1303.
 10. 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.
 11. 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.
 12. 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.
 13. 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.
 14. 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.
 15. 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.
 16. 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.
 17. 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.
 18. 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.
 19. 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.
 20. 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)
 21. 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.
 22. 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.
 23. 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.

24. 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.
25. 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.
26. 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.
27. **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.
28. **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.
29. **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.
30. **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.
31. **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.
32. **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.
33. 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.
34. **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.
35. **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.
36. **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.
37. **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. **Nawi, N. M.**, Masroon, M. H., Abdullah, N., Lazim, R. M., and Iskandar, M. C. M. (2020). Adoption of IR4.0 in Agriculture Sector in Malaysia: Potential and Challenges. Paper presented at the Malaysian Society of Agricultural and Food Engineers (MSAE) Conference 2020 (WEBINAR), 29 June 2020, Kuala Lumpur, Malaysia.
2. 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.
3. 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.
4. 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
5. 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 '4th International Conference on Agricultural and Food Engineering (Cafei2018), 7-9th Nov 2018, Putrajaya, Malaysia.
6. 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 '4th International Conference on Agricultural and Food Engineering (Cafei2018), 7-9th Nov 2018, Putrajaya, Malaysia.
7. 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 '4th International Conference on Agricultural and Food Engineering (Cafei2018), 7-9th Nov 2018, Putrajaya, Malaysia.
8. **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.
9. 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.
10. 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.
11. 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.
12. 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.

13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. **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.
22. 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.
23. 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.

24. 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.
25. 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.
26. **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 '2nd International Conference on Agricultural and Food Engineering (Cafei2018), 7-9th Nov 2014, Kuala Lumpur, Malaysia.136-143.
27. **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.
28. **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 1st International Conference on Sensing Technologies for Biomaterial, Food and Agriculture, 23 to 25 April 2013, Yokohama, Japan.
29. **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.
30. **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.
31. **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.
32. **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.
33. 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 Plam and Rice in Malaysia'. Pages 392 to 399 in Proceeding 11th International Congress on Mechanisation and Energy in Agriculture, Istanbul, Turkey, 2011
34. **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 Content and Bunch Components in Oil Palm Bunch Analysis (Team Member) | 140,000 | 2012-2014 | 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 | | | |
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| No. | Role | Event | Year |
| 1. | International guest | Agricultural Engineering Guest Lecture Series, organized by Department of Agricultural and Biosystem Engineering, Universitas Brawijaya, Indonesia. The topic for this occasion | 2020 |

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| | Speaker | was “Agricultural Mechanization in Tropical Region: Case Study of Malaysia”. | |
| 2. | Invited Plenary speaker | Asia-Pacific Science & Technology Conference, Kuala Lumpur, Malaysia, 16-17 March 2020 | 2020 |
| 3. | Invited speaker | Adoption of Industrial Revolution (IR) 4.0 into rubber industry: Potential and challenges, organized by Senior Officers' Association, Lembaga Getah Malaysia (SOALGM), Sungai Buloh, Selangor | 2019 |
| 4. | Academic program Reviewer | Faculty of Agriculture, Ataturk University, Turkey, | 2019 |
| 5. | Observer | Search and Rescue Exercise (SAREX) LIMA, Langkawi 2019 | 2019 |
| 6. | Deputy director | Exhibition for 4 th International Conference on Agricultural and Food Engineering for Life (CAFEi 2018) | 2018-2021 |
| 7. | Speaker and facilitator | Workshop on IR4.0 for Malaysian Commodities for Innovation day, Ministry of Primary Industry, Malaysia | 2018 |
| 8. | Invited Speaker | Seminar on Labor and Mechanization in Plantation (LAMP 2018), Malacca, 2018, organized by Malaysian Palm Oil Board. | 2018 |
| 9. | Poster Judge | 4 th International Conference on Agricultural and Food Engineering for Life (CAFEi 2016), 7-9 Nov, 2018, Putrajaya | 2018 |
| 10. | Committee | National Action Plan for Mechanization and Automation in Agro-industry, Ministry of Agriculture and agro-based industry, Malaysia | 2018 |
| 11. | External Assessor | Diploma in Agricultural Mechanization, Kolej Vokasional Teluk Intan, Malaysia | 2018 |
| 12. | Promotional Ambassador for UPM | National Carnival of Higher Education, Ministry of Higher Education, Malaysia | 2018 |
| 13. | Evaluator | Community-Based Disaster Informatics for Building Resilient Cities (EBC-K), Selangor | 2018 |
| 14. | Committee | Faculty development | |
| 15. | Invited Speaker | International Conference on Big Data Application in Agriculture, (ICBAA, 2017) | 2017 |
| 16. | Observer | Search and Rescue Exercise (SAREX) LIMA, Langkawi 2017 | 2017 |
| 17. | Speaker | Training on handling and maintaining of agricultural Machinery for <i>Lembaga Pertubuhan Peladang</i> (LPP) | 2017 |
| 18. | Panel | Pre-Defence Research Proposal, Universiti Teknologi MARA, Shah Alam, Selangor | 2017 |
| 19. | Poster Judge | International Symposium on Applied Engineering and Sciences (SAES, 2017) | 2017 |
| 20. | Panel | Laboratory Curriculum for Bachelor of Education (Vocational Studies), Institute of Educational Studies, Ministry of Education | 2017 |

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| 21. | Panel | Academic program for Diploma in Agricultural Mechanization, Ministry of Education | 2017 |
| 22. | Committee | Faculty staff welfare and health | 2017 |
| 23. | Panel | Pre-Defence Research Proposal, Universiti Teknologi MARA, Shah Alam, Selangor | 2016 |
| 24. | Technical evaluator | Branson tractor performance evaluation, conducted on behalf of Farmers Organization Authority, Malaysia | 2016 |
| 25. | Poster Judge | International Conference on Agricultural and Food Engineering for Life (CAFEi 2016) | 2016 |
| 26. | Session Chair | International Conference on Agricultural and Food Engineering for Life (CAFEi 2016) | 2016 |
| 27. | Jury | International Conference on Agricultural and Food Engineering for Life (CAFEi 2016) | 2016 |
| 28. | Committee | MAHA & Hari Peladang, Penternak dan Nelayan Kebangsaan Tahun 2016, appointed by <i>Lembaga Pertubuhan Peladang</i> (LPP) | 2016 |
| 29. | Invited Speaker | Mechanization and Automation in corn plantation for animal feed, invited by <i>Lembaga Pertubuhan Peladang</i> (LPP) | 2016 |
| 30. | Committee | MSKK program | 2016 |
| 31. | Journal Reviewer | Biosystems Engineering | |
| 32. | Journal Reviewer | Engineering in Agriculture, Environment and Food | |
| 33. | Journal Reviewer | Pertanika Journal of Science and Technology | |
| 34. | Journal Reviewer | International Journal of Agriculture and Biology | |
| 35. | Journal Reviewer | Scientia Agriculture | |
| 36. | Journal Reviewer | Engineering in Agriculture, Environment and Food | |
| 37. | Journal Reviewer | Journal of Mechanical Engineering and Sciences | |
| 38. | Journal Reviewer | Optics and Laser Technology | |
| 39. | Journal Reviewer | Food Research | |
| 40. | Journal Reviewer | Journal of Food Process Engineering | |
| 41. | Journal Reviewer | Journal of Precision Agriculture | |
| 42. | Journal Reviewer | International Journal of Agricultural and Biological Engineering | |

| Awards/Recognition(Current) | | | | | |
|-----------------------------|---------|-------|-----------------|------------|------|
| No. | Name of | Title | Award Authority | Award Type | Year |

| awards | | | | | |
|--------|---------------------------|--|--|---------------|------|
| 1. | <i>Professorial award</i> | SEARCA Regional Professorial Chair award | Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) | International | 2020 |
| 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 Scholarship | University of Southern Queensland (USQ), Australia | University | 2012 |
| 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 |

| Student Supervision | | | |
|-----------------------|--------------------------------|---|-----------|
| No. | Name | Title | Status |
| PhD (Main-Supervisor) | | | |
| 1. | Mohamed Ezzeldien Salih Amin | Mathematical modeling of optimum drying conditions of mobile grain dryer for Malaysian field corn production | On-going |
| PhD (Co-supervisor) | | | |
| 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 |

| Student Supervision | | | |
|---|--|---|-----------|
| No. | Name | Title | Status |
| PhD (Main-Supervisor) | | | |
| 1. | Mohamed Ezzeldien Salih Amin | Mathematical modeling of optimum drying conditions of mobile grain dryer for Malaysian field corn production | On-going |
| PhD (Co-supervisor) | | | |
| 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-Fadhl 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. | Radiah 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 |