

CURRICULUM VITAE



Assoc. Prof. Ts. Dr. Siti Khairunniza Bejo
Department of Biological and Agricultural Engineering,
Faculty of Engineering,
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Education

1. PhD Image Processing, 2006, University of Surrey, UK.
2. B.E.(Computer System and Communications), 2002, Universiti Putra Malaysia.

Areas of Interest

1. Imaging Technology
2. Precision Agriculture
3. Remote Sensing
4. Artificial Intelligence

Professional Qualification/Membership/Affiliation

1. Professional Technologist, Malaysia Board of Technologist (MBOT) (2022)
2. Graduate Technologist, Malaysia Board of Technologist (MBOT) (2022)
3. Member, The Institution of Engineering and Technology (IET) (2017 – to date)
4. Member, International Society of Precision Agriculture (ISPA) (2018 – to date)
5. Professional Member, Malaysian Society of Agricultural Engineers (MSAE) (2014 – to date)
6. Graduate Member, The Institution of Engineers Malaysia (IEM) (2013 - to date)
7. Executive Committee Member, IEEE GOLD Affinity Group (IEEE) (2011 – 2015)
8. Member, Institute of Electrical and Electronics Engineers (IEEE) (2008 - to date)
9. Member, Malaysian Remote Sensing Society (MRSS) (2008 - to date)

Appointments

Position	Duration
1. Head, Smart Farming Technology Research Centre, Faculty of Engineering, UPM	1 Sept 2020 - 31 August 2023
2. Committee Member, Programme Development – <i>Bachelor Teknologi Pertanian Pintar Dengan Keahlian (BTPP)</i> , UPM.	14 Sept 2020 – 17 July 2024
3. Head, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	1 August 2019- 31 July 2020
4. Research Associate, Institute of Plantation Studies, UPM	2020-2022
5. Head, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	1 August 2016- 31 July 2019
6. Research Associate, Institute of Plantation Studies, UPM	2015-2018
7. Acting Head, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	25 August-22 Nov 2014
8. Research Member, Smart Farming Technology Research Centre, UPM	2012-to date
9. Auditor, Full Accreditation Program, Universiti Putra Malaysia	2011-2013
10. Committee Member, Expert Group E-content, UPM.	2010-2012
11. Research Associate, Spatial and Numerical Modeling Laboratory, Institute of Advanced Technology, UPM	2010-2012
12. Industrial Training Coordinator, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	2009
13. Academic Coordinator, Department of Biological and	2007-2016

- Agricultural Engineering, Faculty of Engineering, UPM
14. Head, Laboratory of Spatial Information Systems, 2007-to date
Department of Biological and Agricultural Engineering,
Faculty of Engineering, UPM
 15. Research Associate, SMART Farming Technology 2007-2010
Laboratory, Institute of Advanced Technology, UPM
 16. Seminar Coordinator, Department of Biological and 2006-2007
Agricultural Engineering, Faculty of Engineering, UPM

Publications

Scopus h-index: 16

Journals: 86 [Q1=23, Q2=12, Q3=4, Q4=10]

Conference Proceedings: 53

Book: 4

Professional Magazines: 5

Journals and Proceedings

1. Yong, L.Z., **Khairunniza-Bejo, S.**, Jahari, M., Muharam, F.M. Automatic Disease Detection of Basal Stem Rot Using Deep Learning and Hyperspectral Imaging. *Agriculture* 2023, 13, 69. <https://doi.org/10.3390/agriculture13010069>.
2. Alfatni MSM, **Khairunniza-Bejo S**, Marhaban MHB, Saeed OMB, Mustapha A, Shariff ARM (2022). Towards a Real-Time Oil Palm Fruit Maturity System Using Supervised Classifiers Based on Feature Analysis. *Agriculture*. 2022; 12(9):1461. <https://doi.org/10.3390/agriculture12091461> (Q1) (JCR).
3. Ruslan R, **Khairunniza-Bejo S**, Jahari M, Ibrahim MF (2022). Weedy Rice Classification Using Image Processing and a Machine Learning Approach. *Agriculture*. 2022; 12(5):645. <https://doi.org/10.3390/agriculture12050645> (Q1) (JCR).
4. Siti Nurul Afiah Mohd Johari, **Siti Khairunniza-Bejo**, Abdul Rashid Mohamed Shariff, Nur Azuan Husin, Mohamed Mazmira Mohd Basri and Noorhazwani Kamarudin (2022). Identification of Bagworm (*Metisa plana*) Instar Stages using Hyperspectral Imaging and Machine Learning Techniques. *Computers and Electronics in Agriculture*, Volume 194, 2022, 106739. (Q1) (JCR).
5. Husin, N.A., **Khairunniza-Bejo, S.**, Ahmad F. Abdullah, Muhamad S. M. Kassim and Desa Ahmad (2022). Multi-temporal analysis of terrestrial laser scanning data to detect basal stem rot in oil palm trees. *Precision Agric* 23, 101–126 (2022). <https://doi.org/10.1007/s11119-021-09829-4>. (Q1) (JCR).
6. Johari, S.N.A.M., **Khairunniza-Bejo, S.** Automated rubber seed ventral surface identification using hue, saturation, value (HSV) image processing and a decision rule approach. *J Rubber Res* (2022). <https://doi.org/10.1007/s42464-022-00155-6>. (Q4) (JCR).
7. Mustafah, A.M., **Khairunniza-Bejo, S.** & Lim, Y (2022). The development of an automatic rubber seed sowing system with machine vision assistance. *J Rubber Res* (2022). <https://doi.org/10.1007/s42464-022-00153-8>. (Q4) (JCR).
8. Lazim, S. S. R. M., Nawli, M. N., **Bejo, S. K.**, Shariff, A. R. M. and Abdullah, N (2022). Prediction and classification of soluble solid contents to determine the maturity level of watermelon using visible and shortwave near infrared spectroscopy. *International Food Research Journal* 29(6): 1372 – 1379. <https://doi.org/10.47836/ifrj.29.6.13> (Q4) (JCR).
9. Aiman Nabilah Noor Azmi, **Siti Khairunniza-Bejo**, Mahirah Jahari, Farrah Melissa Muharam, and Ian Yule. (2021). Identification of a Suitable Machine Learning Model for Detection of Asymptomatic *Ganoderma boninense* Infection in Oil Palm Seedlings Using Hyperspectral Data. *Applied Sciences*, 2021, 11, 11798. 8. <https://doi.org/10.3390/app112411798> (Q2). (JCR)
10. **Khairunniza-Bejo**, Siti, Muhamad S. Shahibullah, Aiman N.N. Azmi, and Mahirah Jahari (2021). Non-Destructive Detection of Asymptomatic *Ganoderma boninense* Infection of Oil Palm Seedlings Using NIR-Hyperspectral Data and Support Vector Machine. *Applied Sciences*, 11(22): 10878. <https://doi.org/10.3390/app112210878> (Q2). (JCR)

11. Aziz, Mohd H.A., **Siti Khairunniza-Bejo**, Aimrun Wayayok, Fazirulhisyam Hashim, Naoshi Kondo, and Aiman N.N. Azmi (2021). Temporal Changes Analysis of Soil Properties Associated with *Ganoderma boninense* Pat. Infection in Oil Palm Seedlings in a Controlled Environment. *Agronomy* 11, (11): 2279. <https://doi.org/10.3390/agronomy11112279> (Q1). (JCR)
12. Izrahayu Che Hashim, Abdul Rashid Mohamed Shariff, **Siti Khairunniza Bejo**, Farrah Melissa Muharam and Khairulmazmi Ahmad (2021). Classification of Non-Infected and Infected with Basal Stem Rot Disease using Thermal Images and Imbalanced Data Approach. *Agronomy*. 2021; 11(12):2373. <https://doi.org/10.3390/agronomy11122373>
13. Zhi Hong Kok, Abdul Rashid Mohamed Shariff, Meftah Salem M. Alfatni, **Siti Khairunniza-Bejo** (2021). Support Vector Machine in Precision Agriculture: A review, *Computers and Electronics in Agriculture*, 191: 106546 (Q1). (JCR)
14. Muhadi, N.A., Abdullah, A.F., **Bejo, S.K.**, Mahadi, M.R., Mijic A (2021). Deep Learning Semantic Segmentation for Water Level Estimation Using Surveillance Camera. *Appl. Sci.*, 11: 9691. (Q2). (JCR)
15. Alfadhl Yahya Khaled, Samsuzana Abd Aziz, **Siti Khairunniza Bejo**, Nazmi Mat Nawawi and Idris Abu Seman. (2021). Artificial intelligence for spectral classification to identify the basal stem rot disease in oil palm using dielectric spectroscopy measurements. *Trop. plant pathol.* (2021): 1-12 (Q3). (JCR)
16. Zhi Hong Kok, Abdul Rashid Bin Mohamed Shariff, **Siti Khairunniza-Bejo**, Hyeon-Tae Kim, Tofael Ahamed, See Siang Cheah and Siti Aishah Abd Wahid (2021). Plot-based classification of macronutrient levels in oil palm trees with landsat-8 images and machine learning. *Remote Sensing*, 2021, 13(11), 2029: 1-29 (Q2). (JCR)
17. Izrahayu Che Hashim, Abdul Rashid Mohamed Shariff, **Siti Khairunniza Bejo**, Farrah Melissa Muharam and Khairulmazmi Ahmad (2021). Machine-Learning Approach Using SAR Data for The Classification of Oil Palm Trees That are Non-Infected and Infected With The Basal Stem Rot Disease. *Agronomy*, 11(3):532. <https://doi.org/10.3390/agronomy11030532> (Q1). (JCR)
18. Z. Zulkifli, **S. Khairunniza-Bejo**, F. M. Muharam, I. Yule, R. Pullanagari, L. Dan, W. N. Z. Zainol@Abdullah. (2021). Biomass and Yield Estimation Using Terrestrial Laser Scanning Data. *Basrah J. Agric. Sci.*, 34(Special Issue 1): 54-62, 2021. (Scopus index).
19. Azuan, N.H., **Khairunniza-Bejo, S.**, Abdullah, A.F., Kassim, M.S.M. and Ahmad, D. (2021). Relationship of oil palm crown features extracted using Terrestrial Laser Scanning for Basal Stem Rot disease classification. *Basrah J. Agric. Sci.*, 34(Special Issue 1): 1-10. (Scopus index).
20. Mohd Johari, S. N. A., **Khairunniza-Bejo, S.**, Abdol Lajis, G., Jeffery Daim, L. D., Neoh, B. K., Yap, Y. C., and Ithnin, N. (2021). Detecting BSR-Infected Oil Palm Seedling using Thermal Imaging Technique. *Basrah J. Agric. Sci.*, 34(Special Issue 1), 73-80, 2021. (Scopus index).
21. Aiman Nabilah, N.A., **Khairunniza-Bejo, S.**, Mahirah, J., Muharram, F.M., Yule, I. (2021). Differences between healthy and *Ganoderma boninense* infected oil palm seedlings using spectral reflectance of young leaf data. *Basrah J. Agric. Sci.*, 34(Special Issue 1): 171-179, 2021. (Scopus index).
22. Izat Jaris Dzulkifli, Muhamad Saufi Mohd Kassim and **Siti Khairunniza Bejo** (2021). Development of 360-degree imaging system for fresh fruit bunch (FFB) identification. *Journal of Agricultural and Food Engineering* 4 (2020) 0028: 1-9.
23. Aiman Nabilah Noor Azmi, **Siti Khairunniza-Bejo**, Mahirah Jahari, Farrah Melissa Muharam, Ian Yule and Nur Azuan Husin. (2020). Early Detection of *Ganoderma boninense* in Oil Palm Seedlings Using Support Vector Machines. *Remote Sensing*, 12(3920): 1-23. (Q1). (JCR)
24. Nur Azuan Husin, **Siti Khairunniza-Bejo**, Ahmad Fikri Abdullah, Muhamad Saufi Mohd Kassim, Desa Ahmad and Mohd Hamim Abdul Aziz. (2020). Classification of Basal Stem Rot disease in oil palm plantations using terrestrial laser scanning data and machine learning. *Agronomy*, 10(11)(1624): 1-23. (Q1). (JCR)
25. Nur Azuan Husin, **Siti Khairunniza-Bejo**, Ahmad Fikri Abdullah, Muhamad Saufi Mohd Kassim, and Desa Ahmad. (2020). Study of the oil palm crown characteristics associated with Basal

- Stem Rot (BSR) disease using stratification method of point cloud data. *Computers and Electronics in Agriculture*, 178(105810):1-9. (Q1). (Scopus index)
26. Md Imam Hossain, Khairulmazmi Ahmad, Yasmeen Siddiqui, Norsazilawati Saad, Ziaur Rahman, Ahmed Osumanu Haruna, **Siti Khairunniza Bejo**. (2020). Current and prospective strategies on detecting and managing *colletotrichumfalcatum* causing red rot of sugarcane. *Agronomy*, 10(1253):1-29. (Q1). (Scopus index)
 27. Nur Atirah Muhadi , Ahmad Fikri Abdullah , **Siti Khairunniza Bejo** , Muhammad Razif Mahadi, Ana Mijic. (2020). The Use of LiDAR-Derived DEM in Flood Applications: A Review. *Remote Sensing*, 12(2308):1-20. (Q2). (Scopus index)
 28. Nur Atirah Muhadi , Ahmad Fikri Abdullah , **Siti Khairunniza Bejo** , Muhammad Razif Mahadi, Ana Mijic. (2020). Image Segmentation Methods for Flood Monitoring System. *Water*, 12(1825):1-10. (Q2). (Scopus index)
 29. Nur Azuan Husin, **Siti Khairunniza-Bejo**, Ahmad Fikri Abdullah, Muhamad Saufi Mohd Kassim, and Desa Ahmad. (2020). Application of Ground-Based LiDAR for Analysing Oil Palm Canopy Properties on the Occurrence of Basal Stem Rot (BSR) Disease. *Scientific Reports*, 10: 6464. (Q1). (Scopus index)
 30. Khaled, A.Y., Abd Aziz, S., **Khairunniza Bejo, S.**, Mat Nawi, N., Jamaludin, D., 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 (2020): 105288. (Q1) (Scopus index)
 31. Mohd Ali, M., Hashim, N., **Bejo, S.K.**, Shamsudin, R. (2020). Comparison of laser backscattering imaging and computer vision system for grading of seedless watermelons. *Journal of Food Measurement and Characterization*, 14(1), pp. 69-77. (Q3) (Scopus index)
 32. Mohd Ali, M., Hashim, N., **Bejo, S.K.**, Shamsudin, R. (2020). Correlation between Physicochemical Changes of Seeded and Seedless Watermelons during Postharvest Storage, *International Journal of Postharvest Technology and Innovation*, 7(1):73-86. (Scopus index).
 33. Nur Azuan Husin, **Siti Khairunniza-Bejo**, Ahmad Fikri Abdullah, Muhamad Saufi Mohd Kassim, and Desa Ahmad. (2019). Analysis of Changes in Oil Palm Canopy Architecture from Basal Stem Rot Using Terrestrial Laser Scanner. *Plant Disease*, 103:3218-3225. (Q1). (Scopus index)
 34. Ruslan, R., **Khairunniza-Bejo, S.**, Rukunudin, I.H, Jahari, M. and Ibrahim, M.F. (2020). Development of a machine vision system for rice seed inspection system. *Food Research 4 (Suppl. 6): 150 - 156*. (Scopus index.)
 35. Mohd Hamim Abdul Aziz, **Siti Khairunniza-Bejo**, Fazirulhisyam Hashim, Nur Hidayah Ramli, and Desa Ahmad. (2019). Evaluations of Soil Resistivity in Relation to Basal Stem Rot Incidences Using Soil Moisture Sensor. *Pertanika J. Sci. & Technol*, 27(S1), pp. 225 – 234. (Scopus index)
 36. Nur Azuan Husin, **Siti Khairunniza-Bejo**, Ahmad Fikri Abdullah, Muhamad Saufi Mohd Kassim, and Desa Ahmad. (2019). Effects of Basal Stem Rot on Oil Palm Interfrond Angles for Different Severity Levels. *Journal of Advanced Agricultural Technologies* 6(2), pp. 113-117.
 37. Maryam Khosrokhani, **Siti Khairunniza-Bejo** and Biswajeet Pradhan. (2018). Geospatial technologies for detection and monitoring of Ganoderma basal stem rot infection in oil palm plantations: a review on sensors and techniques. *Geocarto International*, 33(3) pp. 260-276. (Q3, IF: 1.380) (Scopus index)
 38. Khaled, A.Y., Abd Aziz, S., **Khairunniza Bejo, S.**, Mat Nawi, N., Abu Seman, I., Izzuddin, M.A. (2018). Development of classification models for basal stem rot (BSR) disease in oil palm using dielectric spectroscopy. *Industrial Crops and Products*, 124, pp. 99-107. (Q1) (Scopus index)
 39. **Siti Khairunniza-Bejo**, Nur Hidayah Ramli and Farrah Melissa Muharam. (2018). Wireless Sensor Network (WSN) Applications in Plantation Canopy Areas: A Review. *Asian Journal of Scientific Research*, 11 (2), pp. 151-161. (Scopus index)
 40. Lin, M.G., Lasekan, O., Saari, N., **Khairunniza-Bejo, S.** (2018). Effect of chitosan and carrageenan-based edible coatings on post-harvested longan (*Dimocarpus longan*) fruits. *CYTA - Journal of Food*, 16 (1), pp. 490-497. (Q3) (Scopus index)
 41. Sowat, S.N., Wan Ismail, W.I., Mahadi, M.R., **Bejo, S.K.**, Kassim, M.S.M. (2018). Trend in the development of oil palm fruit harvesting technologies in Malaysia. *Jurnal Teknologi*, 80 (2), pp. 83-91. (Scopus index)

42. Khaled, A.Y., Abd Aziz, S., **Bejo, S.K.**, Nawi, N.M., Seman, I.A., Onwude, D.I. (2018). Early detection of diseases in plant tissue using spectroscopy—applications and limitations. *Applied Spectroscopy Reviews*, 53 (1), pp. 36-64. (Q2) (Scopus index)
43. Khaled, A.Y., Abd Aziz, S., **Bejo, S.K.**, Nawi, N.M., Abu Seman, I. (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, pp. 297-309. (Scopus index) (Q2)
44. Mee Gie Lin, Ola Lasekan, Nazamid Saari, and **Siti Khairunniza-Bejo**. (2017). The Effect of the Application of Edible Coatings on or before Ultraviolet Treatment on Postharvested Longan Fruits. *Journal of Food Quality*, 2017 (5454263): 1-11. (Q4) (Scopus index)
45. **Siti Khairunniza-Bejo**, Ainol Najwa and Hazreen H. Harith. (2017). The Development of a 3D Model of Oil Palm Fresh Fruit Bunch (FFB) for Mass Estimation. *Journal of Engineering and Applied Sciences*, 12(22):5956-5959.
46. Sharence Nai Sowat, Wan Ishak Wan Ismail, **Siti Khairunniza-Bejo**, Muhammad Razif Mahadi, Muhamad Saufi Mohd Kasim. (2017). Design and Feasibility Study of a Surface-Irregularities Adaptive Tracked Crawler Based on Oil Palm Tree Morphological Features. *Journal of Engineering and Applied Sciences*, 12(22):5949-5955.
47. Siti Nurul Afiah M. Johari, **Siti Khairunniza Bejo**, and W. Ishak Wan Ismail. (2017). Identification of Dorsal and Ventral Surface of Rubber Seed using Image Processing and Machine Learning Approach. *Sci. Int. (Lahore)*, 29(2), 121-125.
48. Mohd Ali, M. Hashim, N., **Bejo, S.K.**, and Shamsudin, R. (2017). Laser-induced backscattering imaging for classification of seeded and seedless watermelons. *Computer and Electronics in Agriculture*, 140: 313-316. (Q1, IF: 2.201) (Scopus index)
49. Mohd Ali, M. Hashim, N., **Bejo, S.K.**, and Shamsudin, R. (2017). Quality Evaluation of Watermelon using Laser-induced Backscattering Imaging during Storage. *Postharvest Biology and Technology*, 123: 51-59. (Q1, IF: 2.618) (Scopus index)
50. Mohd Ali, M. Hashim, N., Shamsudin, R., and **Bejo, S.K.** (2017). Optical parameters in food and agricultural processing. *International Food Research Journal*, 24(3): 908-914. (Q4) (Scopus index)
51. Mohd Ali, M. Hashim, N., **Bejo, S.K.**, and Shamsudin, R. (2017). Rapid and Nondestructive Techniques for Internal and External Quality Evaluation of Watermelons: A Review. *Scientia Horticulturae*, 225(2017): 689-699. (Q1, IF: 2.618) (Scopus index)
52. Mohd Ali, M., Hashim, N., **Bejo, S.K.**, Shamsudin, R. (2017). Determination of the difference on color changes of watermelons by laser light backscattering imaging. *Journal of Food Science and Technology*, 54(11), pp. 3650-3657. (Q2) (Scopus index)
53. Marini Nafi, Murni Rahim & **Siti Khairunniza-Bejo** (2017). Agarwood Chips Grading Using Neural Network. *Politeknik & Kolej Komuniti Journal of Engineering and Technology*, Vol.1: 31-47.
54. Noryusdiana Mohamad Yusoff, Farrah Melissa Muharam & **Siti Khairunniza-Bejo** (2017). Towards the use of remote-sensing data for monitoring of abandoned oil palm lands in Malaysia: a semi-automatic approach. *International Journal of Remote Sensing (Q2)*, Vol. 38, No. 2, 432–449. (Scopus index)
55. Mohammed Oludare Idrees, Biswajeet Pradhan, Manfred F. Buchroithner, Helmi Z. M. Shafri, **Siti K. Bejo** (2016). Assessing the transferability of a hybrid Taguchi-objective function method to optimize image segmentation for detecting and counting cave roosting birds using terrestrial laser scanning data. *Journal of Applied Remote Sensing*, 10(3): 1-16. (Q4)
56. **Khairunniza-Bejo, S.**, Sumgap, N., and Siti, N.A.M.J. (2016). Relationship between Soil Moisture Content in Paddy Field and Its Image Texture. *Jurnal Teknologi*, 78:1–2 (2016): 93-96. (Scopus index)
57. Abdulkadir, T.D., Ishak, W.I.W., Kasim, M.S.M. and **Khairunniza-Bejo, S.** (2016). Suitability of Capsule as a Paddy Coating Material for the System of Rice Intensification (SRI). *Jurnal Teknologi*, 78:1–2 (2016): 105-110. (Scopus index)
58. Ezrin, M.H., Aimrun, W., Amin, M.S.M., and **Khairunniza-Bejo, S.** (2016). Development of real Time Soil Nutrient Mapping System in Paddy Field. *Jurnal Teknologi*, 78:1–2 (2016): 125–131. (Scopus index)
59. A. Muazu, A. Yahya, W.I.W. Ishak, and **Khairunniza-Bejo, S.** (2016). Optimization of Energy Use Intensity using data Envelopment Analysis and Benchmarking Methodology for Sustainable Rice Cultivation under Wetland Direct Seeding Conditions in Malaysia. *Jurnal Teknologi*, 78:1–2 (2016): 21–28. (Scopus index)

60. **Khairunniza-Bejo, S.**, Azman, N., and Jamil, N. (2016). Paddy Grading using Thermal Imaging Technology. *International Food Research Journal* 23(Suppl): S245-S248.
61. A. Muazu, A. Yahya, W.I.W. Ishak, and **Khairunniza-Bejo, S.** (2015). Energy audit for sustainable wetland paddy cultivation in Malaysia. *Energy*, 87(2015):182-191. (Q1. IF=4.844.) (Scopus index)
62. Norsolehah Azman, **Siti Khairunniza-Bejo**, Wan Ishak Wan Ismail, and Aimrun Wayayok. (2015). Development of Fresh Harvested Paddy Quality Determination Model Using Color Indices. *Australian Journal of Basic and Applied Sciences*, 9(28) Special 2015: 50-56.
63. Zareen Zulkifli, **Siti Khairunniza-Bejo** (2015). Paddy Growth Monitoring Using Terrestrial Laser Scanner. *Australian Journal of Basic and Applied Sciences*, 9(28) Special 2015: 90-96.
64. Muazu, A., Yahya, A., Ishak, W.I.W., **Bejo, S.K.** (2015). Machinery utilization and production cost of paddy cultivation under wetland direct seeding conditions in Malaysia. *Engineering in Agriculture, Environment and Food*, 8(4):289-297. (Scopus index)
65. **Siti Khairunniza-Bejo**, Yusnida Yusoff, Nik Salwani Nik Yusoff, Idris Abu Seman, Mohamad Izzuddin Anuar (2015). Identification of Healthy and BSR-Infected Oil Palm Trees Using Color Indices. *International Scholarly and Scientific Research & Innovation* 9(8):876-879.
66. **Khairunniza-Bejo, S.** and Kamaruddin, S. (2014). Determination of Chokanan Mango Sweetness (*Mangifera indica*) Using Non-destructive Image Processing Technique. *Australian Journal of Crop Science*, 8(4):475-480. (Scopus index.)
67. **Khairunniza-Bejo, S.** and Sudin, N.M. (2014). Mature and Immature Paddy Identification using Image Processing Technique. *Journal of Engineering Science and Technology*, 9(3)2014:326-333. (Scopus index.)
68. **Khairunniza-Bejo, S.**, Mustapha, S. and Ismail, W.I.W. (2014). Application of Artificial Neural Network in Predicting Crop Yield: A Review. *Journal of Food Science and Engineering*, 4:1-9.
69. Farid, M., **Khairunniza-Bejo, S.**, Vesali, F. and Jyuking, Y. (2014). A New Mathematical Drying Model for Paddy Rice via Thermal Imaging. *Journal of Food, Agricultural and Environment*, 12(2):666-668. (IF=0.435.) (Q4) (Scopus index)
70. Azman, N., **Khairunniza-Bejo, S.**, Ismail, W.I.W. and Wayayok, W. (2014). Estimating Maturity of Paddy Using RGB Colour Space. *Journal of Advanced Agricultural Technologies*, 1(2): 119-124.
71. Hanibah, S.S.B., **Khairunniza-Bejo, S.**, Wan Ismail, W.I., Wayayok, A. (2014). Determination of physical rice composition using image processing technique. *Journal of Food, Agriculture and Environment*, 12(1):205-209. (Q4) (Scopus index)
72. Farid, M., **Khairunniza-Bejo, S.**, Azman, N. (2014). An approach to estimate moisture content of paddy rice via thermal imaging. *Journal of Food, Agriculture and Environment*, 12(1):188-191. (Q4) (Scopus index)
73. Haw, C.L., Ismail, W.I.W., **Khairunniza-Bejo, S.**, Putih, A. and Shamshiri, R. (2014). Colour vision to determine paddy maturity. *Int J Agric & Biol Eng*, 7(5):55–63. (Scopus index)
74. Saberioon, M.M., Amin, M.S.M., Anuar, A.R., Gholizadeh, A., Wayayok, A., **Khairunniza-Bejo, S.** (2014). Assessment of rice leaf chlorophyll content using visible bands at different growth stages at both the leaf and canopy scale. *International Journal of Applied Earth Observation and Geoinformation*, 32(1):35-45. (Q1) (Scopus index)
75. Norasma, C.Y.N., Shariff, A.R.M., Jahanshiri, E., Amin, M.S.M., **Khairunniza-Bejo, S.** and Mahmud, A.R. (2013). Web-Based Decision Support System for Paddy Planting Management. *Pertanika Journal of Science and Technology*, 21(1):343-364. (Scopus index)
76. M.H., Ezrin, Aimrun, W., Amin, M.S.M. and **Khairunniza-Bejo, S.** (2013). Development of on-the-go Soil Nitrogen Mapping System for Site Specific Management. *Journal-The Institution of Engineers Malaysia*, 74(1):14-20.
77. Kassim, M.S.M., Ismail, W.I.W., Ramli, A.R. and **Khairunniza-Bejo, S.** (2012). Oil Palm Fresh Fruit Bunches (FFB) Growth Determination System to Support Harvesting Operation. *Journal of Food, Agriculture & Environment*, 10 (2): 620-625. (IF= 0.52.) (Q4) (Scopus index)
78. Amin, M.R.M., **Khairunniza-Bejo, S.**, Ismail, W.I.W. and Mashoor, S. (2012). Colour Extraction of Agarwood Images for Fuzzy C-Means Classification. *Walailak Journal of Science and Technology*, 9 (4): 445-459. (Scopus index)
79. Jahari, M., **Khairunniza-Bejo, S.**, Shariff, A.R.M. and Shafri, H.Z.M. (2011). Change Detection Studies in Matang Mangrove Forest Area, Perak. *Pertanika Journal of Science and Technology*, 19(2): 307 – 327. (Scopus index)
80. **Khairunniza-Bejo, S.** and Shariff, A.R.M. (2011). Historical Analysis of the Land Movement in Landslide Area Using Elastic Image Registration and Conditional Statement Approach. *International Journal of Multimedia and Ubiquitous Engineering*, 6(3):37-48. (Scopus index)

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Book

1. Abdul Rani Bahaman, Syafinaz Amin Nordin, Veronica Poulsaeman, and **Siti Khairunniza Bejo**. (2017). Case 7: Tragic Outing. Chapter in Book: A Problem-Based Learning Approach One Health Cases. Universiti Putra Malaysia Press, Serdang. ISBN: 978-967-344-716-9.
2. **Khairunniza Bejo** and Zareen Zulkifli (2020). CHAPTER 6: Monitoring Paddy Growth Indicators Using Terrestrial Laser Scanner. Chapter in Book: Smart Technology for Paddy Cultivation (Malaysian Experience). Universiti Putra Malaysia Press, Serdang. ISBN 978-967-2395-67-6, p 131-150.
3. **Siti Khairunniza Bejo**, Norsolehah Azman and Norazlida Jamil (2020). CHAPTER 7: Development of a Paddy Quality Determination System Using an Imaging Technology. Chapter in Book: Smart Technology for Paddy Cultivation (Malaysian Experience). Universiti Putra Malaysia Press, Serdang. ISBN 978-967-2395-67-6, p 151-168.
4. **Siti Khairunniza Bejo** and Siti Sharifah Bibi Hanibah (2020). CHAPTER 8: Development of a Broken Rice Detection and Quantification System Using Image Processing Technique. Chapter in Book: Smart Technology for Paddy Cultivation (Malaysian Experience). Universiti Putra Malaysia Press, Serdang. ISBN 978-967-2395-67-6, p 169-188.

Professional Magazine

1. Nur Azuan Husin and **Siti Khairunniza Bejo** (2022). LiDAR in oil palm disease detection. Coordinates, Volume XVIII, Issue 4, April 2022 p. 6-9.
2. **Khairunniza-Bejo, S.** (2012). Mangrove Forest Mapping. Synthesis, Issue 37: p. 20
3. Norasma, C.Y.N., Shariff, A.R.M., Amin, M.S.M., **Khairunniza-Bejo, S.** and Mahmud, A.R. (2009). Web-Based GIS Decision Support System for Paddy Precision Farming. GIS Development, p. 1-7.
4. **Khairunniza-Bejo, S.** (2017). Use of Unmanned Aerial Vehicles (UAVs) in Oil Palm Plantations. Jurutera, The Institution of Engineers Malaysia, October 2017, p. 24-26.
5. **Khairunniza-Bejo, S.** (2020). Preparing Agricultural and Biosystems Engineers for Agriculture 4.0. Jurutera, The Ingenieur, Vol 84, October-December 2020 p. 35-39.

Research Grants

Total Number of Research Grants: 23

Total Number of Research Grants (as Principal Investigator): 11

Total Value of Research Grants: RM6,183,481.00

No	Project Title	Amount (RM)	Year	Source of Fund	Role
1.	Regional Professorial Chair Grant	USD 5,000.00	2022-2023	SEARCA	Main researcher
2.	Extension of Electrical Resistance (ER) Based Basal Stem Rot (BSR) Detection That Includes Macro Monitoring at Plantation and Nursery Level With Application of Treatment	RM454,000.00	2020-2023	PRGS2.0	Main researcher
2.	Big Data Platform for Pineapple Management System	RM100,000.00	2020-2022	GP-IPB	Main researcher
3.	Data Fusion of Spectral Reflectance, Biotic and Abiotic Parameters for Bagworm Detection and Prediction Modeling in Palm Oil Plantation	RM99,025.00	2019-2022	FRGS, MOHE	Main researcher
4.	A Novel Methodology for Ganoderma Disease Prevention Using Deep Learning (DL)	RM97,000.00	2019-2023	FRGS, MOHE	Co-researcher
5.	Smart Management and Information System for Hydroponic Culture System	RM122,500.00	2019-2022	Geran Putra Berimpak	Co-researcher
6.	Prediction of MacroNutrients Status (Nitrogen, Phosphorus and Potassium) in Oil Palm Trees By Remote Sensing	RM124,800.00	2019-2022	Asia-Pacific Telecommunity (APT), Korea	Co-researcher
7.	Key technology of orchard nitrogen pollution simulation and its application on emission reduction through remote sensing big data	RM50,000.00	2018-2019	Guangdong Science and Technology, China	Co-researcher
8.	Machine Vision System For Rice Quality Evaluation Using Fluorescence Technique	RM60,000.00	2018-2019	IPM	Co-researcher
9.	Multispectral Remote Sensing For Nitrogen Fertilizer Management in Oil Palm	RM19,000.00	2016-2018	GP-IPS	Co-researcher
10.	Impedance Spectroscopy For Basal Stem Rot Disease Analysis In Oil Palm	RM20,000.00	2016-2018	GP-IPS	Co-researcher
11.	Assessment of Oil Palm Tree Productivity using Computer Vision	RM63,800.00	2015-2018	FRGS, MOHE	Main researcher

12.	Application of the Nanodelivery System and Nanosensor in Smart Farming for Actual Detection and Control of Ganoderma Boninense	RM1,500,000.00	2015-2020	LRGS, MOHE	Main researcher
13.	Comprehensive Crop Information for Advance Basal Stem Rot (BSR) Oil Palm Management	RM288,800.00	2015-2017	Geran Putra IPB (Sub-Project)	Co-researcher
14.	Detection of the Basal Stem Rot (BSR) using Imaging Technology and Soil Sensor	RM165,200.00	2014-2015	Geran Putra IPB (Sub-Project)	Main researcher
15.	Mangrove Biomass Modelling and Mapping Using Satellite Remote Sensing and GIS	RM15,000.00	2014-2015	Geran Putra IPS	Main researcher
16.	Characterization of optical parameters of laser induced backscattering imaging and its interaction with seeded and seedless properties in watermelon	RM83,200.00	2014-2017	FRGS	Co-researcher
17.	Quality Control of Paddy Rice Using Thermal Image Processing	RM253,156.00	2012-2014	EScience Fund, MOSTI	Main researcher
18.	Uncertainty Assesment of Topographic Factor in Soil Loss Prediction Using DEMs for Highland Agriculture Fertility Conservation	RM50,000.00	2011-2013	FRGS	Co-researcher
19.	Novel Analyte Products for a Safe and Healthy Production of Chickens	RM2,000,000.00	2007-2010	TechnoFund, MOSTI	Co-researcher
20.	3D Liver Model for Hepatocellular Carcinoma (HCC) Pre-Surgical Planning	RM160,000.00	2007-2009	EScience Fund, MOSTI	Co-researcher
21.	Elastic Image Registration for Land Movement Monitoring for Landslides Detection and Prediction	RM185,000.00	2006 - 2009	EScience Fund, MOSTI	Main researcher

22.	Local Similarity Measure for Forest Monitoring	RM80,000.00	2006 - 2009	FRGS, MOHE	Main researcher
23.	Rice Yield Prediction Model for Variable Rate Management using Neural Network	RM193,000.00	2009 - 2012	RUGS, UPM	Main researcher

Intellectual Properties

No	Year	Title
Copyright		
1.	2022	Khairunniza-Bejo, S. , Azuan, N., Abdullah, A.F., Kassim, M.S.M. (2022). Crown Biometrics System for <i>Ganoderma Boninense</i> Infection Detection in Oil Palm. [LY2021W06050]
2.	2022	Khairunniza-Bejo, S. , Abdul Aziz, M. H., Wayayok, A., Hashim, F. (2022). Soil Sensor Network System (SSNS) for <i>Ganoderma Boninense</i> Infection Detection in Oil Palm Seedlings. [LY2021W06066]
3.	2022	Khairunniza-Bejo, S. , Abdol Lajis, G., Aziz, S.A. (2022). Spectral Properties System (SPS) for Basal Stem Rot Disease Detection in Oil Palm Trees. [LY2021W06051]
4.	2015	Khairunniza-Bejo, S. , Hanibah, S.S.B., Ismail, W.I.W. and Wayayok, W. (2015). Broken Rice Detection version 1.0 (<i>i</i> -Rice v1.0)
5.	2014	Khairunniza-Bejo, S. , Azman, N., Ismail, W.I.W. and Wayayok, W. (2014). Paddy Quality Determination Using Imaging Technology version 1.0 (QPaddy v1.0)
6.	2010	Khairunniza-Bejo, S. , Jahari, M., Shariff, A.R.M. and Shafri H.Z.M. Local Mutual Information for Forest Monitoring version 1.0 (LMI v1.0).
7.	2010	Khairunniza-Bejo, S. , Amin, M.R.M., Ismail, W.I.W. and Syamsiah Mashoor, S. Agarwood Grading Inspection System (AGIS v1.0).
8.	2010	Khairunniza-Bejo, S. , Jahari, M., Shariff, A.R.M. and Shafri, H.Z.M. Local Mutual Information for Forest Monitoring version 2.0 (LMI v2.0).
9.	2010	Hair-Bejo, M., Khairunniza-Bejo, S. , Ideris, A., Omar, A.R., Napis, S., Khairani-Bejo, S., Sarpin, S., Malik, M.J. and Jaafar, R. Online MyECA Database System (MyECA v1.0).

Patent

1.	2021	Shariff, A.R.M., Zolfagharnassab, S. and Khairunniza-Bejo, S. A Method for Producing a Soil Nutrient Map with Reduced Number of Soil Sample (PI2012000684: Patent Granted).
2.	2010	Shariff, A.R.M.S., Mahmud, A.R., Norasma, C.Y.N., Jahanshiri, E., Soom, M.A.M., Khairunniza-Bejo, S. and Aziz, F.A.A. Web Based Agricultural Data Management System and Methods of Managing Thereof (PI2010700091: Patent Pending).

Awards/Recognition

No	Name of awards	Title	Award Authority	Award Type	Year
1.	Third Winner in Poster Competition	Automatic Paulownia Tree Counting Using Images From the UAV and Template Matching Technique	The International Conference on Modern and Sustainable Agriculture (ICOMSA)	International	2022



2.	Best Final Year Project Award	Automatic Paulownia Tree Counting Using Images From the UAV and Template Matching Technique	Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	Department	2022
3.	Gold Medal	Automatic Paulownia Tree Counting Using Images From the UAV and Template Matching Technique	Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	Department	2022
4.	Second Prize Best Paper Award (Agricultural Engineering)	Differences Between Healthy and <i>Ganoderma Boninense</i> Infected Oil Palm Seedlings Using Spectral Reflectance of Young Leaf Data	The 5 th International Conference on Food and Agricultural Engineering (CAFE/2020)	International	2021
5.	Second Prize Best Paper Award (Food Engineering)	Development of a Machine Vision System for Rice Seed Industry	The 5 th International Conference on Food and Agricultural Engineering (CAFE/2020)	International	2021
6.	Silver Medal	Early Detection of <i>Ganoderma Boninense</i> at Oil Palm Seedling using Spectral Properties and Support Vector Machine Techniques	Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	Department	2021
7.	Gold Medal (Poster)	Data Integration with ArcGIS Application for Oil Palm Management	The 6 th Southeast Asian Agricultural Engineering Student Chapter Annual Regional Convention 2020	International	2020
8.	Gold Medal	Development of an Automatic Rubber Seed Planter Using Machine Vision Technique	Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	Department	2016
9.	Best Final Year Project Award	Dorsal and Ventral Surface of Rubber Seeds Identification Using Image Processing Technique	Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	Department	2015
10.	Best Paper Award	Husk Detection Using Thermal Imaging Technology	International Conference on Food and Agricultural Engineering	International	2014



11.	Bronze Medal	Paddy Quality Determination Using Imaging Technology	Pameran Reka Cipta, Penyelidikan dan Inovasi, Malaysia	National	2014
12.	Silver Medal	GIS-Based Micronutrient Soil Mapping Using Artificial Neural Network as a Sample Predictor	Pameran Reka Cipta, Penyelidikan dan Inovasi, Malaysia	National	2014
13.	Best Final Year Project	Preliminary Study on the Use of Thermal Image for Paddy Moisture Content Determination	Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	Department	2013
14.	Gold Medal	Mangrove Forest Mapping	International Trade Fair "Ideas-Invention-New Products" (iENA), Germany	International	2012
15.	Gold Medal	Mangrove Forest Mapping	Malaysia Technology Expo	National	2012
16.	Gold Medal	Development of Mangrove Forest Monitoring Technique Using Local Similarity Measure	Pameran Reka Cipta, Penyelidikan dan Inovasi, UPM	University	2011
17.	Best Poster Award	Paddy Soil Moisture Content Interpretation Using CIELuv Image	National Rice Conference, MARDI	National	2010
18.	Silver Medal	Online GIS Decision Support System for Paddy Precision Farming	International Trade Fair "Ideas-Invention-New Products" (iENA)	International	2009
19.	Gold Medal	Web-Based GIS Paddy Precision Farming for Design Support System	Pameran Reka Cipta, Penyelidikan dan Inovasi, UPM	University	2008
20.	Bronze Medal	Pameran Reka Cipta, Penyelidikan dan Inovasi, UPM	Local Similarity Measure for Landslides Detection and Identification	University	2007
21.	Excellent Service Award	Excellence Achievement	UPM	University	2012
22.	Excellent Service Award	Excellence Achievement	UPM	University	2008
23.	Excellent Achievement	Certificate of Excellent Teaching	Faculty of Engineering, UPM	Faculty	2006 - 2019
24.	Excellent Achievement	Certificate of Excellent Service	UPM	University	2006 - 2019

Services

International conference

- | | |
|---|-----------|
| 1. Scientific Committee, International Conference of Plantation Technology (ICPTech2023) | 2022-2023 |
| 2. Scientific Committee, 15th International Congress on Agricultural Mechanization and Energy in Agriculture | 2022-2023 |
| 3. Organizing Committee Member, E-Palli International Conferences (EIC) on STEM (Science, Technology, Engineering, and Math, and BAS (Business, Arts, and Social Science) | 2022 |
| 4. Chairperson, the 5 th International Conference on Agricultural and Food Engineering (CAFE)2020) | 2019-2021 |
| 5. Member of Advisory Committee, International Conference on Contemporary Practices of Technology & Management for Economic Growth (ICTMEG (2 nd Edition)) | 2020 |
| 6. International Advisory Board, 24 th World Conference on Applied Sciences, Engineering, and Technology | 2019 |
| 7. Co-Chairperson, the 4 th International Conference on Agricultural and Food Engineering (CAFE)2018) | 2017-2018 |
| 8. Director, Scientific Committee, the 3 rd International Conference on Agricultural and Food Engineering (CAFE)2016) | 2015-2016 |
| 9. Technical Session Chairperson, the 3 rd International Conference on Agricultural and Food Engineering (CAFE)2016) | 2016 |
| 10. Technical Session Chairperson, the 2 nd International Conference on Agricultural and Food Engineering (CAFE)2014) | 2014 |
| 11. Secretary 2, the 2 nd International Conference on Agricultural and Food Engineering (CAFE)2014) | 2013-2014 |
| 12. Secretary 1, the 2 nd International Conference on Agricultural and Food Engineering (CAFE)2012) | 2011-2012 |
| 13. Committee Member, Conference on Natural Resources and Green Technology 2010 (CNRGT 2010) | 2009-2010 |
| 14. Committee Member, World Engineering Congress 2007 (WEC 2007) | 2006-2007 |

Editorial Board

- | | |
|---|-----------|
| 1. Editorial Board, Heliyon Agriculture | 2022 |
| 2. Editorial Board, Frontiers in Remote Sensing (Research Topic: Remote Sensing for Crop Growth Monitoring) | 2022 |
| 3. Journal of Agricultural Engineering (JTPE) | 2022 |
| 4. Editorial Board, VIT Press International Journal of Agriculture Engineering (VITP-IJAENG) | 2021-2022 |
| 5. Editorial Board, Information Processing in Agriculture | 2020-2022 |
| 6. Editorial Board, Advances in Agriculture, Horticulture and Entomology | 2020-2022 |
| 7. Guest Editor, Journal of food Packaging and Shelf Life | 2020 |
| 8. Editor, Acta Hort. III Int. Conf. on Agricultural and Food Engineering | 2016-2017 |
| 9. Guest Editorial Board, Pertanika Journal | 2012 |

Journal Reviewer

- | | |
|---|------------------------|
| 1. Journal of Integrative Agriculture | 2022 |
| 2. Artificial Intelligence in Agriculture | 2022 |
| 3. Biosystems Engineering | 2021 |
| 4. Remote Sensing Applications: Society and Environment | 2021 |
| 5. Basrah Journal of Agricultural Sciences (BJAS) | 2020 |
| 6. Geocarto International | 2020, 2021 |
| 7. Advances in Agricultural and Food Research Journal | 2020 |
| 8. Journal of Science and Technology | 2020, 2019 |
| 9. Information Processing in Agriculture | 2021, 2020, 2019, 2015 |



10. Science, Engineering and Health Studies	2020
11. Journal of Agricultural Science	2019
12. Journal of Oil Palm Research	2020, 2019, 2014
13. Transactions of the ASABE	2017
14. Acta Horticulturae	2016
15. Computers and Electronics in Agriculture	2015, 2020, 2021, 2022
16. African Journal of Agricultural Research	2015
17. American Journal	2015
18. Malaysian Journal of Computer Science Special Issue	2015
19. Journal of Agricultural Science and Technology	2014
20. Geoscience and Remote Sensing Letters	2010-2013
21. PERTANIKA Journal	2011-2012
22. Journal of Tropical Agriculture and Food Science	2009

Conference Paper Reviewer

1. 1st International Conference on Plantation Technology (ICPTech 2021)	2021
2. Konferens MSAE 2020	2020
3. 5 th International Conference on Agricultural and Food Engineering	2020
4. XIII SMART Farming Workshop: Crop Cultivation and Postharvest Technology	2019
5. 4 th International Conference on Agricultural and Food Engineering	2018
6. ROVISP 2016	2016
7. 3 rd International Conference on Agricultural and Food Engineering	2016
8. 7 th Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context	2015
9. Kolakium RACE 2015	2015
10. PAWEES-INWEPF	2015
11. 2 nd International Conference on Agricultural and Food Engineering	2014
12. ISG 2014	2014
13. 1 st International Conference on Agricultural and Food Engineering	2012
14. IEEE GOLD Colloquium	2010
15. International Conference on Robotics, Vision, Signal Processing	2009

Book Reviewer

1. Machine Learning for Data Science, UTM Press	2017
2. Data Cleaning for Data Science, UTM Press	2015

Research Grant Evaluator

1. FRGS Grant	2010-2022
2. IPM Putra Grant	2010-2021
3. IPS Putra Grant	2010-2020
4. IPB Putra Grant	2010-2021

Evaluator

1. Expert panel, VIT - Ideathon Finals 2021	2021
2. Judge, MSAE-Sc Small Tractor Competition	2018
3. Judge, The 3rd International Conference on Agricultural and Food Engineering (CAFEi2016)	2016

Student Mobility Program

1. Advisor, Inbound Mobility Program (France)	2020
2. Advisor, Inbound Mobility Program (Portugal)	2017
3. Advisor, Inbound Mobility Program (Beuth University of Applied Science Berlin)	2016
4. Committee Member, Student Mobility to Kyoto University, Japan	2012



5. Committee Member, Student Mobility to MIE University, Japan 2012

Keynote and Invited Speaker

1. Invited Speaker at the Geospatial Artificial Intelligence International Short Course in - Digital Twin And Green Economy, Indonesia. 1 - 6 December 2022. Title: The Role of Imaging Technology in Geographic Information Systems for Plantation Management. 2022
2. Invited Speaker at the 2022 Summer Course Program Green Technology for Sustainable Tropical Agriculture, Indonesia. 1-11 August 2022. Title: Smart Agriculture in Malaysia. 2022
3. Invited Speaker Faculty of Agricultural Technology, Udayana University, Badung, Bali, Indonesia, 16 July 2022. Title: Shaping Climate Change Resilience and Food Security through Scientific and Technological Advances in Agriculture. 2022
4. Invited Speaker at REDtone Smart Farming Virtual Conference, Malaysia, 31 March 2022. Title: Feed the World, Protect the Planet: The Journey Begins at University. 2022
5. Invited Speaker at the International Workshop on Applied Computing in Agriculture, De La Salle University – Manila, Philippines, 4-5 March 2022. Title: Early Detection of Plant Disease Infection using Hyperspectral Data and Artificial Intelligence. 2022
6. Plenary Speaker at the 1st International Conference on Engineering and Agro-industrial Technology, University of the Philippines, Los Banos, Philippines, 23-24 Feb 2022. Title: Digital crop protection using artificial intelligence and the internet of things. 2022
7. Invited Speaker at the Sharing session PRGS & FRGS 2022, Faculty of Engineering, UPM. 7 January 2022. Title: Sharing session on PRGS 2.0. 2022
8. Invited Speaker at the International virtual conference on "Smart farming technology for sustainable agriculture", India. 21 December 2021. Title: Drone Technology in Agriculture. 2021
9. Invited Speaker at the MPOB Oil Palm Plant Protection Webinar Series: Pests, Diseases and Weeds (Webinar Serie 3), Malaysia. 7 December 2021. Title: Digital Solutions Towards Smart *Ganoderma boninense* Infection Management for Sustainability of Palm Oil Production. 2021
10. Invited Speaker at the 1st International Conference on Plantation Technology (ICPTech 2021), Malaysia. 23-24 November 2021. Title: Automatic Identification of Ventral and Dorsal Surface of Rubber Seeds using HSV Color Space and Decision Rule Approach. 2021
11. Invited Speaker at Jeli Polytechnic workshop. 9 November 2021. Title: Application of Drone and Artificial Intelligence in Agriculture. 2021
12. Invited Speaker at the 2021 Summer Course Program Green Technology for Sustainable Tropical Agriculture, Indonesia. 16-28 August 2021. Title: Smart Agriculture in Malaysia. 2021
13. Invited Speaker at the Microwave Research Institute (MRI) Webinar Series 1/2021, UiTM, Malaysia, 16 February 2021. Title: Artificial Intelligence Applications in Agriculture. 2021
14. Invited Speaker at the FST Wacana Series 1/2021, Faculty of Science and Technology, USIM, 18 February 2021. Title: The Future of Smart Farming Technology. 2021
15. Invited Speaker at the 12th International Webinar 2020: The Development and Prospect of Agricultural Engineering Technology in Southeast Asian, Indonesia, 18 November 2020. Title: Agricultural Technology in Malaysia. 2020
16. Invited Speaker at the Smart International Webinar 2020 (SFIW2020), Sarawak, Malaysia, 24 October 2020. Title: Agriculture 4.0: Digital Transformation Driven by The Internet of Things (IoT) and Artificial Intelligence (AI). 2020
17. Invited Speaker at the Agriculture X AI: Self Sufficiency in Food Production to Achieve Society 5.0 and SDGs Globally, Tsukuba, Japan, 2020

- 30 September 2020. Title: Smart Intelligent Technologies in Crop Protection Towards Agriculture 5.0.
18. Invited Speaker at the Innovation Workshop, MARDI, Serdang, Malaysia, 24 September 2020. Title: Digital Technology in Agriculture: Element of IoT and Artificial Intelligence. 2020
 19. Keynote Speaker at the International Conference on Contemporary Practices of Technology and Management for Economic Growth, India.6-7 September 2019. Title: Transforming Precision Agriculture Into Digital Agriculture For a Better Economic Growth. 2019
 20. Plenary Speaker at the Joint Conference on ASEAN Cooperation on Agricultural and Biosystems Engineering (ACABE) and ASEAN Universities Consortium on Food and Agro-based Engineering and Technology Education (AUCFA), Philippines, 6-8 November 2018. Title: Situationer of Agricultural and Biosystems Engineering Education in Malaysia. 2018
 21. Invited Speaker at the Sarawak Industrial Fiesta, Bintulu Civic Centre, Sarawak, Malaysia. 24-26 April 2018. Title: Precision Agriculture: Solution Provider of Agricultural Challenges in The Future. 2018
 22. Invited Speaker at the 2018 Summer Course Program Green Technology for Sustainable Tropical Agriculture, Indonesia. 12-21 August 2018. Title: The Future of Agriculture: Upgrading Precision Agriculture Become Digital Agriculture. 2018
 23. Invited Speaker, Public Lecture, Engineering Technology Program, Fakultas Teknologi Pertanian Universitas Andalas, Indonesia. 27 Nov – 9 Dis 2017. Title: Sensing Technology for Precision Agriculture. 2017

Supervision (student with Thesis)

Category	Current student			Graduate		
	PhD	Master	Total	PhD	Master	Total
Main supervisor	2	1	3	3	9	12
Member	5	1	6	9	13	22
Total	7	2	9	12	22	34