CURRICULUM VITAE

Assoc. Prof. Dr. Siti Khairunniza Bejo
Department of Biological and Agricultural Engineering,
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Universiti Putra Malaysia,
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Education

1. PhD Image Processing, 2006, University of Surrey, UK.
2. B.E.(Computer System and Communications), 2001, Universiti Putra Malaysia.

Areas of Interest

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

Professional Qualification/Membership/Affiliation

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

Appointments

Position	Duration
1. Head, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	1 August 2019- 31 July 2020
2. Head, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	1 August 2016- 31 July 2019
3. Research Associate, Institute of Plantation Studies, UPM	2015-2018
4. Acting Head, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	25 August-22 Nov 2014
5. Research Member, Smart Farming Technology Research Centre, UPM	2012-to date
6. Auditor, Full Accreditation Program, Universiti Putra Malaysia	2011-2013
7. Committee Member, Expert Group E-content, UPM.	2010-2012
8. Research Associate, Spatial and Numerical Modeling Laboratory, Institute of Advanced Technology, UPM	2010-2012
9. Industrial Training Coordinator, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	2009
10. Academic Coordinator, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	2007-2016
11. Head, Laboratory of Spatial Information Systems, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM	2007-to date
12. Research Associate, SMART Farming Technology Laboratory, Institute of Advanced Technology, UPM	2007-2010
13. Seminar Coordinator, Department of Biological and	2006-2007

Publications

Journals: 56 [Q1=10, Q2=6, Q3=3, Q4=3]
Conference Proceedings: 50
Book: 1
Professional Magazines: 3

Journals and Proceedings

1. 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 Colletotrichum falcatum causing red rot of sugarcane. Agronomy. (Accepted). (Q1). (Scopus index)
2. 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)
3. 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)
4. Nur Azuan Husin, **Siti Khairunniza-Bejo**, Ahmad Fikri Abdulllah, 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)
5. 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. (Q2) (Scopus index)
6. 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)
7. 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).
8. Nur Azuan Husin, **Siti Khairunniza-Bejo**, Ahmad Fikri Abdulllah, 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)
9. 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)
10. Nur Azuan Husin, **Siti Khairunniza-Bejo**, Ahmad Fikri Abdulllah, 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.
11. 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)
12. 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)
13. **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)
14. Lin, M.G., Lasekan, O., Saari, N., **Khairunniza-Bejo, S.** (2018). Effect of chitosan and carrageenan-based edible coatings on post-harvested longan. CYTA - Journal of Food, 16 (1), pp. 490-497. (Scopus index)
15. 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)

16. 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. (Scopus index)
17. 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)
18. 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. (Scopus index)
19. **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.
20. 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.
21. 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.
22. Alfadhl Yahya Khaled, Samsuzana Abd Aziz, **Siti Khairunniza Bejo**, Nazmi Mat Nawi, Idris Abu Seman, and Daniel Iroemeha Onwude. (2017). Early detection of diseases in plant tissue using spectroscopy – applications and limitations. Applied Spectroscopy Reviews, 53(1), 36-64. (Scopus index)
23. 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)
24. 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)
25. 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. (Scopus index)
26. 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)
27. 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. (Scopus index)
28. Noryusdiana Mohamad Yusoff, Farrah Melissa Muharam & **Siti Khairunniza-Bejo** (2016). 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)
29. 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.
30. **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)
31. 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)
32. 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)
33. 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)

34. 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)
35. 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.
36. 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.
37. 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)
38. **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.
39. **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.)
40. **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.)
41. **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.
42. 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.) (Scopus index)
43. 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.
44. 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. (Scopus index)
45. 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. (Scopus index)
46. 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)
47. 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. (Scopus index)
48. 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)
49. 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.
50. 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.) (Scopus index)
51. 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)
52. 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)
53. **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)
54. Sumgap, N.H. and **Khairunniza-Bejo, S**. (2011). Color Spaces for Paddy Soil Moisture Content Determination. Journal of Tropical Agriculture and Food Science, 39(1):103–115.

55. **Khairunniza-Bejo, S.,** Petrou, M. and Ganas, A. (2010). Local Similarity Measure for Landslide Detection and Identification in Comparison with the Image Differencing Method. International Journal of Remote Sensing, 31(23):6033-6045. (IF: 1.089.) (Scopus index)
56. **Khairunniza-Bejo, S.** and Petrou, M. (2010). Elastic Image Registration for Landslides Monitoring. International Journal of Signal Processing, Image Processing and Pattern Recognition, 3(3):71-86.
57. Mobarak, B.A., Shattri, M., Shariff, A.R.M., **Bejo, K.S.** and Mhamed, N.K. (2010). Generation of DEMs from Single SAR Image Using Radar Shape from Shading Technique. International Geoinformatics Research and Development Journal, 1(1):59-69.
58. Ruslan, R., **Bejo, S.K**., Rukunuddin, I.H., Aznan, A.A. (2019). Selection of Morphological Features in Classifying Weedy Rice and Rice Seed Varieties using Discriminant Function Analysis. IOP Conference Series: Materials Science and Engineering, 557(1), 012014. (Scopus index)
59. IC Hashim, ARM Shariff, **SK Bejo**, FM Muharam, K Ahmad. (2018). Classification for non-infected and infected ganoderma boninense of oil palm trees using ALOS PALSAR-2 backscattering coefficient. IOP Conference Series: Earth and Environmental Science 169 (1), 012066. (Scopus index)
60. Rashidah Ruslan, Muhammad Firdaus Ibrahim, **Siti Khairunniza-Bejo**, Aimi Athirah Aznan, Ibni Hajar Rukunudin, Fathin Ayuni Azizan. (2018). Effect of Background Color on Rice Seed Image Segmentation Using Machine Vision. International Conference on Computational Approach in Smart Systems Design and Applications (ICASSDA), 8477614: 1-4. (Scopus index)
61. Hashim, I.C., Shariff, A.R.M., **Bejo, S.K**., Muharam, F.M., Ahmad, K. (2018). Severity of Ganoderma boninense disease classification using SAR data. Proceedings - 39th Asian Conference on Remote Sensing: Remote Sensing Enabling Prosperity, ACRS 2018, 4, pp. 2492-2499. (Scopus index)
62. MSM Alfatni, ARM Shariff, **SK Bejo**, OMB Saaed, A Mustapha. (2018). Real-time oil palm FFB ripeness grading system based on ANN, KNN and SVM classifiers. IOP Conference Series: Earth and Environmental Science 169 (1), 012067. (Scopus index)
63. AY Khaled, SA Aziz, **SK Bejo**, NM Nawi, IA Seman, MA Izzuddin. (2018). Dielectric constant and chlorophyll content measurements for basal stem rot (BSR) disease detection. International Conference on Signals and Systems (ICSigSys), 69-72. (Scopus index)
64. **S. Khairunniza-Bejo**, M. Jaleni, M.E. Husin, M. Khosrokhani, F.M. Muharam, I.A. Seman, M.I. Anuar. 2017. Basal Stem Rot (BSR) Detection Using Textural Analysis of Unmanned Aerial Vehicle (UAV) Image. eProceedings Chemistry 3 (2018) 40-45.
65. Khairunniza-Bejo, S., Zulkifli, Z. and Muharam, F.M. (2017). Effect of nitrogen fertilizer to growth, biomass and grain yield of paddy. Acta Hortic. 1152, 159-164. (Scopus index)
66. E. Jahanshiri, A.R.M. Shariff, **S. Khairunniza-Bejo**, A. Wayayok. 2017. Developing geostatistical mapping tools for precision farming of rice. Acta Horticulturae, 1152: 77-86. (Scopus index.)
67. Mohd Ali, M., Hashim, N., **Bejo, S.K**., Shamsudin, R. and Wan Sembak, W.N.F.H. 2017. RGB imaging system for monitoring quality changes of seedless watermelon during storage. Acta Horticulturae, 1152: 361-366. (Scopus index)
68. Groß, T., Hashim, N., **Khairunniza-Bejo, S**., Aziz, S. Abd and Zude-Sasse, M. 2017. Determination of maturity stages of oil palm fresh fruit bunches using multispectral imaging method. Acta Horticulturae, 1152: 71-76. (Scopus index)
69. **Khairunniza-Bejo, S.,** Azman, N., and Jamil, N. (2015). Paddy Grading using Thermal Imaging Technology. In Proceeding of the 7th International Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context, ICSAFEI-204:1-8.
70. Sharence, N.S., Ishak, W.I.W., **Khairunniza-Bejo, S.** and Mahadi, M.R. (2015). Design and Development of Oil Palm Tree Climbing Robot. In Proceeding of the 7th International Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context, ICSAFEI-130:1-6.
71. Ezrin, M.H., Aimrun, W., **Khairunniza-Bejo, S.,** and Mahadi, M.R. (2015). Relationship between Soil Apparent Electrical Conductivity and Soil Nutrient of Jawa Series in Oil Palm Plantation. In Proceeding of the 7th International Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context, ICSAFEI-119:1-6.
72. Mohd Amiruddin Ramli, Abdul Rashid Mohamed Shariff, and **Siti Khairunniza Bejo** (2015). Spot-5 multispectral image for 60-75 days of rice mapping. IOP Conf. Series: Earth and Environmental Science, 20 (2014) 012016: 1-15. (Scopus index.)

73. Jamil, N. and **Khairunniza-Bejo, S**. (2014). Husk Detection Using Thermal Imaging Technology. Agriculture and Agricultural Science Procedia, 2(2014):128 – 135.
74. **Khairunniza-Bejo, S.** and Chin Nee Vong. (2014). Detection of Basal Stem Rot (BSR) Infected Oil Palm Tree Using Laser Scanning Data. Agriculture and Agricultural Science Procedia, 2(2014):156 – 164.
75. A. Muazu, A., Yahya, A., Ishak, W.I.W. and **Khairunniza-Bejo, S.** (2014). Yield Prediction Modeling Using Data Envelopment Analysis Methodology for Direct Seeding, Wetland Paddy Cultivation. Agriculture and Agricultural Science Procedia, 2(2014):181 – 190.
76. A. Muazu, A., Yahya, A., Ishak, W.I.W. and **Khairunniza-Bejo, S.** (2014). Machinery Utilization and Production Cost of Wetland, Direct Seeding Paddy Cultivation in Malaysia. Agriculture and Agricultural Science Procedia, 2(2014):361 – 369.
77. Kassim, M.S.M., Ishak, W.I.W., Ramli, A.R. and **Khairunniza-Bejo, S.** (2014). Image Clustering Technique in Oil Palm Fresh Fruit Bunch (FFB). Agriculture and Agricultural Science Procedia, 2(2014):337 – 344.
78. **Khairunniza-Bejo, S**. and Jamil, N. (2013). Preliminary Study on Detection of Fungal Infection in Stored Paddy Using Thermal Image. International Proceedings of Chemical, Biological and Environmental Engineering, 60(2013):19-23. (Scopus index)
79. **Khairunniza-Bejo, S.** and Hairi, N.L.S.H. (2013). Mengenalpasti Kandungan Kelembapan Padi di Bawah Permukaan Objek Menggunakan Teknologi Pengimejan. Persidangan Padi Kebangsaan 2013, 10-12 December 2013, Seberang Jaya, Pulau Pinang, Malaysia, p. 295-299.
80. **Khairunniza-Bejo, S.** and Sudin, N.M. (2012). Image Analysis for Immature Paddy Detection. In Proceedings of the International Conference on Agricultural and Food Engineering for Life, 26-28 November 2012, Palm Garden Hotel, Putrajaya, Malaysia, p.799-806.
81. Sumgap, N.H. and **Khairunniza-Bejo, S**. (2012). Relationship Between Paddy Soil Moisture and Image Texture. In Proceedings of the International Conference on Agricultural and Food Engineering for Life, 26-28 November 2012, Palm Garden Hotel, Putrajaya, Malaysia, p.777-782.
82. Mustaffha, S., **Khairunniza-Bejo, S.** and Ismail, W.I.W. (2012). Artificial Neural Network in Predicting Rice Yield. In Proceedings of the International Conference on Agricultural and Food Engineering for Life, 26-28 November 2012, Palm Garden Hotel, Putrajaya, Malaysia, p. 232-234.
83. Siti, S.B.H., **Khairunniza-Bejo, S.**, Ismail, W.I.W, and Wayayok, A. (2012). Feature Extraction of Rice Images for Head and Broken Rice Detection using Image Processing Technique. In Proceedings of the International Conference on Agricultural and Food Engineering for Life, 26-28 November 2012, Palm Garden Hotel, Putrajaya, Malaysia, p.151-156.
84. Ishak, W.I.W., Taip, F.S., **Khairunniza-Bejo, S.** and Kamal, S.M.M. (2012). Volume and Colour Development in Cake Baking Process. In Proceedings of the International Conference on Agricultural and Food Engineering for Life, 26-28 November 2012, Palm Garden Hotel, Putrajaya, Malaysia, p.807-813.
85. **Khairunniza-Bejo, S.** and Kamarudin, S. (2011). Chokanan Mango Sweetness Determination using HSB Color Space. In Proceeding of the Third International Conference on Computational Intelligence, Modelling and Simulation, 6076359: 216-221. (Scopus index)
86. Jahari, M., **Khairunniza-Bejo, S.,** Shariff, A.R.M. and Shafri, H.Z.M. (2010). Performance of Local Mutual Information in Different Band of SPOT 5 Satellite Images to Detect Changes in Forest Areas. In Proceedings of MRSS 6th International Remote Sensing and GIS Conference and Exhibition, 28-29 April 2010, PWTC, Kuala Lumpur, Malaysia, p. 48.
87. Amin, M.R.M., **Khairunniza-Bejo, S.,** Ismail, W.I.W., Mashoor, S. (2010). Colorspace Selection for Agarwood Image Classification Using FCM Approach. In IEEE Gold Affinity Colloqium, 5 May 2010, UPM, Selangor, Malaysia, p. 1-2
88. Sumgap, N.H., **Khairunniza-Bejo, S.** (2010). Color Usage for Depth of Soil Determination. In IEEE Gold Affinity Colloqium, 5 May 2010, UPM, Selangor, Malaysia, p. 3-4.
89. **Khairunniza-Bejo, S.** and Ahmad, D. (2010). Training Managerial Level Personnel by Outcome-Based Education Approach. In Proceedings of the 4th National Seminar on Oil Palm Mechanization, 22-23 November 2010, Crowne Plaza Mutiara, Kuala Lumpur, Malaysia, p.171-177.
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92. Norasma, C.Y.N., Shariff, A.R.M., Jahanshiri, E., Soom, M.A.M., Mahmud, A.R. and **Khairunniza-Bejo, S**. (2010). Web Geoprocessing Tool for Oryza Sativa Plantations in Malaysia. In Proceedings of the MRSS 6th International Remote Sensing and GIS Conference and Exhibition, 28-29 April 2010, PWTC, Kuala Lumpur, Malaysia, p. 82
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94. **Khairunniza-Bejo, S.,** Ahmad, D. and Jahari, M. (2009). Benchmarking of Bachelor of Agricultural and Biosystems Engineering Programme in Malaysia. International Conference on Engineering and Education in the 21st Century (ICEE 2009), 23-25 March 2009,Majestic Riverside, Kuching, Malaysia, p.1- 5**.**
95. **Khairunniza-Bejo, S.** and Hip, S. (2009). Image Processing for Automatic Grading of Mango. International Advanced Technology Congress 2009 (ATCi 2009), 3-5 November 2009, Kuala Lumpur, Malaysia, p. 119.
96. Kassim, M.S.M., Ismail, W.I.W., Ramli, A.R. and **Khairunniza-Bejo, S**. (2009). Multispectral Imaging to Determine Oil Palm FFB Maturity Stages: A Review. International Advanced Technology Congress 2009 (ATCi 2009), 3-5 November 2009, Kuala Lumpur, Malaysia, p. 1.
97. Norasma, C.Y.N., Shariff, A.R.M., Soom, M.A.M., **Khairunniza-Bejo, S.,** Jahanshiri, E., Azhan, F. and Mahmud, A.R. Web Precision Farmer (V2.5): Comparison between Windows and Linux. International Advanced Technology Congress 2009 (ATCi 2009),3-5 November 2009, Kuala Lumpur, Malaysia, p. 121.
98. Norasma, C.Y.N., Shariff, A.R.M., Soom, M.A.M., **Khairunniza-Bejo, S.,** Mahmud, A.R., Aziz, A.A.A. and Jahansiri, E. (2009). Generating Online GIS Decision Support System for Paddy Precision Farming. In Proceedings of the GSDI 11 World Conference, 15-19 June 2009, Rotterdam, The Netherlands, p. 1-12
99. **Khairunniza-Bejo, S.** and Jusoh, S.R. (2009). Integrated Change Detection Method for Landslide Monitoring. In Proceedings of the International Conference on Signal Acquisition and Processing, 5163845: 153-157. (Scopus index)
100. Jahari, M., **Khairunniza-Bejo, S.,** Shariff, A.R.M., Shafri, H.Z.M. and Ibrahim, H. (2008). Change Detection using Local Similarity Measure. In Proceedings of the Conference on Innovative Technologies in Intelligent Systems and Industrial Applications, 4607332: 39-43. (Scopus index).
101. **Khairunniza-Bejo, S.,** Ibrahim, H. and Shariff, A.R.M. (2008). Performance of Point Similarity Measure in Multitemporal Satellite Images. In Proceeding on The Eight IASTED International Conference on Visualization, Imaging and Image Processing, VIIP 2008, p. 187-191. (Scopus index).
102. Teoh, K.K., Ibrahim, H. and **Khairunniza-Bejo, S.** (2008). Investigation on Several Basic Interpolation Methods for the Use in Remote Sensing Application. In Proceedings of the Conference on Innovative Technologies in Intelligent Systems and Industrial Applications, 4607336: 60-65. (Scopus index).
103. **Khairunniza-Bejo, S.,** Amin, M.S.M. and Aimrun, W. (2008). Statistical Analysis of Soil Image Texture for Soil Moisture Content Prediction. In Proceedings of the Consultative Workshop on Paddy Precision Farming, 13-14 August 2008, p3.3:57-58.
104. Norasma, C.Y.N., Shariff, A.R.M., Amin, M.S.M., **Khairunniza-Bejo, S.** and Mahmud, A.R. (2008). Web-Based GIS Decision Support System for Paddy Precision Farming. In Proceedings of the Consultative Workshop on Paddy Precision Farming, 13-14 August 2008, p3.1: 53-54.
105. **Khairunniza-Bejo, S.,** Jahari, M., Jamaludin, H. and Osman, F. (2007). Image Analysis for Agarwood Chips Grading. The World Engineering Congress 2007,5-9 August 2007,Penang, Malaysia, p. 129-134.
106. **Khairunniza-Bejo, S.,** Petrou, M. and Ganas, A. (2006). Landslide Detection Using a Local Similarity Measure. In Proceedings of the 7th Nordic Signal Processing Symposium, NORSIG *2006*, 4052257: 6-9. (Scopus index).
107. **Khairunniza-Bejo, S.,** Petrou, M. and Kovalev, V. (2004). Elastic Image Registration for Landslide Deformation Detections. In Proceedings of the 11th SPIE International Symposium

in Remote Sensing – The International Society for Optical Engineering, 5573(36): 344-355. (Scopus index).

Book

1. Abdul Rani Bahaman, Syafinaz Amin Nordin, Veronica Poulsaeman, and **Slti 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.

Professional Magazine

1. **Khairunniza-Bejo, S.** (2012). Mangrove Forest Mapping. Synthesis, Issue 37: p. 20
2. 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.
3. **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.

Research Grants

Total Number of Research Grants: 20
Total Number of Research Grants (as Principal Investigator): 9
Total Value of Research Grants: RM 5,632,481.00

No	Project Title	Amount (RM)	Year	Source of Fund	Role
1.	Big data platform for pineapple management system	RM100,000.00	2020-2022	GP-IPB	Main researcher
2	Data Fusion of Spectral Reflectance, Biotic and Abiotic Parameters for Bagworm Detection and Prediction Modeling in Palm Oil Plantation	RM99,025.00	2019-2021	FRGS, MOHE	Main researcher
3	Smart Management and Information System for Hydroponic Culture System	RM122,500.00	2019-2021	Geran Putra Berimpak	Co-researcher
4	Prediction of MacroNutrients Status (Nitrogen, Phosphorus and Potassium) in Oil Palm Trees By Remote Sensing	RM124,800.00	2019-2020	Asia-Pacific Telecommunity (APT), Korea	Co-researcher
5	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
6.	Machine Vision System For Rice Quality Evaluation Using Fluorescence Technique	RM60,000.00	2018-2019	IPM	Co-researcher
7.	Multispectral Remote Sensing For Nitrogen Fertilizer Management in Oil Palm	RM19,000.00	2016-2018	GP-IPS	Co-researcher
8.	Impedance Spectroscopy For Basal Stem Rot Disease Analysis In Oil Palm	RM20,000.00	2016-2018	GP-IPS	Co-researcher

9.	Assessment of Oil Palm Tree Productivity using Computer Vision	RM63,800.00	2015-2018	FRGS, MOHE	Main researcher
10.	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
11.	Comprehensive Crop Information for Advance Basal Stem Rot (BSR) Oil Palm Management	RM288,800.00	2015-2017	Geran Putra IPB (Sub-Project)	Co-researcher
12.	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
13.	Mangrove Biomass Modelling and Mapping Using Satellite Remote Sensing and GIS	RM15,000.00	2014-2015	Geran Putra IPS	Main researcher
14.	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
15.	Quality Control of Paddy Rice Using Thermal Image Processing	RM253,156.00	2012-2014	EScience Fund, MOSTI	Main researcher
16.	Uncertainty Assesment of Topographic Factor in Soil Loss Prediction Using DEMs for Highland Agriculture Fertility Conservation	RM50,000.00	2011-2013	FRGS	Co-researcher
17.	Novel Anolyte Products for a Safe and Healthy Production of Chickens	RM2,000,000.00	2007-2010	TechnoFund, MOSTI	Co-researcher
18.	3D Liver Model for Hepatocellular Carcinoma (HCC) Pre-Surgical Planning	RM160,000.00	2007-2009	EScience Fund, MOSTI	Co-researcher

19.	Elastic Image Registration for Land Movement Monitoring for Landslides Detection and Prediction	RM185,000.00	2006 - 2009	EScience Fund, MOSTI	Main researcher
20.	Local Similarity Measure for Forest Monitoring	RM80,000.00	2006 - 2009	FRGS, MOHE	Main researcher
21.	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.	2015	**Khairunniza-Bejo, S.**, Hanibah, S.S.B., Ismail, W.I.W. and Wayayok, W. (2015). Broken Rice Detection version 1.0 (*i*-Rice v1.0)
2.	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)
3.	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).
4.	2010	**Khairunniza-Bejo, S**., Amin, M.R.M., Ismail, W.I.W. and Syamsiah Mashoor, S. Agarwood Grading Inspection System (AGIS v1.0).
5.	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).
6.	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.	2012	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 Pending).
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.	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
2.	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

3.	Best Paper Award	Husk Detection Using Thermal Imaging Technology	International Conference on Food and Agricultural Engineering	International	2014
4.	Bronze Medal	Paddy Quality Determination Using Imaging Technology	Pameran Reka Cipta, Penyelidikan dan Inovasi, Malaysia	National	2014
5.	Silver Medal	GIS-Based Micronutrient Soil Mapping Using Artificial Neural Network as a Sample Predictor	Pameran Reka Cipta, Penyelidikan dan Inovasi, Malaysia	National	2014
6.	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
7.	Gold Medal	Mangrove Forest Mapping	International Trade Fair "Ideas-Invention-New Products" (iENA), Germany	International	2012
8.	Gold Medal	Mangrove Forest Mapping	Malaysia Technology Expo	National	2012
9.	Gold Medal	Development of Mangrove Forest Monitoring Technique Using Local Similarity Measure	Pameran Reka Cipta, Penyelidikan dan Inovasi, UPM	University	2011
10.	Best Poster Award	Paddy Soil Moisture Content Interpretation Using CIELuv Image	National Rice Conference, MARDI	National	2010
11.	Silver Medal	Online GIS Decision Support System for Paddy Precision Farming	International Trade Fair "Ideas-Invention-New Products" (iENA)	International	2009
12.	Gold Medal	Web-Based GIS Paddy Precision Farming for Design Support System	Pameran Reka Cipta, Penyelidikan dan Inovasi, UPM	University	2008
13.	Bronze Medal	Pameran Reka Cipta, Penyelidikan dan Inovasi, UPM	Local Similarity Measure for Landslides Detection and Identification	University	2007
14.	Excellent Service Award	Excellence Achievement	UPM	University	2012
15.	Excellent Service Award	Excellence Achievement	UPM	University	2008

Services

International conference

1.	Chairperson, the 5th International Conference on Agricultural and Food Engineering (CAFE*i*2020)	2019-2021
2.	International Advisory Board, 24th World Conference on Applied Sciences, Engineering, and Technology	2019
3.	Co-Chairperson, the 4th International Conference on Agricultural and Food Engineering (CAFE*i*2020)	2017-2018
4.	Director, Scientific Committee, the 3rd International Conference on Agricultural and Food Engineering (CAFE*i*2016)	2015-2016
5.	Technical Session Chairperson, the 3rd International Conference on Agricultural and Food Engineering (CAFE*i*2016)	2016
6.	Technical Session Chairperson, the 2nd International Conference on Agricultural and Food Engineering (CAFE*i*2014)	2014
7.	Secretary 2, the 2nd International Conference on Agricultural and Food Engineering (CAFE*i*2014)	2013-2014
8.	Secretary 1, the 2nd International Conference on Agricultural and Food Engineering (CAFE*i*2012)	2011-2012
9.	Committee Member, Conference on Natural Resources and Green Technology 2010 (CNRGT 2010)	2009-2010
10.	Committee Member, World Engineering Congress 2007 (WEC 2007)	2006-2007

Editorial Board

1.	Editorial Board, Advances in Agriculture, Horticulture and Entomology	2020
2.	Guest Editor, Journal of food Packaging and Shelf Life	2020
3.	Editor, Acta Hort. III Int. Conf. on Agricultural and Food Engineering	2016-2017
4.	Guest Editorial Board, Pertanika Journal	2012

Journal Reviewer

1.	Basrah Journal of Agricultural Sciences (BJAS)	2020
2.	Journal of Science and Technology	2020, 2019
3.	Information Processing in Agriculture	2020, 2019, 2015
4.	Science, Engineering and Health Studies	2020
5.	Journal of Agricultural Science	2019
6.	Journal of Oil Palm Research	2020, 2019, 2014
7.	Transactions of the ASABE	2017
8.	Acta Horticulturae	2016
9.	Computers and Electronics in Agriculture	2015, 2020
10.	African Journal of Agricultural Research	2015
11.	American Journal	2015
12.	Malaysian Journal of Computer Science Special Issue	2015
13.	Journal of Agricultural Science and Technology	2014
14.	Geoscience and Remote Sensing Letters	2010-2013
15.	PERTANIKA Journal	2011-2012
16.	Journal of Tropical Agriculture and Food Science	2009

Conference Paper Reviewer

1.	Konferens MSAE 2020	2020
2.	5th International Conference on Agricultural and Food Engineering	2020
3.	XIII SMART Farming Workshop: Crop Cultivation and Postharvest Technology	2019
4.	4th International Conference on Agricultural and Food Engineering	2018
5.	ROVISP 2016	2016
6.	3rd International Conference on Agricultural and Food Engineering	2016
7.	7th Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context	2015
8.	Kolakium RACE 2015	2015
9.	PAWEES-INWEPF	2015
10.	2nd International Conference on Agricultural and Food Engineering	2014
11.	ISG 2014	2014

12.	1st International Conference on Agricultural and Food Engineering	2012
13.	IEEE GOLD Colloquium	2010
14.	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	2010-2020
2.	IPM Putra Grant	2010-2020
3.	IPS Putra Grant	2010-2020
4.	IPB Putra Grant	2010-2020

Evaluator

1.	Judge, MSAE-Sc Small Tractor Competition	2018
2.	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.	Keynote Speaker at the International Conference on Contemporary Practices of Technology and Management for Economic Growth, India.	2019
2.	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.	2018
3.	Invited Speaker at the Sarawak Industrial Fiesta, Malaysia.	2018
4.	Invited Speaker at the 2018 Summer Course Program Green Technology for Sustainable Tropical Agriculture, Indonesia.	2018
5.	Pemateri, Kuliah Umum Jurusan Teknik Pertanian, Fakultas Teknologi Pertanian Universitas Andalas, Indonesia.	2017