CURRICULUM VITAE

Nur Azuan Husin
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Education

1. PhD in Biological & Agricultural Engineering, 2020, Universiti Putra Malaysia
2. Master of Science (Biological & Agricultural Engineering), 2016, Texas A&M University, USA.
3. Bachelor of Engineering (Biological & Agricultural), 2006, Universiti Putra Malaysia.

Areas of Interest

1. Remote Sensing
2. Precision Agriculture
3. Mechanization and Automation

Professional Qualification/ Membership/ Affiliation

1. Graduate Member, Board of Engineers Malaysia (BEM) – 146331A
2. Member, American Society of Agricultural and Biological Engineers (ASABE) – 1041987
3. Graduate Member, Institute of Engineers Malaysia (IEM) - 112872
4. Executive Member, Malaysian Society of Agricultural Engineers (MSAE)
5. Professional Technologist, Malaysia Board of Technologists (MBOT)
6. Member, Institution of Engineering and Technology (IET) - 1101143324

Appointments

Position	Duration
1. Senior Lecturer, Department of Biological and Agricultural Engineering, Faculty of Engineering UPM	June 2020 to date
2. Alumni Coordinator, Department of Biological and Agricultural Engineering	July 2020 to July 2023
3. Scientific Committee, National Agricultural and Food Engineering Convention (NAFEC), 2022	March 2021 to March 2022
4. Junior Research Associate, Smart Farming Technology Research Center (SFTRC), Faculty of Engineering, UPM	August 2021 to date

Research Grant

Project Title	Amount (RM)	Year	Source of Fund	Status
1. Drone Application for Ganoderma boninense Disease Detection in Oil Palm Plantation (Main Researcher)	60,500	2021-2023	GP-IPM (UPM)	Ongoing
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 (Project members)	454,000	2020-2022	PRGS (MOE)	Ongoing

Publications

Journals

1. Johari, S. N. A. M., Khairunniza-Bejo, S., Shariff, A. R. M., **Husin, N. A.**, Masri, M. M. M., & Kamarudin, N. (2023). Detection of Bagworm Infestation Area in Oil Palm Plantation Based on UAV Remote Sensing Using Machine Learning Approach. *Agriculture*, 13(10), 1886.

2. Haw, Y. H., Hum, Y. C., Chuah, J. H., Voon, W., Khairunniza-Bejo, S., **Husin, N. A.**, Yee, L. and Lai, K. W. (2023). Detection of Basal Stem Rot Disease Using Deep Learning. *IEEE Access.*
3. Haw, Y. H., Lai, K. W., Chuah, J. H., Bejo, S. K., **Husin, N. A.**, Hum, Y. C., Yee, L., Tee, C.A.T., Ye, X. & Wu, X. (2023). Classification of basal stem rot using deep learning: a review of digital data collection and palm disease classification methods. *PeerJ Computer Science*, 9, e1325.
4. Johari, S. N. A. M., Khairunniza-Bejo, S., Shariff, A. R. M., **Husin, N. A.**, Masri, M. M. M., & Kamarudin, N. (2023). Automatic Classification of Bagworm, Metisa plana (Walker) Instar Stages Using a Transfer Learning-Based Framework. *Agriculture*, 13(2), 442.
5. **Husin, N. A.**, Khairunniza-Bejo, S., Abdullah, A. F., Kassim, M. S., & Ahmad, D. (2021). Multi-temporal analysis of terrestrial laser scanning data to detect basal stem rot in oil palm trees. *Precision Agriculture*, 1-26.
6. **Husin, N. A.**, Bejo, S. K., Abdullah, A. F., Kassim, M. S., & Ahmad, D. (2021). Relationship of Oil Palm Crown Features Extracted Using Terrestrial Laser Scanning for Basal Stem Rot Disease Classification. *Basrah Journal of Agricultural Sciences*, 34, 1-10.
7. **Husin, N. A.**, Khairunniza-Bejo, S., Abdullah, A. F., Kassim, M. S., Ahmad, D., & Azmi, A. N. (2020). Application of Ground-Based LiDAR for Analysing oil palm canopy properties on the occurrence of Basal Stem Rot (BSR) Disease. *Scientific Reports*, 10(1), 1-16.
8. **Husin, N. A.**, Khairunniza-Bejo, S., Abdullah, A. F., Kassim, M. S., Ahmad, D., & Aziz, M. H. (2020). Classification of Basal Stem Rot Disease in Oil Palm Plantations Using Terrestrial Laser Scanning Data and Machine Learning. *Agronomy*, 10(11), 1624.
9. **Husin, N. A.**, Khairunniza–Bejo, S., Abdullah, A. F., Kassim, M. S. M., & Ahmad, D. (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.
10. **Azuan, N.H.**, Khairunnniza-Bejo, S., Abdullah, A.F., Kassim, M.S.M., and Ahmad, D. (2019). Analysis of Changes in Oil Palm Canopy Architecture from Basal Stem Rot Using Terrestrial Laser Scanner. *Plant Disease*. 103(12):3218-3225.
11. **Husin, N. A.**, Khairunniza-Bejo, S., Abdulllah, A. F., Kassim, M. S. M., & Ahmad, D. (2019). Effects of Basal Stem Rot on Oil Palm Inter-frond Angles for Different Severity Levels. *Journal of Advanced Agricultural Technologies*. 6(2): 113-117.
12. Noor Azmi, A. N., Bejo, S. K., Jahari, M., Muharam, F. M., Yule, I., & **Husin, N. A.** (2020). Early Detection of Ganoderma boninense in Oil Palm Seedlings Using Support Vector Machines. *Remote Sensing*, 12(23), 3920.
13. Noordin, M. N. A., Hudzari, R. M., **Azuan, N. H.**, Zainon, M. S., Mohamed, S. B., & Wafi, S. A. (2016). Development of Standard Approach for Sickle Blade Manufacturing. *International Journal on Advanced Science, Engineering and Information Technology*, 6(5), 740-745.
14. Razali, M. H., Roslan, S., Halim, A. S. M. A., Shokeri, A. F. M., & **Husin, N. A.** (2016). Design and Development of Innovative Highland Water Filtration System. *World Journal of Engineering and Technology*, 4(3), 383-390.

Conference Proceeding

1. **Husin, N.A.,** Khairunniza-Bejo, S., Azmi, A.N.N. & Ahmad, D. (2018). Comparison between linear and quadratic models for Ganoderma classification. In: 39th Asian Conference on Remote Sensing (ACRS 2018), 15-19 Oct. 2018, Renaissance Kuala Lumpur Hotel, Malaysia. 2018. p. 771-780.
2. Ssomad, M. A. H. A., **Azuan, H. N.**, Hudzari, R. M., Noordin, M. N. A., & Azizah, E. Water Quality Monitoring at Bukit Nenasi Highland Irrigation in Kuala Terengganu. Proceedings of 3rd National Conference of Knowledge Transfer (NCKT'16), Pulau Pinang, Malaysia. 2016. p. 11-16.

Thesis

1. **Nur Azuan Husin**, Impact of Seed Cotton Compression on Cottonseed Quality. Master Thesis. Texas A&M University
2. **Nur Azuan Husin**, Development of Basal Stem Rot Disease Detection Model Using Terrestrial Laser Scanning Data of Oil Palm Crown. PhD Thesis. Universiti Putra Malaysia

Awards/Recognition

1. Silver Medal, Engineering Innovation & Exhibition 2023 (EIE 2023), Faculty of Engineering, UPM. A Comparison of UAV And TLS Data for Basal Stem Rot (BSR) Disease Detection in Oil Palm Plantation.

2. Bronze Medal Final Year Project, Final Year Project Exhibition 2023. Faculty of Engineering, UPM. Detection Of *Ganoderma Boninense* Infection Using UAV Thermal Image and Oil Palm Features.
3. Gold Medal as the Poster Presenter in the National Agricultural and Food Engineering Convention 2023 (NAFEC 2023).
4. Excellence in Teaching 2022, in conjunction with the Innovation and Appreciation Program 2022, Faculty of Engineering, UPM.
5. Silver Medal Final Year Project, Final Year Project Exhibition 2022. Faculty of Engineering, UPM. *Ganoderma Boninense* Detection Based on UAV Aerial Image of Oil Palm Trees.
6. Bronze Medal Final Year Project, Final Year Project Exhibition 2022. Faculty of Engineering, UPM. Growth Monitoring of Healthy and BSR-Infected Oil Palm Seedling using Ground-based LiDAR.
7. Gold Medal Final Year Project, Department of Biological and Agricultural Engineering, Faculty of Engineering, UPM (Option Agricultural Informatics) 2021. Identification of Basal Stem Rot Disease in Oil Palm Seedlings using Thermal Imaging Technique.
8. Consolation Prize Winner for the Best Oral Presenter Award in the National Agricultural and Food Engineering Convention 2022 (NAFEC 2022).

Student Supervision

PhD (Co-supervisor)

No.	Name	Title	Status
1.	Siti Nurul Afiah Mohd Johari	Detection of Bagworm Instar Stage in Oil Palm Plantation using Hyperspectral Imaging	Ongoing

Student FYP Supervision

No.	Name	Title	Year
1.	Nurul Izzah Zainal Abidin	*Ganoderma boninense* Disease Detection Based on Oil Palm Tree Physical Properties using Top-View Aerial Image of UAV	2020/2021
2.	Putri Alisya binti Megat Shamrolshah	Identification of Basal Stem Rot Disease in Oil Palm Seedling Using Thermal Imaging Technique	2020/2021
3.	Ray Clement Anak Ridu	Growth Monitoring of Healthy and Basal Stem Rot (BSR)-Infected Oil Palm Seedling using Ground-Based Lidar	2021/2022
4.	Muhammad Iqbal Afiq Muhammad	*Ganoderma boninense* Detection Based on Unmanned Aerial Vehicle (UAV) Aerial Image of Oil Palm Trees	2021/2022
5.	Viviana Umie Tagang	*Ganoderma Boninense* Disease Detection and Classification Using Oil Palm Features and RGB Aerial Imagery of Oil Palm Trees	2022/2023
6.	Nur `Aliah Hanani binti Mohd Baktiar	Detection Of Ganoderma Boninense Using UAV Thermal Image and Oil Palm Features	2022/2023