CURRICULUM VITAE

PERSONAL INFORMATION

Name	Liza Nuriati Lim Kim Choo
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EDUCATION

Master of Science	2015 Universiti Putra Malaysia Field of study: Land resource management Thesis title: Greenhouse gas emission partitioning and carbon leaching in drained tropical peatland, Saratok, Malaysia.
Bachelor of Science	2006 Universiti Teknologi Malaysia Degree: Industrial Chemistry

PROFESSIONAL EXPERIENCE

Researcher
Year: 2006 to current
Soil Science, Water and Fertilizer Research Centre
Malaysian Agricultural Research and Development Institute
MARDI Saratok, Sarawak
Specialisation: Soil chemistry and land resource management

Research interests

Restoration and management of tropical peatland, mitigation measures for greenhouse gas emissions from organic soils, nutrient management in peat soils, and management of agricultural waste as soil amendments.

Research projects

- Evaluating the effect of clinoptilolite zeolite addition in NPK fertilizers on the growth performance of papaya cultivated on peat soil [11th Malaysia Plan Development Project 2018 to 2020: P-RS-402C] (Sub-Project Activity Leader).

- Assessing the potential of pineapple leaf ash, air-dried peat, and clinoptilolite zeolite as nutrient adsorbents and greenhouse gas mitigation tool in cultivated tropical peatland [Fundamental Research Grant Scheme (Ministry of Higher Education) Project 2015 to 2018:

FRGS/1/2015/WAB01/MOA/02/2] (Project Leader).

- Development of selected fruit production systems to address the effects of climate change [11th Malaysia Plan Development Project 2018 to 2020: P-RS-402] (Collaborator).

- Nutrient management for selected local rice varieties in Batang Lupar [EPP11 Project 2016: K-RIN09] (Collaborator).

- Potential of industrial crops as greenhouse gas emission mitigation strategy on tropical peat soil [10th Malaysia Plan Development Project 2013 to 2014: P-RS-146] (Collaborator).

- Studies on management for conservation of tropical peatland [9th Malaysia Plan Development Project 2006 to 2010: RM9-79] (Project Team Member)

- Restoration of tropical peatland to promote sustainable use of renewable natural resources [RESTORPEAT International Project 2007 to 2009: NI/0063/10] (Collaborator).

- Evaluation of peat filter for laboratory wastewater treatment and volatile chemical adsorbent [MARDI Short Term Grant Project 2008 to 2009: JP-RS-0132] (Project Leader).

PUBLICATIONS

Choo, L.N.L.K., Ahmed, O.H., Nik Majid, N.M., and Ab Aziz, Z.F. (2019). Improving nitrogen availability on a tropical peat soil cultivated with *Ananas comosus* L. Merr. Using pineapple residue ash. *Journal of Soil Science and Plant Nutrition*, doi: 10.1007/s42729-019-00154-4

Choo, L.N.L.K. and Ahmed, O.H. (2019). Pineapple residue ash: a greenhouse gas mitigation tool for tropical peat soils. In: MARDI Science and Technology Exhibition (MSTE) 2019, 29-30 October 2019, MAEPS, Serdang.

Jeffary, A.V., Ahmed, O.H., Heng, R.K.J., and **Choo, L.N.L.K.** (2019). Horizontal and vertical emissions of methane from peat soils. *Journal of Bangladesh Agricultural University* 17(3): 359-362

Jeffary, A.V., Ahmed, O.H., Heng, R.K.J., **Choo, L.N.L.K.,** and Omar, L. (2019). Horizontal and vertical emissions of carbon dioxide and methane from a tropical peat soil cultivated with pineapple (Ananas comosus (L.) Merr.). *Sustainable Agriculture Research* 8(3): 1-11

Choo, L.N.L.K., and Ahmed, O.H. (2018). Pineapple residue ash: the solution for nitrogen loss in peat. In: MARDI Science and Technology Exhibition (MSTE) 2018, 8-10 October 2018, Malacca.

Choo, L.N.L.K., Ahmed, O.H., and Razak, N.A. (2018). Comparison of nutrient adsorption abilities of pineapple residue ash, clinoptilolite

zeolite, and air-dried peat. Technical Report for Agrobiodiversity and Environment Research Centre Project Monitoring, 12-14 January 2018, Port Dickson; pp. 44-48.

Choo, L.N.L.K. and Ahmed, O.H. (2018). Effect of pineapple residue ash, clinoptilolite zeolite, and air-dried peat on soil greenhouse gas emissions of a drained tropical peatland cultivated with pineapple. Technical Report for Agrobiodiversity and Environment Research Centre Project Monitoring, 12-14 January 2018, Port Dickson; pp. 49-53.

Choo, L.N.L.K. and Ahmed, O.H. (2018). Assessing the contribution of microbial respiration, root respiration, and oxidative peat decomposition to carbon dioxide emission from pineapple cultivation on a tropical peat soil. In: Proceeding of the 3rd ASEAN Microbial Biotechnology Conference 2018, 24-26 April 2018, Kuching, Sarawak: Accepted.

Norziana, Z.Z., **Choo, L.N.L.K.,** Muhammad Zamir, R., Mohd Safidin, K, Theena M., and Illani Zuraihah, I. (2018). An overview of Malaysian guidelines on soil testing and its application for nutrient classification. In: Proceedings of the FFTC-TARI International Workshop on Soil and Plant Tissue Analysis – Testing methods QA/QC data interpretation and application, 12-13 September 2018, Taiwan, pp. 97-104.

Ahmed, O.H., Jeffary, A., Luta, W., and **Choo, L.N.L.K.** (2018). Tropical peat soil and transportation of greenhouse gases. UPM University Press, Serdang, Selangor, Malaysia: 120 pp.

Choo, L.N.L.K. and Ahmed, O.H. (2017). Methane emission from pineapple cultivation on a tropical peatland at Saratok, Malaysia. *Sustainable Agriculture Research* 6(3): 64-74.

Choo, L.N.L.K. and Ahmed, O.H. (2017). Nitrous oxide emission of a tropical peat soil grown with pineapple at Saratok, Malaysia. *Sustainable Agriculture Research* 6(3): 75-84.

Choo, L.N.L.K. and Othman, R.R. (2017). Towards wise use of tropical peatland from an agriculture perspective in Malaysia. Country Report for ASEAN-CHINA Workshop on Sustainable Management of Agricultural Peatland, 31 July – 03 August 2017, Jakarta and Batam, Indonesia; pp. 1-48.

Choo, L.N.L.K. and Ahmed, O.H. (2017). Greenhouse gas emission from pineapple cultivation on a tropical peat soil. In: Proceedings of the International Conference on Sustainable Soil Management 2017, 4-7 April, Bintulu, Sarawak; pp. 10-13.

Choo, L.N.L.K., Ahmed, O.H., Jalloh, M.B., and Jol, H. (2017). Greenhouse gas emission from pineapple cultivation on drained tropical peat soils. In: *Advances Tropical Soil Science Volume 4*, UPM University Press, Serdang, Selangor, pp. 100-124.

Luta, W., Ahmed, O.H., Heng, R.K.J., and **Choo, L.N.L.K.** (2017). Water table fluctuation and carbon dioxide emission from a tropical peat

soil cultivated with pineapples (*Ananas comosus* L. Merr.). *International Journal of Bioscience* 10(1): 172-178.

Wijedsa, L.S., Jauhiainen, J., Kononen, M., Lampela, M., Vasander, H., LeBlanc, M.C., **Choo, L.N.L.K.,** et al. (2017). Denial of long-term issues with agriculture on tropical peatlands will have devastating consequences. *Global Change Biology* 23(3): 977-982.

Jeffary, A., Ahmed, O.H., Heng, R.K.J., and **Choo, L.N.L.K**. (2016). Horizontal and vertical emissions of methane from a drained tropical peat soil cultivated with pineapple (*Ananas comosus* (L.) Merr.). *International Journal of Bioscience* 5(5): 10-18.

Choo, L.N.L.K. and Ahmed, O.H. (2016). Partitioning carbon dioxide emission and dissolved organic carbon leaching of a tropical peat soil grown with pineapple at Saratok, Malaysia. In: Abstract Book for 15th International Peat Congress 2016, 15-19 August, Kuching, Sarawak; pp. 202.

Choo, L.N.L.K. and Ahmed, O.H. (2016). Nitrous oxide emission of a tropical peat soil grown with pineapple at Saratok, Malaysia. In: Proceeding of the Soil Science Conference of Malaysia 2016, 5-7 April 2016, Kuala Terengganu; pp. 109-112.

Choo, L.N.L.K. and Norlida, N.H. (2016). Pertanian Pintar Iklim (CSA): Satu pendekatan strategic bagi pengurusan tanah gambut tropika yang mampan di Asia Tenggara. In: Abstract for Persidangan Kebangsaan Our Food Our Future, 8 November 2016, Serdang, Selangor.

Choo, L.N.L.K. and Sekot, S. (2016). Tanah gambut tropika dan perubahan iklim. Agromedia: Edisi Khas Persidangan Kebangsaan Agrobiodiversiti ke-3 (NAC 2016); pp. 9-11.

Norziana Z.Z., Illani Zuraihah, **Choo, L.N.L.K.,** Mohd Fairuz, M.S., Mohammad Hariz, A.R., Shadatul Azdawiya, A.T., Fauzi, J., and Mohamad Zabawi, A.G. (2016). Effects of different organic amendments on soil organic carbon, nitrogen, and rice yield of a paddy field in MADA. Technical report for Crop and Soil Science Research Centre (SS) 2015, pp. 179.

Choo, L.N.L.K. and Ahmed, O.H. (2015). Partitioning – A new technique for soil carbon dioxide emission measurement on peat. In: MARDI Science and Technology Exhibition (MSTE) 2015, 25-27 August 2015, MAEPS Serdang.

Ahmed, O.H. and **Choo, L.N.L.K.** (2015). Greenhouse gas emission and carbon leaching in pineapple cultivation on tropical peat soil. UPM University Press, Serdang, Selangor, Malaysia, ISBN 9789673444748; pp. 1-157.

Choo, L.N.L.K. and Ahmed, O.H. (2015). Methane emission from a cultivated tropical peat soil at Saratok, Malaysia. In: Proceedings of the Soil Science Conference of Malaysia 2015, 7-8 April 2015, Putrajaya, pp. 224-227.

Marshall, K.S. and **Choo, L.N.L.K.** (2015). Carbon dioxide emission from tropical peat suboxic horizon. In: Proceedings of the Soil Science Conference of Malaysia 2015, 7-8 April 2015, Putrajaya, pp. 231-234.

Norziana, Z.Z., Illani, Z.I., **Choo, L.N.L.K**., Mohd Fairuz, M.S., Mohammad Hariz, H.R., Shaidatul, A.A.T., Fauzi, J., and Mohamad Zabawi, A.G. (2015). Effects of different organic amendments on soil organic carbon, nitrogen, and rice yield of a paddy field in MADA. In: Proceedings of the Soil Science Conference of Malaysia 2015, 7-8 April 2015, Putrajaya, pp. 191-194.

Choo, L.N.L.K. and Ahmed, O.H. (2014). Partitioning carbon dioxide emission and assessing dissolved organic carbon leaching of drained peatland cultivated with pineapple at Saratok, Malaysia. *The Scientific World Journal* 2014, 906021, doi: 10.1155/2014/906021.

Choo, L.N.L.K. and Ahmed, O.H. (2014). Partitioning soil carbon dioxide emission and dissolved organic carbon leaching in drained tropical peatland. In: Proceedings of the Soil Science Conference of Malaysia, 8-10 April 2014, Perlis, pp. 76-78.

Choo, L.N.L.K. and Ahmed, O.H. (2014). Partitioning methane emission of a drained peatland cultivated with pineapple (*Ananas comosus* (L.) Merr.). In: Abstract Book for Agrobiodiversity and Agroenvironment Symposium (ABES) 2014, 15-18 September 2014, Kuching, Sarawak; pp. 70.

Marshall, K.S. and **Choo, L.N.L.K.** (2014). Morphological characteristics and multi directional CO_2 emission from tropical peat. In: Proceedings of the Soil Science Conference of Malaysia, 8-10 April 2014, Perlis, pp. 66-70.

Choo, L.N.L.K. and Ismail, A.B. (2014). Kaedah mengelakkan kebakaran di tanah gambut. Agromedia Bil. 44, ISSN 1511-094X; pp. 26-28.

Choo, LN.L.K. and Ismail, A.B. (2014). Tanah gambut dan pelepasan gas karbon dioksida. Agromedia Bil. 44, ISSN 1511-094X; pp. 29-31.

Zulkefli, M., **Choo, L.N.L.K.,** and Ismail, A.B. (2010). Soil CO_2 flux from tropical peatland under different land clearing techniques. Journal of Tropical Agriculture and Food Science 38(1): 131-137.

Choo, L.N.L.K. and Zulkefli, M. (2009). Potential of peat as a natural adsorbent in the removal of Cu, Fe, Mn, and Mg from hydroponic waste. In: Proceedings of the Soil Science Conference of Malaysia 2009, 13-15 April 2009, Kuala Terengganu; pp. 122-126.

Choo, L.N.L.K. and Zulkefli, M. (2008). The effect of compost with different inoculum sources on carbon dioxide emission. In: Proceedings of the Soil Science Conference of Malaysia, 15-17 April 2008, Ipoh, Perak; pp. 154-157.

Zulkefli, M., **Choo, L.N.L.K.,** Ismail, A.B., and Jamaludin, J. (2008). Soil carbon loss under different land clearing techniques and agriculture systems on tropical peatland. In: Proceedings of the International Symposium and Workshop on Tropical Peatland: Peat Development – Wise Use and Impact Management, 19-22 August 2008, Kuching, Sarawak; pp. 376-381.

Choo, L.N.L.K. (2008). Tanah gambut penjerap wap petrol. Agromedia Bil. 25, ISSN 1511-094X.

ORGANIZATIONAL SKILLS

- Publication committee member for Soil Science, Water, and Fertilizer Research Centre (SF) MARDI 2019
- Technical committee member for ASEAN Microbial Biotechnology Conference (AMBC 3) 2018.
- Extended abstract reviewer for the Proceedings of the National Agrobiodiversity Conference (NAC) 2016.
- Technical committee member for Research Consultative Programme (RCP 2016) on Climate Change, Adaptation, and Mitigation for Agrobiodiversity and Environment Research Centre (BE) MARDI.
- Organizing committee member for Publicity and Social for Malaysian Soil Science Conference 2009.

ACHIEVEMENTS

Honours/Awards

- Gold Medal Award for Knowledge Category MARDI Science and Technology Exhibition (MSTE) 2019 (MAEPS, Serdang): Pineapple residue ash: a greenhouse gas mitigation tool for tropical peat soils.
- Gold Medal Award for Knowledge Category MARDI Science and Technology Exhibition (MSTE) 2018 (Malacca): Pineapple residue ash – the solution for nitrogen loss in peat.
- Excellent Poster Presentation Award for Soil Science Conference of Malaysia 2016 (Kuala Terengganu): Nitrous oxide emission of a tropical peat soil grown with pineapple at Saratok, Malaysia.
- Excellent Poster Presentation Award for Soil Science Conference of Malaysia 2015 (Putrajaya): Methane emission from a cultivated tropical peat soil at Saratok, Malaysia.
- Bronze Medal Award for Knowledge Category MARDI Science and Technology Exhibition (MSTE) 2015 (MAEPS, Serdang): Partitioning – A new technique for soil carbon dioxide emission measurement on peat.

- Excellent Oral Presentation Award for Soil Science Conference of Malaysia 2014 (Perlis): Partitioning of soil carbon dioxide emission and dissolved organic carbon leaching in drained tropical peatland.

- Excellent Poster Presentation Award for Soil Science Conference of Malaysia 2008 (Ipoh): The effect of compost with different inoculum sources on carbon dioxide emission.

Special Recognition

- Civil Service Excellent Award Year 2016 from Malaysian Agricultural Research and Development Institute (MARDI).