

CURRICULUM VITAE



DR. HAFIZ SULTAN MAHMOOD

Doctor of Philosophy (PhD), Netherlands

CONTACT DETAIL

Agricultural and Biological Engineering Institute, National Agricultural Research Centre, Park Road, Islamabad, Pakistan

Phone (Office): +92 51 9073 3609 & +92 51 9255044

Mobile: +92 300 55 171 99

Email: sultan_fmi@hotmail.com

MISSION

I am an agricultural engineer. My mission is to contribute to the national and international progress coping with the global concerns and challenges of food security, resource conservation, agricultural sustainability and environmental protection by research, development and adoption of suitable agricultural machines for local farmers. Furthermore, introducing modern agricultural machines and technologies in agriculture is also the part of my mission to increase crop productivity for ensuring food security, to better manage limited soil and agricultural resources, to ensure a safe utilisation of farm inputs and to protect the human environment.

ACADEMIC QUALIFICATIONS

- **Doctor of Philosophy (PhD):** I completed my PhD in Precision Agriculture from Wageningen University, the Netherlands in 2013. The title of my thesis was “Proximal soil sensors and data fusion for precision agriculture”.
- **MSc (Hons.) Agricultural Engineering:** I completed MSc Agricultural Engineering from University of Agriculture, Faisalabad, Pakistan, in 2004. The title of my thesis was “Development of a drop-pipe tractor mounted boom sprayer for cotton crop”.
- **BSc Agricultural Engineering:** I completed BSc Agricultural Engineering from University of Agriculture, Faisalabad, Pakistan, in 2001.

PROFESSIONAL AFFILIATION

I have been working in Agricultural and Biological Engineering Institute (formerly called as Farm Machinery Institute), National Agricultural Research Centre, Islamabad, Pakistan, since 2004. My key responsibilities are to design, develop, test and commercialise new agricultural machines in the local farming system to cope with the three major issues: low agricultural yields, unavailability of farm labour and timely performing farming operations.

LIST OF PUBLICATIONS

PEER-REVIEWED JOURNAL PUBLICATIONS:

1. Ahmad, T., **Mahmood, H.S.**, Ali, Z., Khan, M.A. and Zia, S. 2017. Design and development of a portable sisal decorticator. Accepted for publication in “Pakistan Journal of Agricultural Research”.
2. Ahmad, T., Ali, Z. and **Mahmood, H.S.** 2017. Factors causing low head rice recovery in combine-harvested paddy. Accepted for publication in Science, Technology and Development Journal.

3. **Mahmood, H.S.**, Ahmad, T., Ali, Z. and Mirani, A.A. 2016. Performance evaluation of different fodder cutters. *ARPJ Journal of Engineering and Applied Sciences*, 11(24): 14552-14559.
4. Ahmad, T., **Mahmood, H.S.** and Ali, Z. 2016. Effect of paddy harvesting methods on rice quality and head rice recovery. *ARPJ Journal of Engineering and Applied Sciences*, 11(24): 14519-14523.
5. **Mahmood, H.S.**, Ahmad, T., Ali, Z., Ahmad, M. and Amjad, N. 2016. Field evaluation of a wheat straw chopper. *Pakistan Journal of Agricultural Sciences*, 29(3): 301-314.
6. Ahmad, M., Mirani, A.A., **Mahmood, H.S.**, Ahmad, T. and Saeed, M.A. 2014. Performance evaluation of cross-flow rice dryers. *Pakistan Journal of Agricultural Research*, 27(4): 277-286.
7. **Mahmood, H.S.**, Hoogmoed, W.B. and van Henten, E.J. 2013. Proximal gamma-ray spectroscopy to predict soil properties using windows and full-spectrum analysis methods. *Sensors*, 13(12): 16263-16280.
8. **Mahmood, H.S.**, Ahmad, M., Ahmad, T., Saeed, M.A. and Iqbal, M. 2013. Potentials and prospects of precision agriculture in Pakistan - A review. *Pakistan Journal of Agricultural Research*, 26(2): 151-167.
9. **Mahmood, H.S.**, Bartholomeus, H.M., Hoogmoed, W.B. and van Henten, E.J. 2013. Evaluation and implementation of vis-NIR spectroscopy models to determine workability. *Soil and Tillage Research*, 134: 172-179.
10. **Mahmood, H.S.**, Hoogmoed, W.B. and van Henten, E.J. 2012. Sensor data fusion to predict multiple soil properties. *Precision Agriculture*, 13(6): 628-645.
11. Kuang, B., **Mahmood, H.S.**, Quraishi, Z., Hoogmoed, W.B., Mouazen, A.M. and van Henten, E.J. 2012. Sensing soil properties in the laboratory, in situ, and on-line: A review. *Advances in Agronomy*, 114: 155-223.
12. Iqbal, M., **Mahmood, H.S.** and Younis, M. 2005. Development of a drop-pipe type university boom sprayer. *Journal of Engineering and Applied Sciences*, 24(2): 63-70.
13. **Mahmood, H.S.**, Iqbal, M., Hussain, K.A. and Hamid, T. 2004. Improved surface coverage with environmentally effective university boom sprayer. *Pakistan Journal of Agricultural Sciences*, 41(3-4): 152-157.
14. **Mahmood, H.S.**, Iqbal, M., Hamid, T. and Hussain, K.A. 2004. Efficacy of environmentally effective university boom sprayer for bollworm mortality. *Pakistan Journal of Agricultural Sciences*, 41(1-2): 86-90.

PEER-REVIEWED CONFERENCE PAPERS:

1. **Mahmood, H.S.** and Ahmad, T. 2016. Precision seeding for vegetables and other crops. In: M.J.M. Cheema (Editor), *Proceedings of "International Conference on Sustainable Agriculture in Pakistan"*, Jointly organised by US-Pakistan Center for Advanced Studies in Agriculture and Food Security, University of Agriculture and University of California, Davis (USA). November 17-19, 2016, University of Agriculture, Faisalabad, Pakistan, pp.125. ISBN: 978-969-9035-13-5.
2. **Mahmood, H.S.**, Ahmad, T., Ali, Z. and Ahmad, M. 2016. Adoption of precision farming technologies in Pakistan. In: *Proceedings of the Second Stakeholder Meeting on "Current Status and Future Prospects of Adopting Precision Agriculture in Pakistan's Farm Settings"*. University of Agriculture, Faisalabad, Pakistan, April 16, 2016.
3. **Mahmood, H.S.**, Hoogmoed, W.B. and van Henten, E.J. 2011. Estimating soil properties with a proximal gamma-ray spectrometer using windows and full-spectrum analysis methods. In: V.I. Adamchuk and R.A. Viscarra Rossel (Editors), *Proceedings of the Second Global Workshop on Proximal Soil Sensing*. McGill University Press, Montreal, Quebec, Canada, pp. 132-135.

4. **Mahmood, H.S.**, Hoogmoed, W.B. and van Henten, E.J. 2009. Combined sensor system for mapping soil properties. In: E.J. van Henten, D. Goense and J.F.M. Huijsmans (Editors), Precision agriculture 2009: Proceedings of the 7th European conference on precision agriculture. Wageningen Academic Publishers, Wageningen, The Netherlands, pp. 423-430.

PUBLISHED PhD THESIS

Mahmood, H.S. 2013. Proximal soil sensors and data fusion for precision agriculture. Published PhD Thesis, Wageningen University, Wageningen, 205 pp. ISBN: 978-94-6173-579-9.

FOREIGN TRAININGS/SEMINARS

1. JICA training on “Public-Private Joint Cooperation Training on Development and Extension of Agricultural Machinery for Small Scale Farmers with Japanese Monozukuri Style” from 07-03-2015 to 17-10-2015 in Japan and from 17-10-2015 to 07-11-2015 in Thailand.
2. Attended a seminar on “Introducing Foreign Expertise and Developing Agricultural Industrialisation for Developing Country Officials”, in China, May 08-28, 2012.

RESEARCH PROJECTS COMPLETED

1. Development and evaluation of a turmeric curing and drying technology, funded by Research for Agricultural Development Programme (RADP), PARC from 01-02-2012 to 30-06-2014.
2. Commercialisation of wheat straw chopper in combine harvested wheat fields in Southern Punjab, funded by Research for Agricultural Development Programme (RADP), PARC from 01-06-2014 to 31-05-2015.
3. Development and adaptation of farm-scale agricultural technologies for sugarcane crushing, maize stover harvesting, maize drying and palm oil extraction, funded by Research for Agricultural Development Programme (RADP), PARC from 01-01-2015 to 30-06-2017.