DR. (ENG.) MUHAMMAD YAMIN

- Nationality : Pakistani
- Email : yamin529@uaf.edu.pk
- Office address : Dept. of Farm Machinery and Power,
  Faculty of Agricultural Engineering & Technology
  University of Agriculture, Faisalabad, Pakistan

Vision

Leveraging advancements in AI, robotics, and automation to empower agricultural mechanization with variable rate technology and precision farming technologies, driving sustainable growth across the food and agro-industry.

Academic qualifications

2013-2018 ***Universiti Putra Malaysia***

- PhD Agricultural Mechanization & Automation — CGPA:4.00/4.00

2005-2007 ***University of Agriculture, Faisalabad, Pakistan***

- M.Sc. (Hons) Agricultural Engineering — CGPA:3.81/4.00 (79.46%)

2000-2004 ***University of Agriculture, Faisalabad, Pakistan***

- B.Sc. Agricultural Engineering — CGPA:3.27/4.00 (70.31%)

1998-2000 ***Govt. A.M. College, Sargodha, Pakistan***

- Intermediate Examination (Pre-Engineering) — Grade: A (71.64%)

1996-1998 ***Govt. High School No.02, Sargodha, Pakistan***

- Secondary School Examination (Science Group) — Grade: A-One (80.47%)

Professional experience

Aug 2024 to date ***University of Agriculture, Faisalabad, Pakistan***

- **Assistant Professor on regular basis (Dept. of Farm Machinery & Power)**

i) Convener of Departmental Quality Enhancement Committee (DQEC) under Outcome Based Education (OBE) system.

ii) Supervisor of post graduate students.

iii) Certificate of honor in golden jubilee celebration year farm machinery week, University of Agriculture, Faisalabad (UAF), Pakistan.

iv) Organized “Professional Competency Enhancement Program for Teachers” (PCEPT) offered by UAF and Higher Education Commission (HEC), Pakistan.

v) Advisor and tutor of undergraduate students.

vi) Supervised undergraduate students in industrial manufacturing training at Punjab Engineering Company, Faisalabad., Pakistan.

vii) Member of departmental & faculty board of studies.

viii) Ex-incharge of high efficiency CAD lab, computer lab, thermodynamics & energy laboratory.

ix) Ex-technical advisor for installation of internet system in agricultural engineering workshop to facilitate teachers, researchers and technical staff.

x) Under/postgraduate courses taught; Artificial Intelligence, Computational

Engineering, Instrumentation and Controls, Machine Design, Hydraulic Control Systems, Farm Mechanization, Energy Resources & Utilization, Boiler Engineering & Power Plants, Industrial Engineering & Management.

xi) Under/postgraduate courses developed; Precision Agriculture, Robotics in Agriculture, Electronics Engineering.

Mar 2008-Aug 2024 ***University of Agriculture, Faisalabad, Pakistan***

- **Lecturer on regular basis (Department of Farm Machinery & Power)**

Apr 2005-Mar 2008 ***University of Agriculture, Faisalabad, Pakistan***

- **Lecturer on contract basis (Department of Farm Machinery & Power)**

Professional memberships & academic services

i) Professional Engineer registered at Pakistan Engineering Council (PEC).

ii) Member of Adaptive AgroTech, Germany (An International Consulting Network).

iii) Ex-member of ISIC Association, Copenhagen, Denmark.

iv) Ex-member of working group of Directorate General Agriculture (Field), Govt. of Punjab, Pakistan.

v) Ex-Section Editor of Pakistan Journal of Agricultural Sciences (PJAS).

vi) Served as a reviewer of more than 30 research articles for following MDPI journals; Agronomy, Sustainability, Applied Sciences, Agriculture, Atmosphere, International Journal of Environmental Research and Public Health, ISPRS International Journal of Geo-Information.

vii) Served as a master trainer in skill up-gradation training program of computer aided design (mechanical) for Technical Education & Vocational Training Authority (TEVTA) instructors, Government of Punjab, Pakistan.

Professional development

2025

i) Webinar on “Digital Transformation in Engineering” organized by the Pakistan Engineering Council.

ii) Webinar on “The Role of Engineers in Safe & Sustainable Operations” organized by the Pakistan Engineering Council.

iii) Webinar on “Professional Ethics” organized by the Pakistan Engineering Council.

2024

iv) Webinar on “The NEH (Nawaz, Enscore, Ham) Algorithm & its Application” organized by the Pakistan Engineering Council.

v) Participated in international conference organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad titled “Geo-Information for Water and Agricultural Resource Management (ICGWARM)”.

2023

vi) Seminar on “Understanding and Implementation of Outcome Based Education” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad.

vii) Workshop on “3D Scanning and Printing for Design of Agricultural Machinery” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.

i) Webinar on “Artificial Intelligence: Implications for Technologies & Business Strategy” organized by the Pakistan Engineering Council.

ii) Webinar on “Digital Transformation” organized by the Pakistan Engineering Council.

iii) Webinar on “Online Earning Skills for Engineers” organized by the Pakistan Engineering Council.

iv) Webinar on “Health, Safety & Environment Management in Construction Industry” organized by the Pakistan Engineering Council.

2022

v) Seminar on “Seeing the Unseen-The Value of Water” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad.

vi) Seminar on “Mechanical Rice Transplantation and Practical Demonstration of Kubota Rice Transplanter” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad.

vii) Webinar on “Introduction to Industry 4.0 Technologies” organized by the Pakistan Engineering Council.

viii) Webinar on “Risk Assessment and Management” organized by the Pakistan Engineering Council.

ix) Webinar on “Digital Transformation and Impact of IoT on Education, Industry, Health Sector, and Society towards Creating Job Opportunities” organized by the Pakistan Engineering Council.

x) Webinar on “Modeling Solute Transport from Rainfed Sweet Corn Field in Tropical Climate” organized by the Smart Farming Technology Research Center, Universiti Putra Malaysia.

2019

xi) Workshop on “Patent/Claims Drafting Techniques, Industrial Design & Trade Mark Registration” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.

xii) Workshop on “Design and Practical Approach for Instrumentation & Measurement” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.

xiii) Participated in international conference organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad titled “Green Energy Technologies: Opportunities and Challenges (GET)”.

xiv) Workshop on “Assessment Mechanism under Outcome Based Education (OBE)” organized by Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.

xv) Seminar on “Evolution of Work Force for Hi-Tech Agri. Technology” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad.

xvi) Workshop on “Cotton Productivity” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.

2018

xvii) Training workshop on “Outcome Based Education (OBE) & Implementation” organized by the Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.

xviii) Participated in international conference organized by Faculty of Medical &

Health Sciences, University of Sargodha titled “Future Med-2018”.

2017	xix)	Participated in a colloquium on postgraduate research, Universiti Putra Malaysia.
2015	xx)	Participated in PAWEES-INWEPF joint international conference, Kuala Lumpur, Malaysia.
2013	xxi)	Workshop for co-tutors on “Learning by doing: Tools and Techniques for Working as a Team” organized by University of Agriculture, Faisalabad, Pakistan.
2010	xxii)	Training of Industrial Automation using Programmable Logic Controller organized by Skill Development Council (SDC), Islamabad, Pakistan.
2009	xxiii)	Course on “Ethics for Engineering Professionals” organized by Pakistan Engineering Council (PEC).
	xxiv)	Workshop on “WTO Agreements and their Impact on Pakistan’s economy” organized by WTO Cell, University of Agriculture, Faisalabad, Pakistan
2008	xxv)	Professional Certification in Mushroom Cultivation awarded by University of Agriculture, Faisalabad, Pakistan
	xxvi)	Participated in international symposium organized by the Faculty of Agriculture, University of Agriculture, Faisalabad titled; “Modern Approaches and Techniques in Agriculture to Ensure Food Security in Pakistan”.
2005	xxvii)	Staff development course under the scheme of National Academy of Higher Education by Higher Education Commission (HEC), Pakistan.
	xxviii)	Certification of AutoCAD (Mechanical designing software) awarded by Training Links, Karachi, Pakistan.
2004	xxix)	Internship training at Adaptive Research Farm, Sheikhupura, Pakistan.
	xxx)	Training in surveying camp at Islamabad, Pakistan.

Research theses & case studies

2022-24	i)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled “Modification and evaluation of colorimetric approach for on-site soil phosphorus analysis”.
	ii)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled “Development of a simulator application for optimizing the operational parameters of a steam boiler”.
2021-22	iii)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled “Development of servo based variable flow control valve for variable rate sprayer”.
2020-21	iv)	Supervised M.Sc. (Hons) Energy Systems Engineering thesis research titled “Development of IoT based control system for controlling environmental factors in poultry sheds”.
	v)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled “Optimization of sunflower oil extraction procedure using different oil extraction machines”.
	vi)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled “Development and performance evaluation of melon seed shelling machine”.
	vii)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled

		"Development and performance evaluation of weed density detection based spray control system".
2019-20	viii)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled "Development of automated system using IoT to control the environmental factor in tunnel farming".
	ix)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled "Performance testing of square hay baling machine and its proposed design modification".
2018-19	x)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled "Development of flow control valves calibration bench using macronutrients".
	xi)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled "Development and performance evaluation of manually operated single row carrot seed planter".
	xii)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled "Performance evaluation of reaper operated by power tiller in comparison with manual harvesting of wheat".
2013-18	xiii)	***PhD thesis research*** titled "Development of a prototype variable rate liquid fertilizer applicator for mature oil palm trees".
2012-13	xiv)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled "Comparative study of indigenous and imported PV panels".
	xv)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled "Comparative study of solar dryer with conventional electrical dryer on the basis of quality analysis".
2010-11	xvi)	Supervised M.Sc. (Hons) Agricultural Engineering thesis research titled "Physical and psychological effects of noise on the health of tractor operator and farmer during field operation".
2008-09	xvii)	Co-supervised a master's thesis research titled "Measurement of Noise Pollution of different Regions of Faisalabad City" from GC University Faisalabad.
2006-07	xviii)	***M.Sc. (Hons) Agricultural Engineering thesis research*** titled "Development of a GIS Database to Study the Status of Farm Mechanization in Punjab".
2003-04	xix)	A case study titled "Determination of Mills Setting and Power Consumption for Milling Section of a Sugar Plant".
	xx)	A case study titled "Current Field Problems of FIAT and Massey Ferguson Tractors in Pakistan".

Projects

2023-25	i)	Principal Investigator of a research project titled "Development of an AI based small-scale automated citrus grading platform" funded by Endowment Fund Secretariat (1.66 million PKR).
	ii)	Team member of a research project titled "Development of tractor mounted mechanical vegetable nursery transplanter" funded by Punjab Agricultural Research Board (19.426 million PKR).
2021-22	iii)	Team member of a project titled "Strengthening of AMRI Research & Development Capabilities in Collaboration with UAF for Fabrication of Cost Effective & Efficient Small Agriculture Implements for Small Farmers" funded by Asian Development Bank (40 million PKR).

Patents

2023-24	i)	"Smart variable rate liquid fertilizer applicator for tree crops" (Patent No. MY-202945-A) issued by Intellectual Property Corporation of Malaysia (MyIPO) [https://estatus.myipo.gov.my/index.php?r=estatus].
	ii)	"System of intelligent VRT controller for variable rate liquid fertilizer applicator and method thereof" (Patent No. MY-197872-A) issued by Intellectual Property Corporation of Malaysia (MyIPO) [https://estatus.myipo.gov.my/index.php?r=estatus].
	iii)	"Smart variable rate portable plug and play flow control system for agricultural sprayers" (Application No. 638/2023) filed to Intellectual Property Organization, Pakistan.

Books & chapters

2019	i)	Heravi, A., Ahmad, D., Hameed, I. A., Shamshiri, R. R., Balasundram, S. K., & **Yamin, M.** (2019). Development of a field robot platform for mechanical weed control in greenhouse cultivation of cucumber. Agricultural Robots-Fundamentals and Applications: IntechOpen. (http://dx.doi.org/10.5772/intechopen.80935).
	ii)	Shamshiri, R. R., Hameed, I. A., Balasundram, S. K., Ahmad, D., Weltzien, C., & **Yamin, M.** (2019). Fundamental research on unmanned aerial vehicles to support precision agriculture in oil palm plantations. Agricultural Robots-Fundamentals and Applications: IntechOpen. (http://dx.doi.org/10.5772/intechopen.80936).
2012	iii)	**Yamin. M**. (2012). Status of Farm Mechanization in Punjab, Pakistan: Development of a GIS Database. LAMBERT Academic Publishing GmbH & Co. Germany. ISBN: 978-3-659-19976-9.

Journal publications

2024	i)	Akbar, F. N., Mahmood, S., Mueen-ud-din, G., **Yamin, M.***, & Murtaza, M. A. (2024). Exploring the Effects of Drying Method and Temperature on the Quality of Dried Basil (*Ocimum basilicum* L.) Leaves: A Sustainable and Eco-Friendly Drying Solution. Resources, 13(9), 121. doi: https://doi.org/10.3390/resources13090121
	ii)	Shamshiri, R. R., Sturm, B., Weltzien, C., Fulton, J., Khosla, R., Schirrmann, M., Raut, S., Deepak, H., **Yamin, M.**, & Hameed, I. A. (2024). Digitalization of Agriculture for Sustainable Crop Production: A Use-Case Review. Frontiers in Environmental Science, 12(1), 1375193. doi: https://doi.org/10.3389/fenvs.2024.1375193
2023	iii)	Ali, M. A., Shaari, N. S., **Yamin, M.**, Sahar, A., & Yusof, Y. A. (2023). Investigating the compressibility and flowability of cocoa powders: A solution for chocolate industry. Journal of Food Process Engineering, 46(8), 1-9. doi: https://doi.org/10.1111/jfpe.14368
	iv)	Hussan, I. U., Nadeem, M., **Yamin, M.**, Ali, S., Omar, M. M., Ahmad, S., Zulfiqar, M., & Mahmood, T. (2023). Socioeconomic and Environmental Impact Assessment of Different Power-Sourced Drip Irrigation Systems in Punjab, Pakistan. AgriEngineering, 5(1), 236-256. doi: https://doi.org/10.3390/agriengineering5010016
2022	v)	Faheem, M., Altaf, M., Liu, J., **Yamin, M.**, Akram, M. W., Iqbal, M., & Khan, M. U. (2022). Design, development and performance evaluation of zone disc tiller drill for maize crop production in Pakistan. Agricultural

Engineering International: CIGR Journal, 24(4), 72-89.

vi) Rizwan, M., Anjum, L., Mehmood, Q., Chauhdary, J. N., **Yamin, M.**, Awais, M., Muneer, M. A., & Irfan, M. (2022). Daily maximum rainfall estimation by best-fit probability distribution in the source region of Indus River. Theoretical and Applied Climatology, 151, 1171-1183.

vii) Ali, M. A., Matloob, M., Raza, A., Sahar, A., & **Yamin, M.** (2022). Assessment of the Suitability of Solar Electricity Adoption in Poultry Industry of Pakistan. Acta Mechanica Malaysia (AMM), 5(2), 52-57.

viii) Ali, M. A., Ghani, A., Nasir, A., **Yamin, M.**, & Nadeem, M. (2022). Design, Fabrication and exhaust gases analysis of corn cob feeding unit installed with steam boiler. Acta Mechanica Malaysia (AMM), 5(2), 47-51.

ix) Ashfaq, S., Nadeem, M., **Yamin, M.**, Afzal, T., Akram, M. W., Anam, R., & Mehboob, A. (2022). Performance Evaluation of Downdraft Gasifier with Syngas Cleaning System. Sarhad Journal of Agriculture, 38(4), 1322-1331.

x) Rizwan, M., Li, X., Chen, Y., Anjum, L., Hamid, S., **Yamin, M.**, Chauhdary, J. N., Shahid, M. A., & Mehmood, Q. (2022). Simulating future flood risks under climate change in the source region of the Indus River. Journal of Flood Risk Management, 16(1), 1-19. doi: https://doi.org/10.1111/jfr3.12857.

xi) Muneer, M. A., **Yamin, M.***, Mehmood, Q., & Arshad, M. (2022). Efficacy of phosphorus pentoxide (P_2O_5) on the yield of wheat using fertilizer band drill in mixed crop zone of Punjab, Pakistan. Pakistan Journal of Engineering, 2(1), 54-61.

xii) Zahra, S. I., Iqbal, M. J., Ashraf, S., Asla, A., Ibrahim, M., **Yamin, M.**, & Vithanage, M. (2022). Comparison of Ambient Air Quality among Industrial and Residential Areas of a Typical South Asian City. Atmosphere, 13(8), 1-11. doi: https://doi.org/ 10.3390/atmos13081168.

xiii) Tariq, W., Arslan, C., Naqvi, S. A., Abdullah, M., Nasir, A., Gillani, S. H., Ghafoor, A., Sattar, A., Rashid, H., & **Yamin, M.** (2022). Photocatalytic Removal of Azo Dyes Using a CNT Doped ZnO/Fe2O3 Catalyst. Polish Journal of Environmental Studies, 31(5), 4279-4289. doi: https://doi.org/ 10.15244/pjoes/131805.

xiv) **Yamin, M.***, Ismail, W. I. b. W., Aziz, S. A., Kassim, M. S. b. M., Akbar, F. N., & Ibrahim, M. (2022). Design considerations of variable rate liquid fertilizer applicator for mature oil palm trees. Precision Agriculture, 23(4), 1413-1448. doi: https://doi.org/10.1007/s11119-022-09892-5.

xv) **Yamin, M.**, Hamid, S., Ali, M. A., Bashir, S., Iqbal, M., & Ashraf, M. (2022). Performance optimization and knife dynamics of power tiller operated reaper during wheat harvesting. Pakistan Journal of Agricultural Sciences, 59(2), 261-268. doi: https://doi.org/ 10.21162/PAKJAS/22.1406.

2021

xvi) **Yamin, M.***, Yousaf, Z., Bhatti, K. M., Ibrahim, M., Akbar, F. N., Shamshiri, R. R., Mahmood, A., & Tauni, R. A. (2021). Noise exposure and its impact on psychological health of agricultural tractor operators. Noise Control Engineering Journal, 69(6), 500-506.

xvii) Iqbal, Z., Abbas, F., Mahmood, A., Ibrahim, M., Gul, **M., Yamin**, M., Aslam, B., Imtiaz, M., Elahi, N. N., Qureshi, T. I., & Sial, G. Z. H. (2021). Human health risk of heavy metal contamination in groundwater and source apportionment. International Journal of Environmental Science and Technology, 19, 7251-7260. doi: https://doi.org/10.1007/s13762-021-

03611-9.

xviii) Kanwal, U., Ibrahim, M., Abbas, F., **Yamin, M.**, Jabeen, F., Shahzadi, A., Farooque, A. A., Imtiaz, M., Ditta, A., & Ali, S. (2021). Phytoextraction of Lead Using a Hedge Plant [Alternanthera bettzickiana (Regel) G. Nicholson]: Physiological and Biochemical Alterations through Bioresource Management. Sustainability, 13(9), 5074.

xix) **Yamin, M.***, U.A. Zafar, G. Usman, M. Nauman, M. Rizwan, M. Nadeem, M.A. Ali and U. Haider. 2021. Development and validation of internet of things (IoT) based automated system for controlling the environmental factors in tunnel farming. Sarhad Journal of Agriculture, 37(3), 839-846. doi: https://dx.doi.org/10.17582/journal.sja/2021/37.3.839.846.

xx) Jabeen, F., Adrees, M., Ibrahim, M., **Yamin, M.***, Batool, S. A., Mahmood, A., & Khalid, S. (2021). Estimation of greenhouse gases emission from domestic solid waste of Faisalabad city and schemed formula thereof. Pakistan Journal of Agricultural Sciences, 58(1), 69-79.

2020

xxi) Aslam, A., Ibrahim, M., Shahid, I., Mahmood, A., Irshad, M. K., **Yamin, M.**, Ghazala, Tariq, M., & Shamshiri, R. R. (2020). Pollution Characteristics of Particulate Matter (PM2.5 and PM10) and Constituent Carbonaceous Aerosols in a South Asian Future Megacity. Applied Sciences, 10 (24), 8864.

xxii) Ali, M. A., **Yamin, M.**, Arslan, C., Farid, U., & Nasir, A. (2020). A feasibility study: Off-grid photovoltaic solar power supply to the remote areas of Pakistan. Pakistan Journal of Agricultural Sciences, 57(5), 1313-1316.

xxiii) Iqbal, M., Kamal, M. R., Mohd Soom, M. A., **Yamin, M.**, Fazly M, M., Che Man, H., & Muhammed, H. H. (2020). HYDRUS-1D Simulation of Nitrogen Dynamics in Rainfed Sweet Corn Production. Applied Sciences, 10(11), 3925.

xxiv) Jahun, B. G., **Yamin, M.***, Ahmad, D. B., Mahdi, M. R., Suleiman, S., & Abdulkadir, S. A. (2020). Parametric Analysis of the Mulching Depth of Oil Palm Fronds Achieved by Tractor Operated Mulcher. Sarhad Journal of Agriculture, 36(2), 632-638.

xxv) **Yamin, M.**, bin Wan Ismail, W. I., bin Mohd Kassim, M. S., Abd Aziz, S. B., Akbar, F. N., Shamshiri, R. R., Ibrahim, M., & Mahns, B. (2020). Modification of colorimetric method based digital soil test kit for determination of macronutrients in oil palm plantation. International Journal of Agricultural and Biological Engineering, 13(4), 188-197.

xxvi) **Yamin, M.***, bin Wan Ismail, W. I., bin Mohd Kassim, M. S., Abd Aziz, S. B., Shamshiri, R., Akbar, F. N., & Ibrahim, M. (2020). Development and calibration of ORP sensor for the estimation of macronutrients in the soil of oil palm plantation. Pakistan Journal of Agricultural Sciences, 57(5), 1363-1369.

xxvii) Akbar, F. N., Mahmood, S., Mueen-ud-din, G., **Yamin, M.**, Nadeem, M., Ain, H. B. U., & Tufail, T. (2020). Fortification of cookies with sweet basil leaves powder: an unheeded hematinic. International Journal of Biosciences, 16(4), 366-382.

2016

xxviii) **Yamin, M.***, Ismail, W. I. W., Kassim, M. S. M., Aziz, S. A., & Shamshiri, R. (2016). VRT liquid fertilizer applicator for soil nutrient management. Jurnal Teknologi, 78(1-2), 73-78.

2015

xxix) **Yamin, M.***, Nasir, A., Sultan, M., Ismail, W. I. W., Shamshiri, R., & Akbar, F. N. (2015). Impact of Sewage and Industrial Effluents on Water

Quality in Faisalabad, Pakistan. Advances in Environmental Biology, 9(18), 53-58.

2011

xxx) **Yamin. M.***, A. R. Tahir (Late), Nasir, A., Yaseen. M. (2011). Studying the Impact of Farm Mechanization on Wheat Production in Punjab-Pakistan. Soil and Environment, Soil Science Society of Pakistan. 30(2):151-154.

xxxi) Ibrahim, M., **Yamin, M.**, Sarwar, G., Anayat, A., Habib, F., Ullah, S., & Rehman, S. (2011). Tillage and farm manure affect root growth and nutrient uptake of wheat and rice under semi-arid conditions. Applied Geochemistry, 26(1), S194-S197.

Conference publications

2018

i) Akbar, F. N., Mahmood, S., **Yamin, M.**, Ghani, A., Chaudhry, F., Farooq, U., & Rasul, A. (2018). Comparison of solar and electrical dryer for quality drying of apple (Malus Sylvestris). Paper presented at the Plant Based Food: Current Scenarios and Future Perspectives & Food Expo 2018, MNS-University of Agriculture, Multan, Pakistan.

ii) Akbar, F. N., Mahmood, S., **Yamin, M.**, Ghani, A., Chaudhry, F., Farooq, U., & Rasool, A. (2018). Qualitative evaluation of drinking water in Sargodha. Paper presented at the 1st International Conference: Future Med-2018, Faculty of Medical & Health Sciences, University of Sargodha.

2016

iii) Shamshiri, R., Ahmad, D., Zakaria, A., Ismail, W. I. W., Man, H. C., & **Yamin, M.** (2016). Evaluation of the Reduced State-Variable TOMGRO Model using Boundary Data. Paper presented at the ASABE Annual International Meeting, Florida, USA.

iv) Shamshiri, R., Ahmad, D., Ismail, W. I. W., Man, H. C., Zakaria, A., Beveren, P. v., & **Yamin, M.** (2016). Comparative Evaluation of Naturally ventilated Screenhouse and Evaporative Cooled Greenhouse based on Optimal Vapor Pressure Deficit. Paper presented at the ASABE Annual International Meeting, Florida, USA.

2015

v) Ismail, W. I. W., **Yamin, M.**, Aziz, S. A., Kassim, M. S. M., & Shamshiri, R. (2015). Concept of VRT liquid fertilizer applicator for mature oil palm plantation. Paper presented at the Proceedings of FEIIC-International Conference on Engineering Education and Research 2015, Madinah, Kingdom of Saudi Arabia.

2011

vi) **Yamin, M.**, Iqbal, M., & Nasir, A. (2011). Status of Farm Mechanization in Punjab, Pakistan. Paper presented at the International Seminar on “Role of Agricultural Machinery on Poverty Alleviation and Food Security in Pakistan”, University of Agriculture, Faisalabad, Pakistan.

2008

vii) Ibrahim, M., Hassan, A., Iqbal, M., & **Yamin, M.** (2008). Interactive Effect of Tillage and Organic Residues on Crop Growth under Wheat-Rice System in Semi-Arid Pakistan. Paper presented at the International Conference on Economic Botany: Applied Plant Biology, Botanical Society of America, USA.

Published content (Blog articles)

2023-2024

Design & Manufacturing ***(https:/www.sensecon.ltd/category/design-manufacturing/)***

i) 3D printing: Repetier vs Marlin

ii) Repetier firmware in 3D printing

iii) Marlin: a firmware for 3D printers

iv) 3D printing: a beginner’s guide

v) 3D printing: an introduction

vi) Revolutionizing healthcare: 3D printing

vii) 3D printing in agriculture

Precision Agriculture ***(https:/www.sensecon.ltd/category/precision-agriculture/)***

viii) Variable rate technology: A review (part 2)

ix) Variable rate technology: A review (part 1)

x) Autonomous vehicles in precision agriculture

xi) Automation: revolutionizing agriculture

xii) VRT fertilizer applicators

xiii) AI in precision agriculture

xiv) Precision agriculture: A review

Awards/honors

2016

i) Silver medal in Pameran Rekacipta, Penyelidikan dan Inovasi (Exhibition of Invention, Research and Innovation) PRPi2016 organized by Universiti Putra Malaysia with research titled "Development of NPK determination procedure and addition of 8 bit data acquisition system to digital soil test kit". 15-16 November, 2016.

2002

ii) Second position in all Pakistan short writing competition organized by Young Writers Association, Pakistan in Nov, 2002.

iii) Merit certificate for the best story writer awarded by Dollar Stationery in 2002.

iv) Best writer award from "Monthly Anokhi Kahanian, Karachi" for the month of Feb, 2002.

Exhibition/showcase

2016

i) Agricultural showcase and dialogue in conjunction with the official visit of YB Tuan Chong Sin Woon, Deputy Minister II of Education Malaysia. Faculty of Agriculture, Universiti Putra Malaysia, 02 March 2016.

Computer & design skills

i) Design of embedded control systems for precision farming using microcontrollers, C++ and Proteus software.

ii) Ladder programming and Human Machine Interface (HMI) for industrial automation.

iii) Image processing using Python.

iv) Design and fabrication of prototype machine parts using additive manufacturing through 3D printer.

v) Autodesk Simulation Mechanical (Mechanical design analysis).

vi) AutoCAD & AutoCAD Mechanical.

vii) ArcGIS (Geographic Information System).

viii) Surfer (3D visualization, contouring and surface modeling package).

ix) Statistical analysis of experimental data using SAS/Statistix/Minitab.