



PhD (SAU), PGD (QAH),
BE (AGRI)



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DR. ZAHEER AHMED KHAN

**ASSISTANT PROFESSOR &
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[https://sau.edu.pk/faculties/faculty-of-agricultural-engineering/department-of-farm-](https://sau.edu.pk/faculties/faculty-of-agricultural-engineering/department-of-farm-structures-and-postharvest-engineering/)



<https://scholar.google.com/citations?hl=en&user=lvRZUrwAAAAJ>



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https://www.researchgate.net/profile/Zaheer-Khan-3?ev=hdr_xprf

Dr. Zaheer Ahmed Khan is an eminent academic and research professional, currently serving as an **Assistant Professor** in the Department of Farm Structures & Postharvest Engineering and **Deputy Director (BIC)** at **Sindh Agriculture University, Tandojam**. He is a **Nationally Certified Reviewer for Higher Education Institutions (HEIs)** and ranks among the **top 10 certified reviewers in Pakistan**, as recognized by the Sindh Higher Education Commission (SHEC). Dr. Khan's **research interests** include the design and development of innovative farm structures, postharvest engineering and food preservation, renewable energy applications in agriculture, grain storage and quality assessment, and the application of Continuous Quality Improvement (CQI) frameworks in higher education. His work emphasizes sustainable technologies such as hydroponics, tunnel farming, solar drying, hermetic storage, and environment-controlled systems to reduce postharvest losses, enhance food security, and improve institutional quality assurance practices. He brings **hands-on expertise in institutional quality reviews, on-site evaluations, and post-accreditation follow-up mechanisms**, including the design and monitoring of Key Performance Indicators (KPIs). He applies internationally recognized CQI frameworks such as **LetCI, ADLI, ADRI, PDCA, and SWOT analysis** to drive institutional assessment, strategic planning, and continuous enhancement in higher education. As an **HEC-approved Master Trainer**, Dr. Khan has conducted capacity-building workshops and training sessions across multiple institutions. He is also a **lifetime member of the Pakistan Engineering Council (PEC)**, a member of **The Institution of Engineers Pakistan (IEP)**, and an active member of the **International Association of Engineers (IAENG)**.

Additional Official Assignments & Professional Memberships

- Member, Students Teacher Engagement Programs (STEP), Sindh Agriculture University, Tandojam
- Focal Person, Speech and Debate Society under STEP, SAU Tandojam
- Academic, Career and Wellness Counsellor for students, Faculty of Agricultural Engineering & Technology
- Member, Outcome Based Education (OBE) Committee (syllabus revision & PEC implementation)
- Member, Sports Management Committee (SMC) for promotion of sports & interfaculty competitions
- Focal Person, Tunnel Farming Project, Business Incubation Centre (BIC)
- Additional Charge of Faculty Development, Faculty of Agricultural Engineering & Technology
- Member, Quality Enhancement Cell (QEC) Program Team, Department of Farm Structures
- HEC-Approved Master Trainer (capacity-building workshops & training across institutions)
- Member, Departmental BoS, Department of Farm Structures & Postharvest Engineering
- Member, Departmental BoS, Department of Energy and Environment
- Former Member, Beautification and Parking Committee, Faculty of Agricultural Engineering
- Lifetime Member, Pakistan Engineering Council (PEC)
- Member, The Institution of Engineers Pakistan (IEP)
- Member, International Association of Engineers (IAENG)

Academic Qualifications

DEGREE/CERTIFICATE	INSTITUTION / BOARD	YEAR	DIVISION
Ph.D. (Farm Structures)	Sindh Agriculture University Tandojam	2025	1 st
Master of Engineering (I&D)	Sindh Agriculture University Tandojam	2016	1 st
B.E (Agri.)	Sindh Agriculture University Tandojam	2010	1 st
F.Sc Pre-Engineering	Saiffee College Of Computer Science Hyderabad	2005	1 st
Matriculation	Mono Public English High School Hyderabad	2003	1 st

WORKING EXPERIENCE

- ✓ **Assistant Professor**, Department of Farm Structures and Postharvest Engineering, Faculty of Agricultural Engineering and Technology, Sindh Agriculture University, Tandojam Sindh, Pakistan (May 2023 – till date).
- ✓ **Lecturer**, Department of Farm Structures, Faculty of Agricultural Engineering, Sindh Agriculture University, Tandojam Sindh, Pakistan (May 2014 – April 2023).
- ✓ **Farm Manager**, Jahanzaib Farmhouse, Nooriabad. The City School Group, Hyderabad-Karachi, Sindh, Pakistan (March 2013 – April 2014).
- ✓ **Engineer**, The City School, Gulistan-E-Johar Campus, Shalimar Construction Company (Pvt.) Ltd, Karachi, Sindh, Pakistan (January 2012 – Feb 2013).
- ✓ **Project Supervisor** Sardar Project, Sindh, Pakistan (Al-Dahra Agricultural Company Pakistan (Pvt) Ltd. (November 2010 – September 2011).

Achievements



National Certified Reviewer
of Higher Institutions
from
Sindh Higher Education
Commission (SHEC)



Provincial Winner
of
National Idea Bank-III (NIB-III)



Certificate of **MASTER TRAINER**
from
Sindh Higher Education
Commission (SHEC)



RESEARCH INTERESTS

1. Design and Development of Farm Structures

Focus on innovative structures for agriculture, including crop storage facilities, livestock housing systems, and protected cultivation technologies such as hydroponics, aquaponics, and tunnel farming. Special emphasis is placed on improving efficiency, cost-effectiveness, and adaptability to local climatic conditions.

2. Postharvest Engineering and Food Preservation

Research in this area centers on the design and evaluation of storage systems, grading machines, drying equipment, and packaging technologies. The aim is to reduce postharvest losses, maintain food quality, and ensure food security through sustainable engineering solutions.

3. Renewable Energy Applications in Agriculture

Exploration of renewable and energy-efficient technologies for agricultural use, including solar dryers, environment-controlled storage, and energy-saving systems for processing. This research contributes to sustainable agricultural development and climate-smart practices.

4. Grain Storage and Quality Assessment

Investigating hermetic storage methods, silo environmental control systems, and the physico-engineering properties of cereals and grains. The goal is to enhance storage efficiency, minimize losses, and preserve nutritional quality over time.

5. Continuous Quality Improvement (CQI) in Higher Education

Application of internationally recognized frameworks such as LetCI, ADLI, ADRI, PDCA, and SWOT analysis to institutional assessment, accreditation, and academic quality assurance. Research in this area strengthens higher education standards, strategic planning, and capacity-building initiatives.

RESEARCH SUPERVISOR

Degree	Name of student	Title of Thesis/Research	Year	Status
M.E	Engr Manwar	Performance evaluation of various low-cost onion structures and their effect on its quality	2025	Final Seminar
M.E	Engr Khuda dino	Development and evaluation of automatic grading machine for onion bulb size	2025	Thesis Writeup
M.E	Engr Zahid	Quality assessment of wheat grains under hermetic storage techniques	2022	Synopsis
M.E	Engr. Jazeb Ali	Development of aquaponic system & assessment of its efficiency, performance and economical aspect	2020	Thesis Writeup
M.E	Engr. Abdullah Soomro	Evaluation of various Empirical Relations for the Prediction of drying characteristics of Paddy Rice using Fluidized Bed Dryers	2020	Completed
M.E	Engr. Ainul Ibad Shah	Designing and Fabricating Hydroponic Structure	2020	Completed
M.E	Engr. Rafaqat Ali	Evaluation of physical properties of various wheat varieties grown in Sindh	2020	Completed
M.E	Engr. Abdullah Veesar	Design perspective of existing buffalo sheds and their impact on physical behavior of the animals	2019	Completed
B.E	Group of students	Comparison of predicted and observed data for drying characteristics of wheat using Fluidized bed dryer	2019	Completed
B.E	Group of students	Effect of hot water treatment and storage conditions on quality of Tomato	2019	Completed
B.E	Group of students	Experimental Investigation of Fly Ash block with varying composition ratios and materials	2019	Completed
B.E	Group of students	Comparative study on existing poultry sheds (<i>Controlled and Conventional</i>) and their impacts on poultry production	2018	Completed
B.E	Group of students	Design and Fabrication of Indirect Solar Dryer	2018	Completed
B.E	Group of students	Role of Image Processing in Agricultural Process Engineering	2017	Completed
B.E	Group of students	Effect of Different Packaging Materials on Quality of Bitter Gourd.	2017	Completed
B.E	Group of students	Design and Fabrication of Hot Water Treatment Plant	2016	Completed
B.E	Group of Students	Tunnel Farming Technology (Production of Off-Season Vegetable in Walk-in Tunnels)	2016	Completed
B.E	Group of Students	Effect of Hot Water Treatments on Dormancy of Cotton and Forestry Seed	2016	Completed
B. E.	Group of Students	Comparison of Compressive Strength of Stabilized Mud Blocks with Different Additives Materials	2015	Completed
M.E	Engr. Saddam Hussain	Design, Construction and evaluation of indirect solar dryer	2019	Completed
M.E	Engr. Ali Hassan	Experimental study on drying of Red Chili in solar and open sun drying methods	2019	Completed

HIGHLIGHTS OF A FEW RESEARCH PUBLICATIONS

Authors	Title	Publication	Volume	Number	Pages	Year
Khan, Zaheer Ahmed; Ibupoto, Khalil Ahmed; Chattha, Shakeel Hussain; Shaikh, Irfan Ahmed;	Quality Analysis of The Wheat Grains Stored in Different Bins Over Time	International Journal of Agriculture and Sustainable Development	7	1	127-142	2025
Chattha, Shakeel Hussain; Soomro, Shakeel Ahmed; Rahu, Ali Hassan; Wagan, Bakhtawar; Khan, Zaheer Ahmed; Moin, Abeera; Giuffrè, Angelo Maria;	Comparative analysis of traditional and solar drying techniques for red chilli	Journal of Agriculture and Food	6	1	118-130	2025
Chachar, ZA; Talpur, MA; Shaikh, IA; Khan, ZA; Soomro, SA; Noonari, AR; Tunio, A; Rajani, VK; Awan, GH; Phullan, IK;	Fabrication and Installation of Automatic Water Level Recorder through Global System for Mobile (GSM)					2025
Muhammad, Mateen; Khan, Zaheer Ahmed; Yang, Minli; Ma, Wenqiu; Tola, Abreham Arebe;	Enhancing Wheat Storage Efficiency: A Microcontroller-Based Environment Control System for Silo	Available at SSRN 5069188				2025
Mateen, Muhammad; Khan, Zaheer Ahmed; Minli, Yang; Wenqiu, Ma; Tola, Abreham Arebe;	Smart Agricultural Technology					2025

Mirani, Benish Nawaz; Chattha, Shakeel Hussain; Soomro, Shakeel Ahmed; Wagan, Bakhtawar; Dahri, Imtiaz Ali; Khan, Zaheer Ahmed; Zahid, Ghassan; Ansari, Babar Mustafa;	Effect of Post-Harvest Treatments on Quality Characteristics of Carrots During Storage	RADS Journal of Biological Research & Applied Sciences	13	2	168-174	2022
Syed, Ain-ul-Abad; Khan, Zaheer Ahmed; Chattha, Shakeel Hussain; Shaikh, Irfan Ahmed; Ali, Mian Noor Hussain Asghar; Dahri, Shahzad Hussain; Buriro, Ghous Bakhsh;	Comparative Assessment of Hydroponic and Geoponic Cultivation Systems for Sustainable Spinach Cultivation.	Pakistan Journal of Agricultural Research	34	4		2021
Arshad, Imran; Rabbani, Muhammad Umer; Khan, Zaheer Ahmed; Ali, Wajiha;	Impact of Vocational Agricultural Training Programs on the Promotion of Date Palm Cultivation in Ghayathi, United Arab Emirates	International Journal of Alternative Fuels and Energy	5	2	16-20	2021
Chattha, Shakeel Hussain; Mirani, Benish Nawaz; Soomro, Shakeel Ahmed; Ibupoto, Khalil Ahmed; Khan, Zaheer Ahmed;	Storage performance of forced ventilated, natural ventilated, and traditional methods on the quality of onion bulbs.					2020

Soomro, Shakeel Ahmed; Almani, Sikandar; Bux, Lal; Ibupoto, Khalil Ahmed; Memon, Muhammad Sohail; Chandio, Farman Ali; Chattha, Shakeel Hussain; Khan, Zaheer Ahmed; Soomro, Zubair Ahmed; Ansari, Babar Mustafa;	Mathematical modeling and optimization of physical properties of paddy as influenced by drying	Pakistan Journal of Agricultural Research	34	2	337-345	2020
Khan, Zaheer Ahmed; Chattha, Shakeel Hussain; Soomro, Shakeel Ahmed; Arshad, Imran; Jaffer, Liaquat Ali;	Thermal treatments for enhancing the dormancy of cotton (Gossypium) seed	Pure and Applied Biology (PAB)	8	3	1999-2006	2019
Chattha, Shakeel Hussain; Mirani, Benish Nawaz; Soomro, Shakeel Ahmed; Ibupoto, Khalil Ahmed; Shaikh, Irfan Ahmed; Mangio, Hafeez-u-Rehman; Khushk, Ghulam Mujtaba; Dahri, Imtiaz Ali; Abro, Abid Ali; Khan,	Study on cultivators associating post harvest losses of onion vegetable in Sindh's Mirpurkhas district	Journal of basic & applied sciences	13		426-430	2017

Zaheer Ahmed;						
Jamali, Liaquat Ali; Soomro, Shakeel Ahmed; Abro, Abid Ali; Khan, Zaheer Ahmed; Walhari, Noor Hussain;	Effect of grain moisture content on physico-engineering properties of wheat	Journal of Agricultural Research (JAR).	54	4	773-785	2016
Arshad, Imran; Hanaffy, Ihab Ikram; Bly, Miles; Yerla, Ravi; Jamali, Liaquat Ali; Khan, Zaheer Ahmed;	Assessment of the Performance of Pre-Cooling Unit under Control Atmosphere Storage					2015
Arshad, I; Hanaffy, II; Bly, M; Yerla, R; Jamali, LA; Khan, ZA;	Assessment of the Performance of Pre-Cooling Unit under Control Atmosphere Storage. American-Eurasian J	Agric. Environ. Sci	15	12	2331-2336	2015

Professional Training/Courses/Seminars/Workshops:

Name of Training/ Course	Duration	Institution
1st National Certified Reviewer Training (NCR) Final Module	1 Day Dec 2024	Sindh (SHEC) Higher Education Commission
1st National Certified Reviewer Training (NCR) Module III	2 Days May 2024	Sindh (SHEC) Higher Education Commission
Training of Trainer Faculty Development Program	10 Days March 2024	Sindh (SHEC) Higher Education Commission
1st National Certified Reviewer Training (NCR) Module II	2 Days Feb 2024	Sindh (SHEC) Higher Education Commission
1st National Certified Reviewer Training (NCR) Module I	3 Days Dec 2023	Sindh (SHEC) Higher Education Commission
Development of Technical Team & Execution of a Project	1 Day 26-Mar-21	ProQuest Education, Higher Education Commission
How to Manage your References using RefWorks	1 Day 1-Dec-20	ProQuest Education, Higher Education Commission
ProQuest's Introduction to Publishing in Academic Journals- Part-1	1 Day 8-Dec-20	ProQuest Education, Higher Education Commission

Discover ProQuest Business Premium Collection	1 Day 17-Nov-20	ProQuest Education , Higher Education Commission
How to Utilizes ProQuest Journals, Dissertations, and Varied Content Types in Teaching and Research	1 Day 19-Oct-20	ProQuest Education , Higher Education Commission
Virtual Training Workshop on "Google Earth Engine"	14-Oct-20 to 16 Dec-20	FAO , Food and Agriculture Organization of United Nations, Pakistan
How to get Amazing results by coaching your staff	1 Day (July 25 th , 2020)	PEB , Pakistan Engineer Council
How to Become It - How to Achieve It - Introduction to Executive Presence	1 Day (July 25 th , 2020)	PEB , Pakistan Engineer Council
Dispute Avoidance and Claims Management Under (FIDIC)	1 Day (October 10 th , 2019)	PEC , Pakistan Engineer Council at Regional office, Karachi
Industrial Consultation Workshop on Capacity Building and Skill Enhancement for Engineers	1 Day (August 26 th , 2019)	PEC , Karachi Chamber of Commerce. II Chundrigar Road, Karachi
Installation of the Tile Drainage System	1 Day (August 30 th , 2018)	PCRWR , under the project “integrated approach of Salinity and Water Logging Control”
Application of GIS/RS for Agro Ecological Zones (AEZ) Formation	5 Days (July 02-06, 2018)	FAO & SAU , Food & Agriculture Organization of United Nations & Sindh Agriculture University, SAU
Capacity building of Professionals on Banana tissue culture & Micro Irrigation System for Tunnel Farming	1 Day (Nov 26 th , 2015)	CAEWRI , Climate change alternate energy and water resource institute, National agricultural research Centre, Islamabad
Global GAP certification & implementation in small farms	5 Days (Dec 15-19, 2014)	NPO , National Productivity organization Ministry of industries & Production Government of Pakistan
AutoCAD 2D & 3D	2 Months (Sep to Oct 2007)	APTECH , APTECH Computer education Hyderabad Centre
Computer Literacy Program	2 Months (1 st April 2003 to 31 st May 2003)	Saifee College of Computer Science

References

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