

# MUHAMMAD NAUMAN

Nationality	Pakistani
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Date of Birth	July 28 <sup>th</sup> ,1990
CNIC#	31102-9719599-3
Passport#	CD9955992
Languages	English & Urdu



## CONTACT DETAILS

<b>Official Address</b>	Department of Farm Machinery and Power, Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad. Tel: +92-41-9200161-3002
<b>Permanent Address</b>	House#41, Shahid Park Jail Road, Rahim Yar Khan Mob# +92-334-7354281
<b>Temporary/Postal Address</b>	House#490-A Ghulam Muhammad Abad, Faisalabad
<b>Current Postal Address</b>	25 Rockvale, Rathbawn road, Castlebar, County May Ireland

## PROFESSIONAL AND ACADEMIC CAREER

### PROFESSIONAL QUALIFICATION

<i>Degree</i>	<i>Institute</i>	<i>Year</i>	<i>Cumulative Grade point Average</i>
<b>PhD Agricultural Engineering</b>	University of Agriculture, Faisalabad	2023	3.50/4.00
<b>M.Sc. (Hons.) Agricultural Engineering</b>	University of Agriculture, Faisalabad	2014	3.80/4.00
<b>B.Sc. Agriculture Engineering</b>	University of Agriculture, Faisalabad	2012	3.28/4.00

### Academic Highlights

<i>Certification</i>	<i>Intermediate Board</i>	<i>Year</i>	<i>Percentage</i>	<i>Grade</i>
<b>HSSC</b>	Board of Intermediate and Secondary Education Bahawalpur	2008	67%	B
<b>SSC</b>	Board of Intermediate and Secondary Education Bahawalpur	2006	76%	A

## TEACHING EXPERIENCE

- Working as a **Lecturer** in the Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture Faisalabad. **From 08-09-2015 to date.**
- Worked as **Instructor** in the Project of **Skills For Bio Gas Plants** By PSDF (UKAID) at University of Agriculture Faisalabad. **From March 15, 2015 to May 15, 2015.**

### Course Work Covered during Studies Relating to

- Farm machinery and power
- Irrigation and drainage
- Structure and environmental
- Renewable energy systems

<b>Courses Taught</b>	
➤	Farm Power & ICES
➤	Thermodynamics
➤	Machine Design
➤	Farm Mechanization
➤	Agricultural Processing Engineering
➤	Machine Design
➤	Energy Resources and Management
➤	Food Processing Engineering
➤	Design of Biogas Plant
<b>RESEARCH EXPERIENCES</b>	
<b>PhD Resarch Thesis</b>	
➤	<b>Nauman, H. M. 2023.</b> Design and Development of Real Time Automated Spraying System for Variable Rate Application. PhD Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
<b>M.Sc. (Hons.) Research Thesis</b>	
➤	<b>Nauman, H. M. 2014.</b> Development of locally fabricated flat plate collector (FPC) for energy production. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
<b>Postgraduate Thesis Supervised</b>	
➤	<b>Haq, I. U. 2017.</b> Development of biological scrubber for the purification of biogas. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
➤	<b>Tabassum, S. A. 2017.</b> Design, Modification and performance evelauation of locally developed vegetable seeder. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
➤	<b>Hussain, K. 2018.</b> Development of backpack shielded sprayer for low volume and controlled application of weedicides. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
➤	<b>Hayat Ullah, 2018.</b> Comparative study and design evaluation of previous and modified direct seeding rice drill. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
➤	<b>Zeeshan, M. 2019.</b> Development and Performance Evaluation of Manually Operated Seed Planter for Carrot. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
➤	<b>Ali, Z. 2020.</b> Development of automated systems using IoT to control the environmental factors in tunnel farming. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
➤	<b>Hassan, S. 2023.</b> Design and febrication of header unit for walk behind mini combine harvester. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
➤	<b>Imran, S. 2024.</b> Sustainable soil removal system for potato graders. M.Sc. (Hons.) Thesis, Department of Farm Machinery and Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
<b>STUDENTS SUPERVISED</b>	
Study Level	Numbers
➤ Masters	08
➤ Bachelors	40
<b>PAPER PUBLICATION (National/International, Impacted and non Impacted)</b>	
<b>TOTAL IMPACT FACTOR:</b>	<b>6.756</b>
➤	<b>Nauman, H.M., A. Ghafoor, M.A. Khan and A. Tanveer. 2022.</b> Real time variable rate sprayer: Its

development and comparative analysis of spray coverage with conventional orchard sprayer. Pakistan Journal of Agricultural Sciences 59: 993-1002. DOI:10.21162/PAKJAS/22.89. <b>IF: 0.856</b>
➤ Ghafoor, A., Khan, F.A., Khorsandi, F., Khan, M.A., <b>Nauman, H.M.</b> , Farid, M.U. <b>2022</b> . Development and Evaluation of a Prototype Self-Propelled Crop Sprayer for Agricultural Sustainability in Small Farms. Sustainability 2022, 14, 9204. <a href="https://doi.org/10.3390/su14159204">https://doi.org/10.3390/su14159204</a> <b>IF: 3.90</b>
➤ Yamin, M., U.A. Zafar, G. Usman, M. Nauman, M. Rizwan, M. Nadeem, M.A. Ali and U. Haider. <b>2021</b> . 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   <a href="https://dx.doi.org/10.17582/journal.sja/2021/37.3.839.846">https://dx.doi.org/10.17582/journal.sja/2021/37.3.839.846</a> , <b>Scopus</b>
➤ Cheema, M. J. M., M. Nauman, A. Ghafoor, A. A. Farooque, Z. Haydar, M. U. Ashraf, M. Awais. <b>2021</b> . Direct Seeding of Basmati Rice Through Improved Drills: Potential And Constraints In Pakistani Farm Settings. Applied Engineering in Agriculture, American Society of Agricultural and Biological Engineers, Vol. 37(1): 53-63, ISSN 0883-8542 <a href="https://doi.org/10.13031/aea.13372">https://doi.org/10.13031/aea.13372</a> <b>IF:0.90</b>
➤ Ghafoor, A., A. Munir, T. Ahmed, <b>M. Nauman</b> , W. Amjad and A. Zahid. <b>2020</b> . Investigation of Hybrid Solar Driven Distillation System Employing Reverse Osmosis Process. Distillation and Water Treatment, 178(2020):32-40. Doi: 10.5004/dwt.2020.24996 <b>IF: 1.10</b>
➤ <b>Nauman, H. M.</b> , A. Ghafoor, A. Munir and M. Ahmad. <b>2015</b> . Development and performance evaluation of indigenized flat plate collector water heater for domestic and industrial applications. Agricultural Engineering International: CIGR Journal, Energy in Agriculture, Vol. 17, No. 4:156-164. ISSN 1682-1130.
<b>RESEARCH/DEVELOPMENTAL PROJECTS</b>
<b><i>Approved/Running Project</i></b>
➤ “Quality seed production and supply to the farming community for ensuring food security in Pakistan” funded by Ministry of Science and Technology Pakistan. Total approved funds PKR 4518.053 milion. Project duration 36 months ( <b>Status: Co-PI/Conver of Sub Domain</b> ) <b>Project Status: In Progress</b>
➤ “Strengthening of AMRI Research and Development Capabilities in Collaboration with UAF for Fabrication and effective and efficient Small Agricultural Implements for small farmers” funded by Planning and Development Department Government of Punjab Pakistan under ADP. Total Approved Funds PKR 20 Million. Project duration 36 months ( <b>Status: Member</b> ). <b>Project Status: In Progress</b>
<b><i>Completed Projects</i></b>
➤ “Development, testing, and demonstration of appropriate seed drill for direct seeded rice” funded by Asian Development Bank (ADB) with the collaboration of Pakistan Agricultural Research Board (PARB). Total approved funds USD \$19500. Project duration 12 months completed in june 2020. ( <b>Status: Co-PI</b> ).
➤ “Variable Rate Agro-chemical Application System in Citrus Orchards using on-the-go Sensors” funded by USAID, United States Pakistan Center for Advance Studies-Agriculture/ Food Security, University of Agriculture, Faisalabad (USPCAS-AFS, UAF) and Pakistan Agriculture Research Board (PARB). Total Approved Funds PKR 3.1248 Million. Project duration 36 months completed in February 2021 ( <b>Status: Co-PI</b> ).
➤ “Multi-Tasking Machine For Precision Sowing of Row Crops” Funded by Higher Education System (HEC) Pakistan, Technology Development Fund For Ph.D. Scholars Prototype/Product Development. Total Approved Funds are PKR 13.734 Million. Project duration 36 months ( <b>Status: Member</b> )
<b>ADMINISTRATIVE EXPERIENCE</b>
➤ Performing additional dutie as “ <b>Co-Advisor</b> ” for 1 <sup>st</sup> year student of Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad. <b>From October 04, 2023 to date.</b>
➤ Performing additional dutie as “ <b>In Charge Machine Shop</b> ” In the Department of Farm Machinery and Power, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad. <b>From August 09, 2023 to date.</b>
➤ Working as a member of vigilance committee in in Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad. <b>From November 24, 2022 to date.</b>
➤ Working as <b>Tutor</b> of tutorial group Liaqat-2B, Gorup No. 249 in University of Agriculture Faisalabad from <b>October 07, 2022 to date.</b>
➤ Working as member of internship and FYP committee in Faculty of Agricultural Engineering and

Technology, University of Agriculture Faisalabad. <b>From July 01, 2022 to date.</b>
➤ Performed additional duties as “ <b>In Charge Workshop</b> ” In the Department of Farm Machinery and Power, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad. <b>From August 05, 2018 to November 22, 2022.</b>
➤ Worked as <b>Co-Tutor</b> of tutorial group Liaqat-2B, in University of Agriculture Faisalabad from <b>April 1, 2019 to October 06, 2022</b>
➤ Performed additional duties as “ <b>In Charge Precision Agriculture Lab</b> ” In Centre of Advanced studies, University of Agriculture Faisalabad. <b>From October 29, 2019 to 03-08-2021.</b>
➤ Secretary Board of Studies department of Farm Machinery and Power. <b>From January 08, 2019 to January 31, 2020.</b>
➤ Performed duty as an Assistant Superintendent Qazzafi Hall, University of Agriculture Faisalabad. <b>From May, 2016 to February 15, 2018.</b>
➤ Member of <b>Technical Review Committee under Funded USAID Project</b> “Pakistan Centre for Advanced Studies in Food Security-Agriculture (USPCA-FSA) University of Agriculture Faisalabad. As Nominated by Vice Chancellor.
➤ Member of the <b>Faculty Board</b> , Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad.
➤ Member and covener of various technical committies for the procurement of technical equipment for the university.
<b><i>Outreach/Internship/Trainings(National &amp;International)</i></b>
➤ Organized a Seminar on Seed processing: Challenges and opportunities in quality seed production Organized by PSDP Seed Project University of Agriculture Faisalabad. Held on <b>February 16, 2024.</b>
➤ Organized a one day knowledge sharing workshop on Enhanced Agricultural Mechanization in Punjab, Pakistan. Jointly Organized by University of Agriculture Faisalabad, Punjab Agriculture Department’s Field Wing Directorate and Asian Development Bank. Held on <b>December 15, 2023</b>
➤ Participated in <b>Wheat grow Campaign</b> in district Rahim Yar Khan organized by Government of Panjab. <b>From November 07, 2023 to November 14, 2023</b>
➤ Worked as a resource person for paper presentationof thematic area: small holder and precision agriculture on topic “Quantitative and volumetric based precision application of chemical on crops and vegetables for small farmers” in 1 <sup>st</sup> international precision agriculture Pakistan conference held on <b>September 22-24, 2022</b> , in PMAS-Arid Agriculture University Rawalpindi Pakistan.
➤ Hosted Seminar on “Standardization of Agricultural Implements” Organized by Department of Public Relations and Publication. Held on <b>January 06, 2022.</b>
➤ Worked as a resource persons for online training workshop on “Outcome Based Education for Agro Industrial Engineering Technology (AIET) Program”. Organized by Department of Agricultural Engineering, Muhammad Nawaz Sharif Agriculture University Multan. Held no <b>December 23, 2021</b>
➤ Participated in International Research training “ <b>Training for Direct Seeded Rice Consortium Technology</b> ” in International Rice Research Institute (IRRI) Philippines. <b>From June 03-13, 2018.</b>
➤ Worked as a resource persons in “Training of Farm Managers of Extension Farms in Agriculture Universities”. <b>From February 27-28, 2018.</b>
➤ Worked as resource person in “Two weeks training Course for DAS (Diploma in Agricultural Sciences) Instructors at Service in Agricultural Training Institutes and University of Agriculture Faisalabad. <b>August 2017.</b>
➤ Member committee to conduct survey “Physical monitoring regarding project “Promotion of Agricultural Mechanization in Punjab” for the year 2016-17 in Sargodha division.
➤ Member committee to conduct survey “Independent Audit And Inspection of Farm Machinery Distributed Under Project ‘Promotion of Agricultural Mechanization in Punjab’ Sargodha division <b>(August and September 2016)</b>
➤ Worked as a Surveyor in <b>Bio Mass Resource Mapping Pakistan</b> under Energy Sector Management Assistance Program (ESMAP) By World Bank and Alternative Energy Development Board (AEDB). <b>From April 7, 2015 to May 25, 2015</b>

➤ Worked as an Internee in <b>Jahangir Khan Farming System Ltd. (JKFS Ltd.)</b> Jamal Din Wali, Rahim Yar Khan. <b>From April 19, 2012 to June 11, 2012.</b>
➤ Participated in <b>Survey Camp</b> organised by University of agricultural Faisalabad at Chiniyot Pakistan about surveying and levelling. <b>From June 12, 2012 to June 26, 2012</b>
➤ Participated in <b>More Wheat grow Campaign</b> in district Rahim Yar Khan organized by Government of Panjab. <b>From November 18, 2011 to December 15, 2011</b>
<b>Other Activities</b>
➤ Performed invigilations duties in different examinations/entry tests notified by the competent authorities inside and outside of the University of Agriculture Faisalabad.
➤ Performed duties as a member of admission committee in Faculty of Agricultural Engineering and Technology.
➤ Member of various committees notified to organize Seminar/workshops/symposium/exhibitions by the Faculty of Agricultural Engineering and Technology.
➤ Performed duties on General Election of Pakistan for National and Provincial assemblies in 2018 and 2024 as Presiding officer.
➤ Co-in charge of Exhibition/Events in the <b>“Society of Agricultural Engineer &amp; Technologists”</b> , Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad.
➤ Member of the Committee for the Development of <b>“School of Mechanization and Driving”</b> under Faculty of Agricultural Engineering & Technology and Directorate of Farms, University of Agriculture Faisalabad.

**PARTICIPATION IN SEMINARS/CONFERENCES/WORKSHOPS (National and International)**

➤ International Workshop on “Renewable Energy Technologies for Community Development in Pakistan”. Organized by University of Agriculture Faisalabad Pakistan and University of Kassel Germany. Held on November 04 to 06, 2015.
➤ “Young Faculty Capacity Sharing Program (Five day Workshop for Training of Newly Inducted Faculty Members)”. Organized by Directorates of academics, University of Agriculture Faisalabad. Held on October 15 to 20, 2015.
➤ International Seminar on “Ensuring Food Security through Efficient Processing”. Organized by FFNHS, University of Agriculture Faisalabad. October 16, 2015.
➤ A Workshop on “Remote Sensing and Digital Image Processing for Precision Agriculture”. Organized By Faculty of Agricultural Engineering & Technology and Directorate of Farms, University of Agriculture Faisalabad. Held on August 26 to 27, 2015.
➤ International Workshop on “Sustainable Energy Solutions for Community Development in Pakistan” Organized by Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad held on Nov 08-09, 2016.
➤ “Indus Water Treaty: Potential Threats to Pakistan Water Resources” organized by Water Management Research Centre, and Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad held on Nov 04, 2016.
➤ International Conference on “Sustainable Agriculture in Pakistan” Organized by USP-CAS-AFS, University of Agriculture, Faisalabad held on Nov 17-19, 2016.
➤ Three days training workshop on “Precision Agriculture Technologies” Organized by USP-CAS-AFS, University of Agriculture, Faisalabad held on 25-10-2016 to 27-10-2016.
➤ A workshop/seminar on preparation of “Self-Assessment Reports (SARs)”. Organized by: Quality Enhancement Cell (QEC), University of Agriculture Faisalabad on February, 2017.
➤ One day seminar on “Value Added Food Products: Issues and Opportunities for Entrepreneurs” Organized by National Institute of Food Science and Technology (NIFSAT) and Office of Research and Commercialization (ORIC) University of Agriculture Faisalabad, on January, 19, 2018.
➤ Two day workshop on “What is A Model Farm” Organized Jointly by Institute of Agricultural Extension and Rural Development, University of Agriculture Faisalabad and Directorate General of Agriculture (Extension and Adaptive Research), Government of Punjab on February, 27-28, 2018.
➤ A workshop on “Outcome Based Education and SAR Development” Organized by Faculty of

Agricultural Engineering and Technology, University of Agriculture Faisalabad, on March 27, 2018.
➤ “Science at Work” Faisalabad science festival 2018. Organized by District Government Faisalabad at Expo Centre University of Agriculture Faisalabad, May 03-04, 2018.
➤ Training workshop on “Outcome-Based Education (OBE)” Organized by Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad on September 10, 2018.
➤ Two day training of Presiding Officer for General Election 2018. Organized by Election Commission of Pakistan (ECP) on July 11-12, 2018.
➤ Two days training workshop on “Outcome-Based Education (OBE) & Implementation” Organized by Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, in collaboration with Pakistan Engineering Council (PEC) on November 29-30, 2018.
➤ International conference on “Water Footprints of The Cotton-Textile Value Chain: Environmental Repercussions from Field to Hunger” Organized by Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on January 29 to February 02, 2019.
➤ Seminar on “Evolution of Work Force for High Tech Agri Technologists under Academia Industrial Linkages” in collaboration with Farm Dynamics Pakistan. Organized by Society of Engineers and Technologists Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad on March 12, 2019.
➤ Awareness workshop on “Energy Conservation and Building Codes”. Organized by Punjab Energy Efficiency and Conservation Agency held on August, 23, 2019 in University of Agriculture Faisalabad.
➤ One Day PEC-CPD workshop on “Assessment Mechanism under Based Education (OBE). Organized by Faculty of Agricultural Engineering and Technology, UAF on September 27, 2019.
➤ International Conference on “Green Energy Technologies: Opportunities and Challenges (GET)”. Organised by UAF, ICDD and HEC. Held on October 29-30, 2019.
➤ International Workshop on “Design and Practical Approach for Instrumentation and Measurements” having PEC- CPD 01 credit point. Organised by Department of Energy Systems Engineering, UAF and PEC. Held on October 30, 2019.
➤ One Day International Workshop on “Hydrological Modelling Using SWAT, HEC-HMS and R” having PEC-CPD 0.5 credit point. Organised by Department of Irrigation and Drainage, UAF and PEC. Held on November 29, 2019.
➤ International PEC-CPD Workshop on “Irrigation Scheduling with Handling of Aqua Crop Modelling” having 0.5 PEC-CPD credit point. Organised by Department of Irrigation and Drainage, UAF and PEC. Held on February 13, 2020.
➤ International PEC-CPD Workshop on “Hydrological Monitoring Technologies” having 0.5 PEC-CPD credit point. Organised by Department of Irrigation and Drainage, UAF and PEC. Held on February 17, 2020.
➤ International Webinar on “Hermetic Cocoon Storage Technologies”. Organised by CAB International and ADB. Held on June 24, 2020.
➤ Half Day PEC- CPD Live Webinar on “Blockchain for Integrity of Supply Chains” 0.5 CPD Point, Organized by Pakistan Engineering Council Islamabad held on June 10, 2021.
➤ “Capacity Building and Professional Development” Organized by Directorates of Academics and Teaching Resource Centre, University of Agriculture Faisalabad. Held on November 15 to 19, 2021.
➤ “Professional Development Workshop for Young Faculty” Organized by Directorates of Academics and Teaching Resource Centre, University of Agriculture Faisalabad. Held on November 23, 24 and 25, 2021.
➤ “Capacity Building and Professional Development (SWOT Analysis, Strategic and succession Planning)” Organized by Directorates of Academics and Teaching Resource Centre, University of Agriculture Faisalabad. Held on December 31, 2021.
➤ One day seminar on “Mechanical transplanting and practical demonstrarion of Kabuta rice transplanter at Directorates of Farms, University of Agriculture Faisalabad. Organized by Department of Farm Machinery and Power, University of Agriculture Faisalabad. Held on July 18 <sup>th</sup> , 2022
➤ Two days training workshop on “Computational Hydrauligical Modelling” 01 CPD point. Organized by Department of Structures and Environmental Engineering, University of Agriculture Faisalabad. Held on January 23-24, 2023
➤ Two days hands on CPD training workshop on “3-D scanning and printing for design of agricultural

<p>machinery” 01 CPD point. Organized by Department of Farm Machinery and Power, University of Agriculture Faisalabad. Held on May 18-19, 2023</p>
<p>➤ One day seminar on “Understanding and Implementation of Outcome Base Education”. Organized by Department of Farm Machinery and Power, University of Agriculture Faisalabad. Held on September 25, 2023.</p>
<p>➤ One day knowledge sharing workshop on Enhanced Agricultural Mechanization in Punjab, Pakistan. Jointly Organized by University of Agriculture Faisalabad, Punjab Agriculture Department’s Field Wing Directorate and Asian Development Bank. Held on <b>December 15, 2023</b></p>
<p>➤ Seminar on Seed processing: Challenges and opportunities in quality seed production Organized by PSDP Seed Project University of Agriculture Faisalabad. Held on <b>February 16, 2024.</b></p>

## OTHER PUBLICATIONS ((*National and International*))

### *Abstract Publications*

- **Nauman, H. M.**, M. Ahmad, A. Ghafoor, A. Munir, M. M. Arif Ch., B. M. K. Niazi, 2015. Design and development of Jatropha oil extractor and processor for biodiesel production under local climatic conditions at farm level. International Workshop on Renewable Energy Technologies for Community Development in Pakistan. ISBN: 978-969-9035-11-1.
- Anmol, Z., M. Ahmad, **H. M. Nauman**, A. Ghafoor, A. Munir, A. Zahid, 2015. Design and development of passive solar water distiller for the production of purified drinking water at domestic level. . International Workshop on Renewable Energy Technologies for Community Development in Pakistan. ISBN: 978-969-9035-11-1.
- Akram, Z., M. Ahmad, **H. M. Nauman**, A. Munir, F. Ehsan, U. Maqsood, 2015. Design, development and simulation of flat strip solar concentrator (FSSC) for thermal energy production using locally available materials and fabrication facilities. International Workshop on Renewable Energy Technologies for Community Development in Pakistan. ISBN: 978-969-9035-11-1.
- Bilal, H., A. Ghafoor, **H. M. Nauman**, M. Faheem, M. Noor, H. I. Khan, M. A. Butt, 2015. Thermal desalination of water using active-passive solar still system. International Workshop on Renewable Energy Technologies for Community Development in Pakistan. ISBN: 978-969-9035-11-1.
- Niazi, B. M. K., A. Munir, A. Ghafoor, **H. M. Nauman**, M. M. Arif, 2015. Design optimization and performance evaluation of a continuous solar roaster to process the agricultural harvests. International Workshop on Renewable Energy Technologies for Community Development in Pakistan. ISBN: 978-969-9035-11-1.
- Arif Ch. M. M., A. Munir, A. Ghafoor, M. A. Khan, **H. M. Nauman**, U. Maqsood, W. Akram, 2015. Design, development and testing of hybrid solar dryer for the processing of perishable agricultural products. International Workshop on Renewable Energy Technologies for Community Development in Pakistan. ISBN: 978-969-9035-11-1.
- **Nauman, H. M.**, A. Ghafoor, A. Munir, M. Ahmad, B. M. K. Niazi, F. Ehsan, 2014. Development of flat plate collector for energy production. International Workshop on Renewable Energy Technologies in Pakistan. ISBN: 978-969-9035-01-04.
- Niazi, B. M. K., A. Munir, F. Ehsan, A. Ghafoor, **H. M. Nauman**, M. M. Arif, 2014. Design modification of a continuous solar roaster for the processing of agricultural products. International Workshop on Renewable Energy Technologies in Pakistan. ISBN: 978-969-9035-01-04.
- Ehsan, F., A. Munir, B. M. K. Niazi, A. Ghafoor, **H. M. Nauman**, M. M. Arif, 2014. Performance evaluation of a continuous solar roaster for agricultural products. International Workshop on Renewable Energy Technologies in Pakistan. ISBN: 978-969-9035-01-04.
- Irshad, H., **H. M. Nauman**, A. R. Awan, W. Asadullah, R. Anam, 2016. Vertical Farming: A Step Forward to SMART Green Agriculture. Agro-Vet Conference on Progressive Agro-Vet Sector; A Key to Prosperous Pakistan. ISBN: 978-969-7703-00-5
- **Nauman, H. M.**, A. Ghafoor, M. J. M. Cheema, 2016. A prospect of robotics in precision agriculture as an energy efficient technology in Pakistan. International Workshop on Sustainable Energy Solutions for Community Development in Pakistan. ISBN: 978-969-9035-13-5.
- Muzammil, M., L. Anjum, M. Arshad, A. Zahid, A. Ali, **H. M. Nauman**, U. Farooq, 2016. Re-Designing of surface drip irrigation for orchard crops in arid regions of Pakistan using modelling

approach. International Conference on Sustainable Agriculture in Pakistan. ISBN: 978-969-9035-13-5
➤ Ali, A., <b>H. M. Nauman</b> , A. Ghafoor, A. Saeed, A. Shabbir, M. Khalid, S. Mustafa, M. Mohsin and F. Ehsan. 2019. Development of Real-Time Variable Rate Prototype for Liquid Agrochemical Application on Dense Canopy Crops. 2 <sup>nd</sup> International Conference of Climate Smart Agriculture: The Way toward Sustainability, November 26-27, 2019. FAO-UN.
➤ <b>Nauman, H. M.</b> , Z. Ashfaq, A. Ghafoor, A. Saeed, A. Tanveer, U. Maqsood, M. Mohsin and F. Ehsan. 2019. Development of Slide Hammer Planter for Small Seeds and Vegetables in Tunnel Farming. 2 <sup>nd</sup> International Conference of Climate Smart Agriculture: The Way toward Sustainability, November 26-27, 2019. FAO-UN.
➤ <b>Nauman, H. M.</b> , A. Ghafoor, Z. Haydar, M. Mohsin and F. Ehsan. 2019. Role of Variable Rate Technology in Sustainable Agriculture and Climate Change. 2 <sup>nd</sup> International Conference of Climate Smart Agriculture: The Way toward Sustainability, November 26-27, 2019. FAO-UN.
<b>Popular Articles</b>
➤ Khan, M. I., M. A. Khan, A. Khaliq, H. M. Nauman. 2022 A report on analysis of wWheat harvest losses. Published in Urdu Zari Digest, January to March 2022, University of Agriculture Faisalabad.
➤ Irshad, M., M. A. Khan, A. Ghafoor, M. Faheem, M. Waqqar, H. M. Nauman, A. Saeed. 2022. Importance of agricultural machinery for the production of wheat. Published in Urdu Zari Digest, October to December 2022, University of Agriculture Faisalabad.

### MEMBERSHIP OF SOCIETIES

- Registered member of Pakistan Engineering Council (PEC), Islamabad.
- Member of Society of Agricultural Engineers and Technologist, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan.
- Member of blood donor society at Khawaja Fareed Government Degree College Rahim yar khan.
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### ACADEMIC REFERENCES

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