

Curriculum Vitae

Personal information

Muhammad Faheem
Place of birth: Khanpur, Punjab, Pakistan
Date of birth: 10 June 1987
Nationality: Pakistani
Office Address: Dept. of Farm Machinery & Power,
Faculty of Agricultural Engineering and technology,
University of Agriculture, Faisalabad, Pakistan/
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Education

| Year | Degree, University and Grade |
|-----------|--|
| 2017-2022 | PhD Agricultural Engineering from School of Agricultural Engineering, Jiangsu University, Zhenjiang China. (1st Division, A+) |
| 2010-2013 | M.Sc. (Hons.) Agricultural Engineering from Faculty of Agricultural Engineering, University of Agriculture, Faisalabad, Pakistan. (1st Division, A+) |
| 2006-2010 | B.Sc. (Hons.) Agricultural Engineering from Faculty of Agricultural Engineering, University of Agriculture, Faisalabad, Pakistan. (1st Division, A) |

Present appointment

Title of appointment: Assistant Professor
Start of appointment: August 22, 2024
Level of appointment: Regular Basis
Employer: University of Agriculture, Faisalabad, Pakistan
Responsibilities: Academics, Research, Administration

Professional experience

| From / to | Job title | Name of academic Institution | Academic level | Responsibilities |
|--------------------------|------------------------------|---|----------------|--|
| 22 August 2024 to date | Assistant Professor | University of Agriculture, Faisalabad, Pakistan | Regular Basis | Teaching and Research |
| 2013-to 21 August 2024 | Assistant Executive Engineer | University of Agriculture, Faisalabad, Pakistan | Regular Basis | Teaching, Research, Administration |
| June 2010- December 2010 | Construction Supervisor | SAREMCO international (Private Limited) | Contract | Supervision |
| December 2022- to date | HEC Approved Supervisor | Higher Education Commission) Pakistan | Regular | Supervision of Graduate and Post Graduate Students |

Bio Statement

Currently, I am working as an Assistant Professor in the Department of Farm Machinery and Power, Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad, Pakistan. I have obtained my B.Sc.(Hons.) (2006-2010) and M.Sc. (Hons.) (2010-2013) degrees in Agricultural engineering from Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad. I have won PhD Scholarship by Chinese Scholarship Council (CSC), China to study Jiangsu University, China. I have received my PhD degree from the School of Agricultural Engineering, Jiangsu University, Zhenjiang, P.R. China in 2022. I have published significant scholarly contributions, including nearly 33 peer-reviewed research articles (impact factor>90: citations > 700: H-index =14: i10-index = 15 as of

June 2024) in the field of Agricultural Engineering, Farm Mechanization, Robotics in Agriculture, and Energy. I have published more than 20 Abstracts and 02 book chapters. I have reviewed more than 160 research and review articles in different SCI journals related to the field of Agriculture Engineering, Farm Mechanization, Energy, and Robotics in Agriculture.

I have won National Idea Bank (NIB), Pakistan on city and provincial level in the year of 2022 with fourth position on national level in 2023. I have also worked as stage secretary in international and national workshops/seminars. I have attended several International/National conferences/workshops/seminars/trainings related to the field of Agricultural Engineering, Farm Mechanization and Energy. I am editorial member of 2 Journals and professional reviewer of 3 journals. I am Incharge of Farm Mechanization Workshop of Farm Machinery and Power Department and Laboratory Engineer of Machine Shop, Thermodynamics and Energy Lab. and Internal Combustion Engine and tractors Laboratory. I am supervising many Graduate and Post-Graduate research students. My expertise's are in the field of Agricultural Engineering, Farm mechanization, Renewable Energy Resources, Robotic in Agriculture, Automation and Control Engineering, and Manufacturing Engineering.

Awards and Honors

- National Idea Bank (NIB) City and Provincial winner. NIB Nation level 4th position.
- Won First prize (in the field of Robotic in Agriculture) in the “19th Simulated International Conference Communication Contest” held in Jiangsu University, China, 2022.
- Won Second prize (in the field of Solar Thermal Concentrators) in the “19th Simulated International Conference Communication Contest” held in Jiangsu University, China, 2022.
- Won Best Oral Presentation on “Application of solar cabinet hand tao model of waste heat recovery for processing semi dried boneless tilapia” in the 5th International Conference on Renewable Energy, Sustainable Environmental, Agricultural and Artificial Intelligence Technologies held on 18-20 December 2023 Bangkok, Thailand.
- Award of “Chinese Government Scholarship (CGS)” for pursuing PhD studies from Chinese Government from 2017 to 2020.
- I have won Second prize in 2019 in “Jiangsu university simulated international academic conference communication semifinal oral presentation competition for overseas graduate students” held in Jiangsu University, China.
- Earned One CGPA “Merit Scholarship” in M.Sc. (Hons) Agricultural Engineering awarded by University of Agriculture, Faisalabad.
- Certificate of Honor awarded by Board of Intermediate and Secondary Education, Bahawalpur in inter college sports tournament 2003-04.

Experience in academic teaching

| Course No. / Title | Year | University | Subject Area |
|---|-------------|---|---|
| FMP-410, I.C. Engine and Tractors, 3(2-1) | Spring 2021 | University of Agriculture, Faisalabad Pakistan. | Internal Combustion Engine of Tractors |
| FMP-405, Farm Mechanization, 2 (1-1) | Winter 2021 | – | Agricultural Machinery from tillage to Harvesting |
| FMP-611, Manufacturing and Reverse Engineering, 3(2-1) | Winter 2021 | – | Manufacturing and reverse engineering techniques for Agricultural Machines |
| FMP-502, Farm Machinery and Earth Moving Equipment's, 4 (3- | Spring 2022 | – | Agricultural Machinery and precision agriculture from tillage to Harvesting and |

| | | | |
|---|-------------|---|---|
| 1) | | | Earth moving machines |
| FMP-611, Manufacturing and Reverse Engineering, 3(2-1) | Winter 2022 | – | Manufacturing and reverse engineering techniques for Agricultural Machines |
| FMP-407, Manufacturing Engineering, 2(1-1) | Winter 2022 | – | Manufacturing and reverse engineering techniques for Agricultural Machines |
| FMP-405, Farm Mechanization, 2 (1-1) | Summer 2022 | – | Same as above |
| FMP-502, Farm Machinery and Earth Moving Equipment's, 4 (3-1) | Spring 2023 | – | Same as above |
| FMP-304, Metallurgy and Workshop Practices, 2(1-1) | Spring 2023 | – | Materials study used in Agricultural Machinery |
| FMP-404, Instrumentation Control and Measurements | Spring 2023 | – | Different precision instruments, cameras, sensors, controllers (PLC, Arduino, Motors etc), LabVIEW used to monitor and control Agricultural machinery |
| FMP-501 Machine Design 3(2-1) | Winter 2023 | – | Designing of Agricultural Machinery |
| FMP-405, Farm Mechanization, 2(1-1) | Winter 2023 | – | Same as Above |
| FMP-514, Earth Moving Machinery, 2(1-1) | Spring 2024 | – | Practical demonstration of Earth moving machinery |

- I have written and modified many practical manuals like Farm Machinery and Earth Moving Equipment', Farm Mechanization, Manufacturing Engineering, Metallurgy and Workshop Practices, Instrumentation Control and Measurements, I.C Engines and Tractors

Academic /Administrative Experience

- Working as Incharge of "Farm Mechanization Lab/Workshop" in the department of Farm Machinery and Power from 23-11-2022 to date.
- Working as a Convenor/member in the "Institutional Support & Financial Resources Committee (B.Sc. Agricultural Engineering Program) of OBE (Outcome Base Education) from 08-06-2021 to date.
- Working as "Lab Engineer of I.C. Engine and Tractors Lab, Thermodynamics and energy lab" and "Machine Shop" in the department of Farm Machinery and Power from 17-08-2015 to date.
- Working as "Co-advisor" in the Society of Engineers and Technologists", University of Agriculture, Faisalabad from September 15, 2023, to date.
- Served as a "Co-advisor" for 1st and 2nd semester students of B.Sc. Agricultural Engineering during 2021-2022 and 2022-2023 sessions in the Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad as authorized on behalf of Dean, FAET to Sign UG-1 Forms, Library/Student ID Cards, Application Forms, Railway/PA Concession Forms, Scholarship/Loan Forms, Character Certificate and Registration Forms etc.
- Worked as a Supervisor of student under national internship program

(NIP) "Prime ministers Youth Training Scheme" in 23-05-2016.

- Worked as a member of organizing committee of international workshop on "Sustainable Energy Solutions for community development in Pakistan" held at University of Agriculture, Faisalabad from November 08-09, 2016.
- Worked as a member of independent audit and inspection of farm machinery distributed under project "Promotion of Agricultural Mechanization in Punjab, Pakistan" in the Division of Sahiwal from 01-08-2016 to 31-08-2016.
- Worked as an "Incharge of Exhibition/Events in the Society of Engineers and Technologists", University of Agriculture, Faisalabad from October 15, 2015, to October 2016.
- Working as Member, "Board of Studies of the Department of Farm Machinery & Power", University of Agriculture, Faisalabad from September 06, 2013, to date.

Memberships

- Registered member of IEEE with Member No. 98564790
- Registered member of IEEE Robotics and Automation Society
- Registered member of IEEE Young Professional
- Registered member of Pakistan Engineering Council (PEC) with PEC No. AGRI/3086, Islamabad, Pakistan
- Society of Agricultural Mechanization (SAM), Jiangsu University, China
- Registered member of International Association of Engineers Hong Kong, China with Member No. 321733
- Member "Pakistan Society of Agricultural Engineering"
- Secretary and Co Advisor of Society of Engineers and Technologists (SE&T)
- Participated as International Scientific Committee Member in "14th International Conference on "Sustainable Green Construction and Nanotechnology" on 3-7 March 2023 in Sharm El-Sheikh, Egypt.
- International Scientific Committee Member in "2024 International Conference on Agricultural Technology and Environmental Engineering" on 12-13 October 2024 in Xian, China.
- International Scientific Committee Member in "2024 International Conference on Energy Engineering and Energy Management" on 19-20 October 2024 in Wuhan, China.
- I have participated as a Host/Moderator in a Seminar on "Mechanical Rice Transplanting and Practical Demonstration of Kubota Rice Trans planter" on July 2022 organized by Department of Farm Machinery and Power, UAF.
- Working as Editorial Board member of a Peer Review Journal "International Journal of Agriculture and Plant Science" since 2022.

Research and scholarships

- Teaching undergraduate and post graduate courses related to Farm Mechanization, Robotics in Agriculture, Sensors and automation, Modeling, Post harvest Engineering.
- Supervised Master and PhD students. Few of their recent published works are:
 - a- Machine Vision Based Automatic Fruit Quality Detection and Grading. *Frontiers of Agricultural Science and Engineering*, 2023. (Q1)
 - b- Computer Vision-Based Prototype Robotic Picking cum Grading System for Fruits. *Smart Agricultural Technology*, 2023.
 - c- 3D Finite Element Analysis of Tine Cultivator and Soil Deformation. *Research in Agricultural Engineering*, 2023.
 - d- Empirical and Numerical based Predictive Analysis of Single Axis PV System under Semi-Arid Climate Conditions of Pakistan, *Frontiers in Energy Research*, 2024. (Q1)
- Research work of our team: Applications of mechatronics in design & development of advanced agricultural machinery, with a focus on precision control and automation
- I have published more than 20 Sci and 10 ESCI peer reviewed

papers in the field of Agricultural Engineering, and many of my students got research scholarship and grants last five years.

- I have won many National and International Competitions related to the field of Agricultural Engineering in last five years as mentioned in section awards and honors.

| Sr. No. | Award Holder(s) | Funding Body | Title | Amount received |
|---------|--|---|--|---|
| 1 | Muhammad Faheem as a Team Scientist | National Natural Science Foundation of China, Grant No. 31971795 | Study on the Biomechanical Mechanism of Berry Dropping-Damage in the Harvest-Postharvest Process of Fresh-eating Grape Clusters | 88340.30 USD |
| 2 | Muhammad Faheem as a Team Scientist | Agriculture Department, Government of Pakistan through ADB | Strengthening of AMRI Research and Development Capabilities in collaboration with UAF for fabrication of cost effective and efficient small Agriculture Implements for small farmers | 373319.43 USD |
| 3 | Muhammad Faheem as a Co-PI | Pakistan Agriculture Research Board, PARB CGS 2022 | Development of pneumatic sesame planter with precise liquid fertilizer application mechanism | 43075.32 USD Short listed and Under Review |
| 4 | Muhammad Faheem as a PI (Principal Investigator) | Pakistan Agricultural Research Council (PARC) Agricultural Linkages Program (ALP), 2023 | Reverse Engineering and Promotion of Sustainable Nursery Transplanter and Rotary Weeder for Sugarcane Intensification and Productivity Enhancement | 55629.27 USD Shortlisted |

Technical Competence

- Precision Instruments (Destructive and Non-Destructive type) for different kinds of Agricultural engineering applications
- LabVIEW for measurement, monitoring and control systems (data acquisition devices, sensors, and actuators)
- Integration of force sensor for vibration signals and other engineering applications
- High Speed Camera for fruits berry biomechanics analysis (mechanical properties and behavior of grape berries)
- AutoCAD (2D&3D) for Agricultural Machines designing
- Solid-Works for Agricultural Machines designing
- Ansys for Agricultural Machines Modeling and simulation
- MSC ADAMS Modeling and simulation
- Matlab simulation and Theoretical modelling

**Seminars/
Conference
/Trainings/Work
Shops/CPD
activities attended**

- E-Draw max and Getdata software
- Origin Pro and SPSS software
- Endnote and Mendley reference software's
- I have Attended 3-days training workshop on "Strengthening agricultural innovation systems for agricultural machinery for smallholders in Pakistan: Fostering agricultural partnerships and networking for sustainable development" held on February 8 to 01 March, 2024 in Best Western Hotel, Islamabad under the TAP-AIS project, "Developing Capacities in Agricultural Innovation Systems (AIS): Scaling up the Tropical Agriculture Platform (TAP) Framework", implemented by FAO Pakistan and the Ministry of National Food Security and Research, funded by the European Union's DeSIRA initiative.
- I have Attended Final Country Meeting TAP-AIS project of FAO held on May 30, 2024 in Marriot Hotel, Islamabad under the TAP-AIS project, "Developing Capacities in Agricultural Innovation Systems (AIS): Scaling up the Tropical Agriculture Platform (TAP) Framework", implemented by FAO Pakistan and the Ministry of National Food Security and Research, funded by the European Union's DeSIRA initiative.
- I have Participated two days Workshop on "3D Scanning and Printing for Design of Agricultural Machinery" on May 18-19, 2023 organized by Department of Farm Machinery and Power, UAF.
- I have participated in CPD activity on "Establishing Science and Technology Parks in Pakistan" organized by Department of Energy Systems Engineering, UAF.
- I have participated in a seminar on "Understanding and Implementation of OBE (Outcome Based Education)" on 25 September, 2023 organized by Department of Farm Machinery and Power, UAF
- I have participated in training entitled "MARA Modern Agriculture Workshop of China-Pakistan Regional Innovation Institute for Modern Agriculture" from March to August 2022 in Jiangsu University, Zhenjiang, China.
- I have participated in training entitled "Seminar on Agricultural Processing and Trade for Developing Countries" sponsored by the Ministry of Commerce and organized by Chinese Academy of Agricultural Mechanization Sciences Group Co., Ltd. From July 19th, 2022 to August 17th, 2022 in Beijing, the People's Republic of China.
- I have participated in Seminar on "Mechanical Rice Transplanting and Practical Demonstration of Kubota Rice Trans planter" on July 2022 organized by Department of Farm Machinery and Power, UAF.
- I have participated in training entitled "Seminar on Food Security Under the Global Development Initiative for Developing Countries" sponsored by the Ministry of Commerce and organized by Chinese Academy of Agricultural Mechanization Sciences Group Co., Ltd. from July 7th, 2022 to July 27th, 2022 in Beijing, the People's Republic of China.
- I have Participated in Three Days Training Workshop on "Use of Simulation Software's for Reverse Engineering of Agriculture Machinery" on May 10-12, 2022 organized by Department of Farm Machinery and Power, UAF.
- I have participated in activity on "Application and Hands on Training of Artificial Intelligence in Water, Food and Energy Sector" held on 16 March 2022 organized by University of Agriculture, Faisalabad, Pakistan.
- I have participated in training entitled "Training Course on Operation & Maintenance of Agricultural Machinery for Pakistan" sponsored by the Ministry of Commerce and organized by Chinese Academy of Agricultural Mechanization Sciences from October 15th, 2021, to November 4th, 2021 in Beijing, China.
- I have attended two-day workshop on "Promoting Research

Excellence in Academics across Pakistan” (1st and 2nd February, 2022).

- I have participated in seminar on “Structural Equation Modelling Analysis AMOS” held in Jiangu University, China on 18-06-2019.
- I have participated in conference entitled “JSU 16th Simulated int’l PG conference contest” held in Jiangu University, China on 10-05-2019.
- I have participated in “The Eighth Sino-foreign Postgraduate Forum” Sub Forum: Engineering II” its theme was “Agricultural Equipment Intelligent Informationization Technologies” held at Jiangu University, China on 2018-11-26.
- I have presented Paper entitled “Precision Management of Groundwater Abstraction on Different Spatial Scales of Lower Chenab Canal System in Punjab, Pakistan” by Yongguang Hu*, Noman Ali Buttar, Faheem Muhammad, Shabbir Abdul, Lakhair Imran Ali, Aleem Muhammad in “6th IFAC Conference on Bio-Robotics” held at China Agricultural University, Beijing from 2018-07-12 to 2018-07-15.
- I have completed the course training entitled “Matlab Onramp” on June 2018 from MathWorks training services.
- I have participated in “China International Agricultural Machinery Exhibition 2017” held in Wuhan from 2017-10-26 to 2017-10-28.
- Certificate of Participation in seminar “Indus water treaty: Potential threats to Pakistan water resources” organized by Water management research center, UAF on November 04, 2016.
- Certificate of Participation in International workshop on “Renewable Energy Technologies for community development in Pakistan” held at University of Agriculture, Faisalabad, organized by University of Agriculture, Faisalabad and University of Kassel, Germany from November 04-06, 2015.
- Certificate of Participation in training workshop on “Remote sensing and digital image processing for precision Agriculture” jointly organized by U.S.-Pakistan Center for Advanced studies in Agriculture and Food security and Pakistan Engineering Council (PEC) held at University of Agriculture, Faisalabad from August 26-27, 2015.
- Certificate of Participation in a training program entitled “Indigenous On-Campus Training” organized by Higher Education Commission and University of Agriculture, Faisalabad held at University of Agriculture, Faisalabad from Nov 25-29, 2014.
- Certificate of Participation in a short course jointly organized by Pakistan Engineering Council (PEC) and Department of Irrigation and Drainage entitled “Hydrological Modeling Using Remote Sensing” held at University of Agriculture, Faisalabad on October 16, 2014.
- Internship in the office of the Senior Subject Matter Specialist (Agronomy) Adaptive Research Farm from 16-04-2010 to 23-04-2010
- Internship in “Wheat Productivity Enhancement Campaign”, Deputy District Office Agriculture (Extension) Rahim Yar Khan, from Oct 2009 to Dec 2009.

Publications

1. *Saeed, F., Ghafoor, A., Hussain, M. I., Ikram, K., **Faheem, M.**, Shahzad, M., ... & Lee, G. H. (2024). Empirical and numerical-based predictive analysis of a single-axis PV system under semi-arid climate conditions of Pakistan. *Frontiers in Energy Research*, 11, 1293615. (IF 3.1)
2. *Amna, M. W. Akram, G. Li, M. Z. Akram, M. **Faheem, M. M.** Omar, M. G. Hassan, (2023). Machine Vision Based Automatic Fruit Quality Detection and Grading. *Frontiers of Agricultural Science and Engineering*. (IF 3.7)
3. *Hashaam, M., Akram, W.M., Ahmad, M., Akram, Z.A., **Faheem, M.**, Maqsood, M., Aleem, M. (2023). 3D finite element analysis of tine cultivator and soil deformation. *Research in Agricultural Engineering*, 2023 (vol. 69), issue 3. (WOS, Q3)

4. *Xie, B., Jin, Y., **Faheem, M.**, Gao, W., Liu, J., Jiang, H., ... & Li, Y. (2023). Research progress of autonomous navigation technology for multi-agricultural scenes. *Computers and Electronics in Agriculture*, 211, 107963. (IF 8.3, Q1)
5. *Nauman, M., Tayyab, M., **Faheem, M.**, Ikram, K., Akram, M. W., Asif, M., & Omar, M. M. (2023). Designing and performance evaluation of continuously stirring anaerobic batch reactor for biomethane production from biowaste. *Biomass Conversion and Biorefinery*, 1-14. (IF 4, Q2)
6. *Dairath, M. H., Akram, M. W., Mehmood, M. A., Sarwar, H. U., Akram, M. Z., Omar, M. M., & **Faheem, M.** (2023). Computer vision-based prototype robotic picking cum grading system for fruits. *Smart Agricultural Technology*, 4, 100210. (WOS)
7. *7. **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). (WOS, Q3)
8. ***Faheem, M.**, Liu, J., Chang, G., Abbas, I., Xie, B., Shan, Z., & Yang, K. (2021). Experimental Research on Grape Cluster Vibration Signals during Transportation and Placing for Harvest and Post-Harvest Handling. *Agriculture*, 11(9), 902. (IF 3.6)
9. ***Faheem, M.**, Liu, J., Chang, G., Ahmad, I., & Peng, Y. (2021). Hanging force analysis for realizing low vibration of grape clusters during speedy robotic post-harvest handling. *International Journal of Agricultural and Biological Engineering*, 14(4), 62-71. (IF 2.4)
10. Peng, Y., Wang, A., Liu, J., & **Faheem, M.** (2021). A comparative study of semantic segmentation models for identification of grape with different varieties. *Agriculture*, 11(10), 997. (IF 3.6)
11. *Ahmed, S., Xin, H., **Faheem, M.**, & Qiu, B. (2022). Stability Analysis of a Sprayer UAV with a Liquid Tank with Different Outer Shapes and Inner Structures. *Agriculture*, 12(3), 379. (IF 3.6)
12. Javed, T., Afzal, I., Shabbir, R., Ikram, K., Saqlain Zaheer, M., **Faheem, M.**, Haider Ali, H., Iqbal, J., Seed coating technology: an innovative and sustainable approach for improving seed quality and crop performance, *Journal of the Saudi Society of Agricultural Sciences* (2022). (WOS, Q1)
13. Ahmad, A., Wajid, A., Saleem, M.H., Shehzadi, M., Rehan, M., Hussaan, M., **Faheem, M.**, Javed, M.T., El-Sheikh, M.A., Alshaya, H. and Ali, S., Simulating the growth and yield of peanut cultivars under temporal variation using Cropgro-Peanut (Dssat) Model. *Pak. J. Bot*, 54, P.3. (IF 1.2)
14. Awais, M., Li, W., Cheema, M.J.M., Zaman, Q.U., Shaheen, A., Aslam, B., Zhu, W., Ajmal, M., **Faheem, M.**, Hussain, S. and Nadeem, A.A., 2022. UAV-based remote sensing in plant stress image using high-resolution thermal sensor for digital agriculture practices: a meta-review. *International Journal of Environmental Science and Technology*, pp.1-18. (IF 3.1)
15. *Abbas, I., Liu, J., **Faheem, M.**, Noor, R. S., Shaikh, S. A., Solangi, K. A., & Raza, S. M. (2020). Different Real-Time Sensor Technologies for the Application of Variable-Rate Spraying in Agriculture. *Sensors and Actuators A: Physical*, 112265. (IF 4.6)
16. *Yang, Q., Ahmad, I., **Faheem, M.**, Siddique, B., Xu, H., & Addy, M. (2021). Development and assessment of belt-drive seedlings transmission device for fully-automatic vegetable transplanter. *Computers and Electronics in Agriculture*, 182, 105958. (IF 8.3)
17. Ajmal, Muhammad, Aiping Shi, Muhammad Awais, Zhang Mengqi, Xu Zihao, Abdul Shabbir, **Muhammad Faheem**, Wei Wei, and Lihua Ye. "Ultra-high temperature aerobic

- fermentation pretreatment composting: Parameters optimization, mechanisms and compost quality assessment." *Journal of Environmental Chemical Engineering* 9, no. 4 (2021): 105453. (IF 7.7)
18. Abbas, I., Liu, J., Noor, R. S., **Faheem, M.**, Farhan, M., Ameen, M., & Shaikh, S. A. (2020). Development and performance evaluation of small size household portable biogas plant for domestic use. *Biomass Conversion and Biorefinery*, 1-13. (IF 4)
 19. ***Faheem, M.**, Jizhan, L., Akram, M. W., Khan, M. U., Yongphet, P., Tayyab, M., & Awais, M. (2020). Design optimization, fabrication, and performance evaluation of solar parabolic trough collector for domestic applications. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 1-20. (IF 2.9)
 20. Ajmal, M., Aiping, S., Uddin, S., Awais, M., **Faheem, M.**, Ye, L., ... & Shi, Y. (2020). A review on mathematical modeling of in-vessel composting process and energy balance. *Biomass Conversion and Biorefinery*, 1-13. (IF 4)
 21. *Liu, J., Peng, Y., & **Faheem, M.** (2020). Experimental and theoretical analysis of fruit plucking patterns for robotic tomato harvesting. *Computers and Electronics in Agriculture*, 173, 105330. (IF 8.3)
 22. Akram, M. Waqar, Guiqiang Li, Yi Jin, Xiao Chen, Changan Zhu, Xudong Zhao, Abdul Khaliq, **M. Faheem**, and Ashfaq Ahmad. "CNN based automatic detection of photovoltaic cell defects in electroluminescence images." *Energy* 189 (2019): 116319. (IF 9)
 23. *Liu, J., Zhao, S., Li, N., **Faheem, M.**, Zhou, T., Cai, W., ... & Li, P. (2019). Development and Field Test of an Autonomous Strawberry Plug Seeding Transplanter for Use in Elevated Cultivation. *Applied Engineering in Agriculture*, 35(6), 1067-1078. (IF 0.9)
 24. Yongguang, H., Buttar, N. A., Shabbir, A., **Faheem, M.**, & Aleem, M. (2018). Precision management of groundwater abstraction on different spatial scales of lower Chenab canal system in Punjab, Pakistan. *IFAC-PapersOnLine*, 51(17), 397-401. (WOS)
 25. Awais, M., Li, W., Ajmal, M., & **Faheem, M.** Using IoT Innovation and Efficiency in Agriculture Monitoring System. *Journal of Botanical Research*, 65, 65881289.
 26. Jaffar Iqbal, **M. Faheem**, Roman, M., Magsi, S., Rauf, H., Arif, Z., Khaliq, T., & Tahir, M. (2023). Climate change effects on cotton planting date and planting density using modelling techniques: Review. *Pure and Applied Biology*. Vol. 12, Issue 2, pp732-753. (WOS)
 27. Ajmal, U. B., Khan, M. U., **Faheem, M.**, Tayyab, M., Majeed, M., Sarwar, A., ... & Mohamed, A. M. (2017). Modification and performance evaluation of a wheat thresher. *Russian Journal of Agricultural and Socio-Economic Sciences*, 65(5).
 28. *ur Rehman, T., Khan, M. U., Tayyab, M., Akram, M. W., & **Faheem, M.** (2016). Current status and overview of farm mechanization in Pakistan—A review. *Agricultural Engineering International: CIGR Journal*, 18(2), 83-93. (WOS, Q3)
 29. Husnain, S. N., Munir, A., Hussain, S. F., & **Faheem, M.** (2014). Quality Drying of Ripened Chilies Using a Glass Solar Tunnel Dryer. *Journal of Global Innovation in Agricultural and Social Sciences*, 2(1), 16-22.

Under Review and Submitted Papers

- Muhammad Mahmood ur Rehman, Jizhan Liu, Aneela Nijabat, **Muhammad Faheem**. "Leveraging convolutional neural networks for disease detection in vegetables: A comprehensive review" submitted in *Computers and Electronics in Agriculture* (Under review). (IF 8.3)
- Xie Bin Bin, Liu Jizhan; Wang Jian; **Muhammad Faheem**; Liu Lu; Li

Yuanxiang. "Consumer grade in-field method detection of low-contrast uncut crop edge for adaptive driverless harvesting" submitted in Computers and Electronics in Agriculture (Under review). (IF 8.3)

- Shenyi Zhao, Yun Peng, Jizhan Liu, Shan Zhu, **Muhammad Faheem**, Jian Wang, Guangyu Houa. "Detection method of multiple crops leaf disease based on improved Faster R_CNN for facility agricultural environment" submitted in Computers and Electronics in Agriculture (Decision Pending). (IF 8.3)
- **Muhammad Faheem***, Jizhan Liu*, Muhammad Waqar Akram, Ibrar Ahmad, Peng Yun, Muhammad Ajmal. "Simulation study of grape cluster for realizing damage mechanism during transportation and placing" submitted in Computers and Electronics in Agriculture. (IF 8.3)
- Kai-yu Yang, Ji-zhan Liu*, **Muhammad Faheem**, Jin Liang, Shan Zhu, Guang-yu Hou "Vibration-collision coupling modeling in grape clusters for non-damage harvesting operations" submitted in Biosystems Engineering (Under Revision). (IF 5.1)
- **Muhammad Faheem***, Jizhan Liu, Muhammad Tayyab, Muhammad Waqar Akram. "Mechanical and physiological behavior of table grape berry detachment for automatic harvest and post-harvest operations" submitted in Agriculture. (IF 3.4)
- Muhammad Yamin; Muhammad Ashraf; Muhammad Nadeem; Farah Naz Akbar; Shaheer Ahmad; **Muhammad Faheem**. "Fabrication and Performance Testing of Melon Seed Shelling Machine" submitted in Alexandria Engineering Journal. (Under Review). (IF 6.8)

Abstracts Published

- *Abstract published in "International Conference on "Precision and Sustainable Agriculture Under Climate Change (IPSAC-2023)" entitled "**3D Finite Element Analysis of Tine Cultivator and Soil Deformation**".
- *Abstract published in "3rd International Conference on Scientific and Academic Research" on 25-26 December 2023 at Konya/Turkey entitled "**Robotic Weed Control and Crop Improvement for Pakistan's Sustainable Agriculture**".
- Abstract published in "VII International Symposium Applications of Modelling as an Innovative Technology in the Horticultural Supply Chain" on 11-14 June 2023 at Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Potsdam Germany entitled "**Energy conservation through energy-exergy based thermal analysis and annual available of solar continuous roasting system**".
- *Abstract published in "International Conference on Agriculture, Food Sciences & Aquaculture, 28-29 July 2022" entitled "**Vibration control strategies to avoid berry falling during transportation phase of robotic handling of cluster fruit**".
- *Abstract published in "2nd International Conference on Agriculture and Aquaculture 12-13 December entitled "**Design, development and performance evaluation of zone disc tiller drill for maize crop production in Pakistan**".
- *Abstract published in "Abstract book of International workshop on sustainable energy solutions for community development in Pakistan November 08-09,2016" entitled "**Fabrication and performance evaluation of dual tracking solar parabolic trough for steam generation**" with ISBN 978-969-9035-13-5
- Abstract published in "Abstract book of International workshop on sustainable energy solutions for community development in Pakistan, November 08-09,2016" entitled "**Performance evaluation of hybrid solar dryer under load and no-load condition**" with ISBN 978-969-9035-13-5
- Abstract published in "Abstract book of International workshop on sustainable energy solutions for community development in

Pakistan, November 08-09,2016” entitled “**Sustainable development: Renewable energy education for architects**” with ISBN 978-969-9035-13-5

- Abstract published in “Abstract book of Agro-vet Conference, 2016, on Progressive Agro-Vet Sector; A Key to Prosperous Pakistan April 24-2016” entitled “**Biogas production from vegetable and flowers waste using anaerobic digestion**” organized by Agro-vet Forum, Pakistan.
- Abstract published in “Abstract book of Agro-vet Conference, 2016, on Progressive Agro-Vet Sector; A Key to Prosperous Pakistan April 24-2016” entitled “**Design and development of small scale Walk-Behind type sugarcane cutter** ” organized by Agro-vet Forum, Pakistan.
- *Abstract published in “Abstract book of International Conference on Renewable Technologies for community development in Pakistan, November 04-06,2015” entitled “**Modification and optimization of solar parabolic trough using copper tube for steam generation**” with ISBN 978-969-9035-11-1
- Abstract published in “Abstract book of International Conference on Renewable Technologies for community development in Pakistan, November 04-06,2015” entitled “**Thermal desalination of water using active-passive solar till system**” ISBN 978-969-9035-11-1
- Abstract published in “Abstract book of International Conference on Renewable Technologies for community development in Pakistan, November 04-06,2015” entitled “**Bio-energy: A step forward and a solution for energy crises**” with ISBN 978-969-9035-11-1
- *Abstract published in “Abstract book of International Conference on Renewable Technologies in Pakistan, December 16-18, 2014.” entitled “**Design, fabrication and performance evaluation of solar parabolic trough for domestic application**” with ISBN 978-969-9035-01-04
- *Abstract published in “Abstract book of International Conference on Renewable Technologies in Pakistan, December 16-18, 2014.” entitled “**Status of farm mechanization in Pakistan**” with ISBN 978-969-9035-01-04

Book Chapters

- *I have worked as a member/editing of book titled “**Rapid damage-free robotic harvesting of tomatoes**” Liu, Jizhan, Zhiguo Li, and Pingping Li. Springer Nature, 2021.
- *Muhammad Fawaz Saleem, Ali Raza, Rehan Sabir, *Muhammad Faheem*, Mohammed Saleh Al Ansari. “**Applications of Sensors in Precision Agriculture for a Sustainable Future**” published in Agriculture and Aquaculture Applications of Biosensors and Bioelectronics. (Doi 10.4018/979-8-3693-2069-3)
- Muhammad Waqar Akram, Jin Yi and *Muhammad Faheem*. “Computer and Machine Vision in Agriculture” submitted in “AISATA 2021 (Artificial Intelligence and Smart Agriculture: Technology and Applications)” (Under Review).
- A Chapter on “**Land Development Machinery**” in the Book entitled “**Design, Principle and operation of Agricultural Machinery**” in the Department of Farm Machinery & Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan 2015-17 (In-progress).
- *Chapter on “**Soil Tillage**” in the Book entitled “**Design, Principle and Operation of Agricultural Machinery**” in the Department of Farm Machinery & Power, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan 2015-17 (In progress).

Further data/ Keynote Speaker/ Invited Speaker

- I have participated as keynote speaker in “International Conference on Agriculture, Food Sciences & Aquaculture, 28-29 July 2022” entitled “Vibration control strategies to avoid berry falling during transportation phase of robotic handling of cluster fruit”

- I have participated as keynote speaker in “2nd International Conference on Agriculture and Aquaculture 12-13 December entitled “Design, development and performance evaluation of zone disc tiller drill for maize crop production in Pakistan”
- I have participated as a Host/Moderator in “Seventh Sino-Foreign Postgraduate Academic: Sub Forum: Engineering II with theme “Agricultural Equipment Intelligence Informationization Technologies” 26th November 2017 in Jiangsu University, Zhenjiang, China.
- I have presented Oral Presentation “Robotic Weed Control and Crop Improvement for Pakistan’s Sustainable Agriculture” in 3rd International Conference on Scientific and Academic Research on 25-26 December 2023 at Konya/Turkey.
- I have participated as Invited speaker in technical session on “Renewable Energy in Agriculture/Wastewater re-use in Agriculture” in 5th International Conference on “Precision and Sustainable Agriculture Under Climate Change (IPSAC-2023).
- I have participated as Invited speaker on “Sustainable options to minimize postharvest losses in Pakistan” in Alliance for Modernizing African Agrifood Systems an ASABE Global Initiative on November 14-17, 2023 (Virtual).

Peer Reviewer Work

I have reviewed more than 170 research articles in different SCI, ESCI peer review journals (Elsevier, Springer, Taylor’s and Francis, IEEE Access, MDPI, Conference proceedings etc, and Conferences since last 5 years.

Language competence

Native Language: Urdu

English

| | Excellent | Good | Fair | Basic | Remarks |
|-----------|-----------|------|------|-------|---------|
| Listening | √ | √ | | | |
| Speaking | | √ | | | |
| Writing | | √ | | | |
| Reading | √ | | | | |

Chinese

| | Excellent | Good | Fair | Basic | Remarks |
|-----------|-----------|------|------|-------|----------------|
| Listening | | | √ | | |
| Speaking | | | √ | | |
| Writing | | | | √ | Chinese Pinyin |
| Reading | | | | √ | Chinese Pinyin |

International Travel

| Country | Duration | | Purpose |
|----------|-------------|-------------|--|
| | From | To | |
| Thailand | 17 May 2024 | 25 May 2024 | To Attend meeting of the Technical Working Group on Combine Harvesters of the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM) & Agritechnica |

| | | | |
|-----------|-------------------------|-------------------------|--|
| | | | Asia |
| China | Sep 2017 | Jan 2020 | PhD Scholar At Jiangsu University, China awarded by Chinese Government Council (CSC), P.R. China |
| Malaysia | Jan 2018 | Jan 2018 | Recreational Purpose (Connecting Route) |
| Sri Lanka | Jan 2018 August 2019 | Jan 2018 August 2019 | Visited during transit Visited during transit |
| Qatar | March 2019 Jan 2020 | March 2019 Jan 2020 | Visited during transit Visited during transit |

Research Profiles

1. Research gate (<https://www.researchgate.net/profile/Muhammad-Faheem-10>)
2. ORCID ID (0000-0002-8084-4558)
3. Google Scholar (<https://scholar.google.com/citations?user=3WCBvRAAAA&hl=en>)
4. Personnel homepage (<https://web.uaf.edu.pk/FacultyProfile/Profile/473>)
5. Publons homepage (<https://publons.com/researcher/4039525/muhammad-faheem/>)
6. Web of Science (<https://www.webofscience.com/wos/author/record/ABE-5057-2020>)
7. Linkdin (<https://www.linkedin.com/in/muhammad-faheem-34a9aa136/>)

Date 29-08-2024

Signature

