

Muhammad Shakeel

PhD.

Date of Birth: 3rd April 1991

Age: 32 Years and 4 months

Marital state: Unmarried

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Professional Summary

A young, motivated researcher in the field of Design and Manufacturing, with specialization in Additive manufacturing, equipped with both academic and administrative experience of more than six years in educational institutes. As a researcher I am always looking for a challenging environment to further furnish professional capabilities in a well-defined manner.

Awards & Achievements

- More than 10 articles in early career with five in Q1 journals having a cite score of 79.
- Serving as a head of department in early career.
- Awarded Scholarship for Doctor of Philosophy (Ph.D.) in Mechanical Engineering of worth more than 6 million PKR for four years at Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Swabi, Pakistan.
- Awarded Graduate Studies Gold Medal for best student among the entire Engineering students' batch at Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Swabi, Pakistan.
- Awarded full time scholarship for Master of Science (MS) in Mechanical Engineering for two years at Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Swabi, Pakistan.
- Secure first position for the best final year project in the Open House at International Islamic University, Islamabad.
- Recipient of Laptop among top 10 talented students of the Department of Mechanical Engineering at International Islamic University, Islamabad, Pakistan.
- Awarded with Punjab Worker Welfare Fund (PWWF) talent scholarship for Bachelor of Science (BS) in Mechanical Engineering at International Islamic University, Islamabad, Pakistan, covering the tuition and living expenses for four years.
- Awarded scholarship at Intermediate level.
- Awarded scholarship at school level.

Education

PhD, Mechanical Engineering, CGPA: 3.62/4.00

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan
2017-2021

MS, Mechanical Engineering, CGPA: 3.38/4.00 (**Gold Medalist**)

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan
2015-2017

BS, Mechanical Engineering, CGPA: 3.72/4.00 (**Distinction**)

International Islamic University Islamabad, Pakistan
2010-2014

Professional Experience

Head of Department & Assistant Professor

Department of Mechanical Engineering Technology, University of Technology
Pakistan

May 2023-Present

- Teaching courses at Undergraduate and Postgraduate level

- Conducting training sessions for students as well as faculty members
- Representing the Department in Accreditation visits
- Supervising FYDPs

Head of Department & Assistant Professor

Department of Mechanical Engineering, CECOS University
Pakistan

November 2021-May 2023

- Teaching courses at Undergraduate and Postgraduate level
- Departmental OBE Coordinator
- Conducting training sessions for students as well as faculty members
- Representing the Department in PEC, NTC and HEC visits
- Administering SAR preparation for PEC, NTC and HEC
- Supervising FYDPs

Graduate Assistant (PhD Scholar)

Faculty of Mechanical Engineering Ghulam Ishaq Khan Institute of Engineering Sciences and Technology
Pakistan

2017-2021

- Teaching courses at Undergraduate level
- Departmental OBE Coordinator
- In 2017, I was supporting the department in Washington Accord's visit to GIKI
- Development of Printed Electronics lab in GIKI and publishing research work in reputed journals

Graduate Assistant (MS)

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology
Pakistan

2015-2017

- Teaching and conducting labs at undergrad level
- Assisting faculty in courses

Journal Publications

1. Shakeel, M., Khan, W. A., & Rahman, K. (2017). Fabrication of cost effective and high sensitivity resistive strain gauge using DIW technique. *Sensors and Actuators A: Physical*, 258, 123-130. DOI: 10.1016/j.sna.2017.03.003. (IF= 3.407 & Q1)
2. Shakeel, M., Rehman, K., Ahmad, S., Choi, K. H., & Khan, A. (2020). A Weldless Approach for Thermocouple Fabrication Through Direct Ink Writing Technique. *IEEE Sensors Journal*, 21(2), 1279-1286. DOI: 10.1109/JSEN.2020.3018747. (IF= 3.301 & Q1)
3. Shakeel, M., Rehman, K., Ahmad, S., Amin, M., Iqbal, N., & Khan, A. (2021). A low-cost printed organic thermoelectric generator for low-temperature energy harvesting. *Renewable Energy*, 167, 853-860. DOI: 10.1016/j.renene.2020.11.158. (IF= 8.001 & Q1)
4. Nadeem, I., Memoon, S., Khalid, R., Tahseen, A. Q., Shakeel, M., Salman, A., & Mohsin, A. (2021). Fabrication of Temperature-and Humidity-Independent Silver Nanoparticle's Carbon Composite-Based Strain Sensor Through Additive Manufacturing Process. *3D Printing and Additive Manufacturing*. DOI: 10.1089/3dp.2021.0032. (IF= 5.449 & Q1)
5. Ahmad, S., Rahman, K., Shakeel, M., Qasuria, T. A. K., Cheema, T. A., & Khan, A. (2021). A low-cost printed humidity sensor on cellulose substrate by EHD printing. *Journal of Materials Research*, 36, 1-12. DOI: 10.1557/s43578-021-00324-0. (IF= 3.089 & Q1)
6. Iqbal, Shahid & Tariq, Adnan & Khan, Wajid & Shahzad, Waseem & Azeem, Muhammad & Javid, Waqas & Ali, Haider & Shakeel, Muhammad. (2022). Comparative Analysis of Static and Fatigue Strength of Carbon Fiber and Al 6061-T6 Double Strap Joint. *MATERIALS TRANSACTIONS*, 63, 1120-1126. DOI: 10.2320/matertrans.MT-M2022026. (IF=1.377)
7. Ahmad S, Rahman K, Cheema TA, Shakeel M, Khan A, Bermak A. Fabrication of Low-Cost Resistance Temperature Detectors and Micro-Heaters by Electrohydrodynamic Printing. *Micromachines*. 2022; 13(9):1419. <https://doi.org/10.3390/mi13091419>. (IF=3.523 & Q2)
8. Kamal, W., Rahman, K., Ahmad, S., Shakeel, M., & Ali, T. (2022). Electrohydrodynamic printed nanoparticle-based resistive temperature sensor. *Flexible and Printed Electronics*, 7(4), 045008. DOI 10.1088/2058-8585/aca48a. (IF=3.78 & Q2)

9. Khan, I., Farooq, U., Tariq, M., Abas, M., Ahmad, S., Shakeel, M., ... & Hira, F. (2023). Investigation of Effects of Processing Parameters on the Impact Strength and microstructure of thick Tri-Material based Layered Composite Fabricated via Extrusion based Additive Manufacturing. *Journal of Engineering Research*. <https://doi.org/10.1016/j.jer.2023.08.007>
10. Imran Khan, Muhammad Tariq, Muhammad Abas, Muhammad Shakeel, Fatima Hira, Ans Al Rashid, Muammer Koç, Parametric Investigation, Optimization of Mechanical Properties of Thick Tri-Material based Composite of PLA-PETG-ABS 3D-Printed Using Fused Filament Fabrication, Composites Part C: Open Access,(Available online) <https://doi.org/10.1016/j.jcomc.2023.100392>
11. Printed thermoelectric generators; Process and Materials A Review (Under preparation)
12. Effects of printing parameters on the resistance in direct ink write technique (Ready to submit)

Conference papers & Thesis

1. Shakeel, M., Raza, A., & Malik, A. Model of Fluid Tank Sloshing in Large Liquid Tanks through Bond Graph. ICSDV 2014.
2. Shakeel, M., S. Khan, and W. A. Khan. "Forecasting of Indirect consumables for a job shop.", ISAM 2015.
3. M.Abdul Ahad, SM. Ahmad, M.Shakeel, "CFD analysis of Propeller for Magnetically coupled thruster of unmanned underwater vehicle applications.", RAEE 2015.
4. Shakeel, M., S. Khan, and W. A. Khan. "Forecasting of indirect consumables for a Job Shop." IOP Conference Series: Materials Science and Engineering. Vol. 146. No. 1. IOP Publishing, 2016.
5. Khalid Rahman and Muhammad Shakeel, "Fabrication and characterization of resistive carbon strain gauge using direct write method", The 7th International Conference on Manufacturing, Machine Design and Tribology, Jeju, South Korea, April 2017
6. S. Ahmad, M. Shakeel, N. Iqbal, M. Amin and K. Rahman, "Printing of Low Cost Sensors by Additive Manufacturing," 2021 International Bhurban Conference on Applied Sciences and Technologies (IBCAST), 2021, pp. 67-71
7. PhD Thesis entitled as "Fabrication of Low-cost Thermoelectric Devices"
8. Master Thesis entitled as "Fabrication of highly sensitive strain gauge through Micro-Dispensing Direct Write technique for sensing applications".
9. FYP entitled as "Design, manufacturing and automation of a road paint machine."

Research Interests

- Thermoelectric devices fabrication and characterization
- Printed Sensors and devices fabrication and characterization
- Printed Electronics
- Smart Energy harvesting devices fabricated through additive manufacturing
- Incremental Forming
- CAD/CAM
- Computational Fluid Dynamics

Engineering Software Skills

- ANSYS (APDL, Workbench, CFD, Turbogrid)
- Pro E/Creo
- Proteus
- Autodesk Inventor
- Aspire
- Ucamcam
- Autodesk ArtCam
- MS Office and Office 365

Ad Hoc Reviewer

- Renewable Energy Journal

External Examiner

- Engr. Aizaz Khan, UET, Peshawar.
- Engr. Syeda Iqra, UET, Peshawar.
- Engr. Muhammad Usman, UET, Peshawar

Extra-curricular Activities

- Badminton
- Chess
- Cards

Academic References

1. Dr. Khalid Rehman

Associate Professor and Dean

Faculty of Mechanical Engineering

Ghulam Ishaq Khan Institute of Engineering Sciences & Technology, Topi,
Pakistan

Ph: +92-0938-281026, Ext: 2351

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2. Prof. Dr. Wasim Ahmad Khan

Professor

Ghulam Ishaq Khan Institute of Engineering Sciences & Technology, Topi,
Pakistan

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3. Prof. Dr. Ghulam Hussain

Professor

Faculty of Mechanical Engineering

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Pakistan

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