

Dr. Tariq Rehman

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Cited by	All	Since 2020
Citations	246	217
h-index	8	7
i10-index	6	5

Personal Details

Gender	:	Male
Nationality	:	Pakistani
Google Scholar	:	https://scholar.google.com/citations?user=y_ITv1AAAAAJ&hl=en
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Scopus	:	https://www.scopus.com/authid/detail.uri?authorId=57190005164
Research Gate	:	https://www.researchgate.net/profile/Tariq-Rehman/publications
LinkedIn	:	linkedin.com/in/dr-tariq-rehman-94bab528

Profile

Accomplished educator and pioneering researcher with a PhD in Electrical Engineering. Demonstrated success in driving innovation, mentoring future leaders, and fostering academic excellence. Skilled in quality management with a strong focus on optimizing organizational efficiency and performance.

Awards and Honors

- **PhD Scholarship** of PKR 4.25 million received under the "Strengthening of NEDUET, Mega-M3" scheme to pursue a doctoral degree at Universiti Teknologi Malaysia (UTM), (2015-20).
- **Best Paper Award Finalist** recognized at the 17th Asia Simulation Conference organized by UTM and the Malaysian Simulation Society, (2017).
- **Best Paper Award Finalist** recognized at the 17th Asia Simulation Conference organized by UTM and the Malaysian Simulation Society.
- **Peer Review Recognition** received for participation in the review process at the International Bhurban Conference on Applied Sciences & Technology (IBCAST).
- **Organizer & Session Chair Memento** awarded at the 2nd International Conference on Emerging Trends in Electronic and Telecommunication Engineering at NEDUET.
- **Session Chair Memento** acknowledged at the 7th and 8th International Electrical Engineering Conferences at NEDUET.
- **Certificate of Participation** in the 1st Pak-German workshop on Field Robotics at Lahore University of Management Sciences (LUMS).
- **Certificate of Presentation** received at the 7th Electrical Engineering Research Colloquium held at UTM.
- **Professional Development Certificate** earned in the Professional Competency Enhancement Program for Teachers (PCEPT) by the Higher Education Commission (HEC).
- **Certificates of Participation** in various workshops including Student-Supervisor Relationship, Research Management, and CAD & 3D Printing at UTM.
- **Certificate of Participation** in SHEC 1st National Certified Reviewers (NCR) Training (Module 1).

Educational Credentials

Doctor of Philosophy Electrical Engineering Universiti Teknologi Malaysia (UTM), Malaysia	2015 – 2020
Master of Engineering Electronic Engineering NED University of Engineering & Technology, Karachi	2009 – 2012
Bachelor of Engineering Industrial Electronics Engineering NED University of Engineering & Technology, Karachi	2005 – 2008
Higher Secondary Certificate Board of Intermediate Education Karachi	2002 – 2004
Secondary School Certificate Board of Secondary Education Karachi	2000 – 2002

Professional Experience

Deputy Director Quality Enhancement Cell (QEC) NED University of Engineering & Technology, Karachi	2023 – till date
Assistant Professor Department of Electronic Engineering NED University of Engineering & Technology, Karachi	2020 – till date
Lecturer Department of Electronic Engineering NED University of Engineering & Technology, Karachi	2009 – 2020

Administrative Assignment

- Contributes towards enhancing the institution's ranking through evaluation of academic programs and assessing institutional performance.
- Conducts Internal Quality Audits and Health Safety and Environment Audits.
- Actively participates in various boards, including the Board of Faculty, Board of Review-QEC, and Board of Review-University.
- Conducts training programs for faculty and staff and undertakes additional tasks delegated by the Director QEC.
- Supervised numerous M.Eng. candidates, guiding them towards completion of their research endeavors.
- Supervised numerous B.Eng. students' Final Year Design Projects (FYDPs).
- Acted as a class advisor for B.Eng. students and served as the PLC and VLSI laboratory incharge.

Research Projects

- **Sindh HEC Research Support Programme** awarded PKR 1.8 million for the project "Smart IoT-enabled Ground Bird Farming" as Co-PI, (2022-24).
- **Co-Supervising PhD Scholar** in her PhD research, since 2024, Topic: Designing and development of efficient 3D colored mapping system using low cost laser scanning based sensor fusion technologies (PhD funding = Rs. 0.5 million).
- **Following Masters Project Thesis supervised:**
 - Developing an Architecture of SACDA/DCS Incorporating Industry 4.0 For Process Industry.
 - Analyze The Effect of Air Jet Assist Turbocharged On 8.7MW Islanded Genset with Stochastic Load Profile.
 - Development of Multilevel Inverter with MPPT Controller for Photovoltaic.
 - Simulation Based Optimization of an Energy Management System for Industrial Facility.
 - AI Based Energy Optimization Using Smart Camera.

Research Interests

- Soft robotics innovation.
- Mechanical optimization with FEA.
- Precision designing with SolidWorks®
- Advanced 3D printing for robotics.
- Microscale robotics with Photolithography.

Courses Taught

- Taught following undergraduate and master courses:

B.Eng. Courses

- Basic Electronics
- Digital Electronics
- Electronic Design and Workshop
- Electronic Devices and Circuits
- Instrumentation and Control
- Industrial Electronics
- Power Electronics

M.Eng. Courses

- Introduction to Mechatronics
- Introduction to MEMS
- Sensors and Systems
- Measurement & Calibration of Electronic Systems
- Data Acquisition and Microcontroller
- Adaptive Control System

Software and Equipment Proficiency

Software

- SolidWorks®
- MARC® Mentat
- Layout Editor
- Origin
- EndNote
- Microsoft Office Suite (Excel, Word, PowerPoint)

Equipment

- Roland® MDX-40A
- Flashforge® Dreamer
- PELCO® Mini Hot Vac
- Fisherbrand™ Ultrasonic Bath
- Laurell® WS-650MZ
- Heidelberg® µPG-101
- MIDAS® MDA-400M-6

Research Publications

- [1] Muruges, Sri Abinesh Pillal, Ili Najaa Aimi Mohd Nordin, Ahmad Athif Mohd Faudzi, Nurulaqilla Khamis, Noraishikin Zulkarnain, and Tariq Rehman. "Iot-Enabled Instrumented Glove for Real-Time Monitoring of Finger Pinch Strength." *Journal of Advanced Research in Applied Sciences and Engineering Technology* (2024).
- [2] Daud, Mohamad Khairul Aiman, Ili Najaa Aimi Mohd Nordin, Tuan Noor Hasanah Tuan Ismail, Effendy Adam, Noraishikin Zulkarnain, Muhammad Rusydi Muhammad Razif, and Tariq Rehman. "Development of Smart Chopper Composting Monitoring System." *Journal of Advanced Research in Applied Sciences and Engineering Technology* 42, no. 2 (2024): 197-208. <https://doi.org/10.37934/araset.42.2.197208>
- [3] Butt, Rizwan Aslam, Tariq Rehman, and Muhammad Amir Qureshi. "A Smart Iot-Enabled Cage for the Farming of Ground Birds." *Engineering Proceedings* 46, no. 1 (2023): 26. <https://doi.org/10.3390/engproc2023046026>
- [4] Rehman, Tariq, Asif Ahmed, Muhammad Shahzad Siddiqi, Asad Hayat, and Tehniyat Saeed. "Slum Terrain Mapping Using Low-Cost 2d Laser Scanners." *Elektronika ir Elektrotehnika* 29, no. 2 (2023): 19-27. <https://doi.org/10.5755/j02.eie.33884> (IF: 1.059)
- [5] Ghazali, Farah Afiqa Mohd, Md Nazibul Hasan, Tariq Rehman, Marwan Nafea, Mohamed Sultan Mohamed Ali, and Kenichi Takahata. "Mems Actuators for Biomedical Applications: A Review." *Journal of Micromechanics and Microengineering* 30, no. 7 (2020): 073001. <https://doi.org/10.1088/1361-6439/ab8832> (IF: 2.23)
- [6] Razif, Muhammad Rusydi Muhammad, Go Ling Zhi, Ili Najaa Aimi Mohd Nordin, Hairulazwan Hashim, Amirul Syafiq Sadun, and Tariq Rehman. "Bellow Soft Gripper for Agriculture." *International Journal* 9, no. 1.4 (2020). <https://doi.org/10.30534/ijatcse/2020/0191.42020>
- [7] Razif, Muhammad Rusydi Muhammad, Ahmad Athif Faudzi, Ili Najaa Aimi Mohd Nordin, Tariq Rehman, and Dyah Ekashanti Octorina Dewi. "Two-Chambers Soft Actuator Bending and Rotational Properties for Underwater Application." *Indonesian Journal of Electrical Engineering and Computer Science* 16, no. 2 (2019): 669-77. <https://doi.org/10.11591/ijeecs.v16.i2.pp669-677>
- [8] Rehman, Tariq, Marwan Nafea, Ahmad Athif Faudzi, Tanveer Saleh, and Mohamed Sultan Mohamed Ali. "Pdms-Based Dual-Channel Pneumatic Micro-Actuator." *Smart Materials and Structures* 28, no. 11 (2019): 115044. <https://doi.org/10.1088/1361-665X/ab4ac1> (IF: 3.453)
- [9] Nafea, Marwan, Mohamed Sultan Mohamed Ali, Tariq Rehman, and Kamyar Mehranzamir. "Geometrical Analysis of Diffuser-Nozzle Elements for Valveless Micropumps." Paper presented at the 2019 IEEE International Conference on smart instrumentation, measurement and application (ICSIMA), 2019. <https://doi.org/10.1109/ICSIMA47653.2019.9057345>
- [10] Nafea, Marwan, Zaharuddin Mohamed, Mohamed Sultan Mohamed Ali, Kamyar Mehranzamir, and Tariq Rehman. "Hybrid Pso-Tuned Pid and Hysteresis-Observer Based Control for Piezoelectric Micropositioning Stages." Paper presented at the 2019 IEEE International Conference on Smart Instrumentation, Measurement and Application (ICSIMA), 2019. <https://doi.org/10.1109/ICSIMA47653.2019.9057338>
- [11] Selvan, Krishna Veni, Tariq Rehman, Tanveer Saleh, and Mohamed Sultan Mohamed Ali. "Copper-Cobalt Thermoelectric Generators: Power Improvement through Optimized Thickness and

Sandwiched Planar Structure." *IEEE Transactions on Electron Devices* 66, no. 8 (2019): 3459-65. <https://doi.org/10.1109/TED.2019.2920898> (IF: 2.704)

- [12] Rehman, Tariq, Ahmad Athif Faudzi, Marwan Nafea, and Mohamed Sultan Mohamed Ali. "Pdms-Based Dual-Channel Pneumatic Microactuator Using Sacrificial Molding Fabrication Technique." Paper presented at the 2019 20th International Conference on Solid-State Sensors, Actuators and Microsystems & Eurosensors XXXIII (TRANSDUCERS & EUROSENSORS XXXIII), 2019. <https://doi.org/10.1109/TRANSDUCERS.2019.8808254>
- [13] Rehman, Tariq, Ahmad Athif Mohd Faudzi, Dyah Ekashanti Octorina Dewi, and Mohamad Sultan Mohamad Ali. "Design, Characterization, and Manufacturing of Circular Bellows Pneumatic Soft Actuator." *The International Journal of Advanced Manufacturing Technology* 93 (2017): 4295-304. <https://doi.org/10.1007/s00170-017-0891-z> (IF: 2.496)
- [14] Rehman, Tariq, Ahmad' Athif Mohd Faudzi, Dyah Ekashanti Octorina Dewi, and Mohamed Sultan Mohamed Ali. "Finite Element Analysis for Pdms Based Dual Chamber Bellows Structured Pneumatic Actuator." Paper presented at the Modeling, Design and Simulation of Systems: 17th Asia Simulation Conference, AsiaSim 2017, Melaka, Malaysia, August 27–29, 2017, Proceedings, Part I 17, 2017. https://doi.org/10.1007/978-981-10-6463-0_34
- [15] Nordin, INAM, AA Mohd Faudzi, MZ Kamarudin, Dyah Ekashanti Octorina Dewi, Tariq Rehman, and MRM Razif. "Grip Force Measurement of Soft-Actuated Finger Exoskeleton." *J. Teknol* 78, no. 6-13 (2016): 25-30. <https://doi.org/10.11113/jt.v78.9268>
- [16] Rehman, Tariq, AAM Faudzi, Dyah Ekashanti Octorina Dewi, K Suzumori, MRM Razif, and INAM Nordin. "Design and Analysis of Bending Motion in Single and Dual Chamber Bellows Structured Soft Actuators." *J. Teknol* 78 (2016): 17-23. <https://doi.org/10.11113/jt.v78.9267>

Memberships

- Registered Engineer, Pakistan Engineering Council (PEC) - Electro/11069.

References

- Available upon request.