Hamid Jabbar

Associate Professor

College of Electrical & Mechanical Engineering

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Contact: 0515170881
LinkedIn: https://www.linkedin.com/in/hamid-jabbar/

About

Dr. Hamid Jabbar is working as Associate Professor in the College of Electrical & Mechanical Engineering. Dr. Hamid Jabbar has a PhD in Piezoelectric Materials Applications, Low-Power Energy Harvesting. Dr. Hamid Jabbar has published 46 research articles & conference papers having a citation count of 856, carried out 8 projects and filed 2 intellectual property.

Qualifications

PhD in Piezoelectric Materials Applications, Low-Power Energy Harvesting 2013 - 2017
Hanyang University , Korea

MS in Circuit Design 2006 - 2008
Myongji University , Korea

BE in Mechatronics 1998 - 2002
NUST, Islamabad , Pakistan

Experience

Associate Professor 2019- Present
College of Electrical & Mechanical Engineering

Assistant Professor 2018 - 2019
College of Electrical & Mechanical Engineering

Research Assistant Professor 2017 - 2018
Hanyang University , 222, Wangsimni-ro, Songdong-Gu, Seoul, South-Korea

Design Engineer 2002 - 2003
SoftwareSoft , 78, Street No. 45, F-10/4 , Islamabad

Manager / Assistant Manager 2002 - 2013
National Development Complex (NDC/NESCOM) , Plot No. 94, Sector H-11/4, Islamabad

Awards

Toyota Award 2002
Our team was awarded TOYOTA AWARD in ABU-ROBOCON Robot Contest in 2002, Japan

Professional Memberships

PEC Since 2005

Research Projects

National Projects

INDIGENO US DEVELOPMENT OF SENSOR OF PAP 104 FUZE 2024

Funding Agency: Pakistan NAVY through NHL and DRD
Amount: PKR 4,670,000.00
Status: Approved_inprocess

Development of Piezoelectric Actuators for rotation rate Sensor 2023

Funding Agency: NESCOM
Amount: PKR 750,000.00
Status: Approved_inprocess

Industrial ultrasonic actuators based on piezoelectric materials for ultrasonic welding machines 2025

Funding Agency: Pakistan Science Foundation (PSF)
Amount: PKR 7,356,600.00
Status: Approved_inprocess

Multirobot automation system for manufacturing (Composite layup manufacturing) 2023

Funding Agency: NUST
Amount: PKR 22,000,000.00
Status: Completed

FUNCTIONAL REPLACEMENT OF THE HE FUZE'S SHOCK WAVE DETECTOR OF UNDERWATER VEHICLE PAP-104 THROUGH INDEGNOUS DEVELOPMENT

Funding Agency: Pakistan Navy
Amount: PKR 4,670,000.00
Status: Approved_inprocess

Development of lab/pilot scale facilities for the production of piezoelectric material for multilayer energy devices 2021

Funding Agency: HEC
Amount: PKR 19,940,000.00
Status: Completed

Indigenous Approach for Development of Pizoelectric Devices 2020

Funding Agency: National Centre of Robotics and Automation (NCRA)
Amount: PKR 14,317,500.00
Status: Completed

Battery-Less and Wireless Monitoring System for Industrial Conveyor Belt 2019

Funding Agency: HEC
Amount: PKR 500,000.00
Status: Completed

International Projects

Research Articles

Applications of piezoelectric-based sensors, actuators, and energy harvesters 2025

Hassan Elahi Hamid Jabbar Anas Bin Aqeel Ahsan Ali Aasia Farrukh Saira Bibi Wael A. Altabey Sallam A. Kouritem Mohammad Noori Mohammad Ali
Sensors and Actuators Reports, Volume 9, Article Number 100302

Impact Factor: 6.500 | **Quartile:** 1 | **Citations:** 2
DOI: https://doi.org/10.1016/j.snr.2025.100302

Development of a Capacitive-Piezoelectric Tactile Force Sensor for Static and Dynamic Forces Measurement and Neural Network-Based Texture Discrimination 2025

Maira Ehsan Mughal Muhammad Rehan Muhammad Mubasher Saleem Masood Ur Rehman Hamid Jabbar Rebecca Cheung
IEEE Sensors Journal, Volume:25, Issue:7, Pages 11944-11954

Impact Factor: 4.300 | **Quartile:** 1 | **Citations:** 3
DOI: https://doi.org/10.1109/JSEN.2025.3542498

Enhancing Ocular Precision: A Tactile Force Feedback-Enabled Handheld Cyclodialysis Spatula for Eye Surgery 2025

Adeel Arshad Muhammad M. Saleem Hamid Jabbar Muhammad Osama Ali Mohsin Islam Tiwana Rebecca Cheung
IEEE Sensors Journal, Volume 25, No. 2, Article Number 3220-3229

Impact Factor: 4.300 | **Quartile:** 1
DOI: https://doi.org/10.1109/JSEN.2024.3494875

Mental Fatigue Classification Aided by Machine Learning-Driven Model under the Influence of Foot and Auditory Binaural Beats Brain Massage Via fNIRS 2024

Umar Shahbaz Khan Nazo Haroon Taikyeong Ted. Jeong Noman Naseer Hamid Jabbar
IEEE Access , Volume 12, Pages 187160-187191
Impact Factor: 3.400 | **Quartile:** 2
DOI: 10.1109/ACCESS.2024.3508875

A capacitive tactile force sensor with mutual fringe effect and parallel plate design for robot assisted surgery 2024

Adeel Arshad Muhammad Mubasher Saleem Faraz Javaid Hamid Jabbar
Journal of Applied Physics, Volume:136, Issue:22, Pages:09
Impact Factor: 2.7 | **Quartile:** 2
DOI: https://doi.org/10.1063/5.0232076

Optimization of z-scheme Bi0.5Na0.5TiO3/RGO-Co3O4 composite catalyst for water splitting reaction through piezo-photocatalysis 2024

Farah Mumtaz Hamid Jabbar Muhamad Zubair Khan Abdul Ghaffar Abrar H. Baluch Sofia Javed Tayyaba Noor Zeeshan Ali Jung Hyuk Koh Mohsin Saleem
International Journal of Hydrogen Energy, Volume 78, Pages 1468-1480
Impact Factor: 8.100 | **Quartile:** 1 | **Citations:** 13
DOI: https://doi.org/10.1016/j.ijhydene.2024.06.387

A comprehensive deep learning approach for harvest ready sugarcane pixel classification in Punjab, Pakistan using Sentinel-2 multispectral imagery 2024

Sidra Muquddas Waqar Shahid Qureshi Hamid Jabbar Arslan Munir Azeem Haider
Remote Sensing Applications: Society and Environment
Impact Factor: 4.5 | **Quartile:** 2
DOI: https://doi.org/10.1016/j.rsase.2024.101225

Z-Number-Based Fuzzy Logic Approach for Mobile Robot Navigation 2023

Osama Ali Khan Kunwar Faraz Ahmed Khan Umar Shahbaz Khan Hamid Jabbar
IEEE Access , Volume 11, Pages 131979-131997
Impact Factor: 3.9 | **Quartile:** 2 | **Citations:** 1
DOI: 10.1109/ACCESS.2023.3336014

Optimum Driving of Ultrasonic Cleaner Using Impedance and FFT Analysis with Validation of Image Processing of Perforated Foils 2023

Muhammad Usman Khan Faisal Rehman Mohsin Saleem Hassan Elahi Tae Hyun Sung Hamid Jabbar
Applied Sciences , Volume: 13, Issue: 12, Article Number: 6991
Impact Factor: 2.838 | **Quartile:** 2 | **Citations:** 3
DOI: 10.3390/app13126991

Enhanced Ferroelectric and Dielectric Properties of Niobium-Doped Lead-Free Piezoceramics 2023

Faysal Naeem Mohsin Saleem Hamid Jabbar Gulraiz Tanvir Fiza Asif Abrar H Baluch Muhammad Irfan Abdul Ghaffar Adnan Maqbool Tayyab Rafiq
Materials , Volume 16(2), Article Number 477
Impact Factor: 3.748 | **Quartile:** 1 | **Citations:** 9
DOI: https://doi.org/10.3390/ma16020477

Study of ferroelectric and piezoelectric response of heat-treated surfactant-based BaTiO3 nanopowder for high energy capacitors 2023

Gulraiz Tanvir Mohsin Saleem Hamid Jabbar Amir Hamza Muhammad Asif Hussain Muhammad Zubair Khan Abrar H. Baluch Muhammad Irfan Muhammad Shoaib Butt Faysal Naeem Abdul Ghaffar Muhammad Ahsan Muhammad Asif Rafiq Rizwan Ahmed Malik Adnan Maqbool
Materials Science and Engineering B , Volume 287, Article Number 116100
Impact Factor: 3.407 | **Quartile:** 2 | **Citations:** 9
DOI: https://doi.org/10.1016/j.mseb.2022.116100

Process Parameter Optimization of Additively Manufactured Parts using Intelligent Manufacturing 2022

Rizwan Ur Rehman Uzair Khaleeq uz Zaman Shahid Aziz Hamid Jabbar Adnan Shujah Shaheer Khaleequzzaman Amir Hamza Usman Qamar Dong Won Jung
Sustainability , Volume 14(22), Article Number 15475
Impact Factor: 3.889 | **Quartile:** 2 | **Citations:** 4
DOI: https://doi.org/10.3390/su142215475

Ambient Light Energy Harvesting and Numerical Modeling of Non-Linear Phenomena 2022

Hamid Jabbar Taikyeong Ted Jeong

Applied Sciences , Volume 12, Issue 4, Article Number 2068

Impact Factor: 2.9 | **Quartile:** 2 | **Citations:** 7

DOI: https://doi.org/10.3390/app12042068

A new method for pixel classification for rice variety identification using spectral and time series data from Sentinel-2 satellite imagery 2022

Usman Rauf Waqar Shahid Qureshi Hamid Jabbar Ayesha Zeb Alina Mirza Eisa Alanazi Umar Shahbaz Khan Nasir Rashid

Computers and electronics in agriculture, Volume 193, Article Number 106731

Impact Factor: 5.565 | **Quartile:** 1 | **Citations:** 16

DOI: https://doi.org/10.1016/j.compag.2022.106731

Improved super capacitive performance of hydrothermally developed Mn and Ni oxides along with activated carbon as ternary nanocomposite 2022

Faiza Khalid Mohsin Saleem Hamid Jabbar Muhammad Gulraiz Tanvir Muhammad Shoaib Butt Abrar H. Baluch Abdul Ghaffar Muhammad Ahsan Rizwan Ahmed Malik Umit Alver Hussein Alrobei Zab dur Rehman Meshal Alzaid Muhammad Zubair Khan

Journal of Physics and Chemistry of Solids, Volume 161, Article Number 110467

Impact Factor: 3.995 | **Quartile:** 2 | **Citations:** 11

DOI: https://doi.org/10.1016/j.jpcs.2021.110467

A novel approach of overtaking maneuvering using modified RG method 2022

Usman Ghumman Hamid Jabbar Mohsin Islam Tiwana Kunwar Faraz Ihsan Ullah Khalil

PLoS One , Volume 17(1), Pages e0260455

Impact Factor: 3.240 | **Quartile:** 2 | **Citations:** 2

DOI: https://doi.org/10.1371/journal.pone.0260455

Percolation phenomena of dielectric permittivity of a microwave-sintered BaTiO3–Ag nanocomposite for high energy capacitor 2020

Mohsin Saleem Muhammad Shoaib Butt Adnan Maqbool Malik Adeel Umer Muhammad Shahid Farhan Javaid Rizwan Ahmed Malik Hamid Jabbar Hafiz Muhammad Waseem Khalil Lim Dong Hwan Minsoo Kim Bo-Kun Koo Soon Jong Jeong

Journal of Alloys and Compounds, Volume 822, Article Number 153525

Impact Factor: 5.316 | **Quartile:** 1 | **Citations:** 29

DOI: https://doi.org/10.1016/j.jallcom.2019.153525

Self-Powered Operational Amplifying System with a Bipolar Voltage Generator Using a Piezoelectric Energy Harvester 2019

Hamid Jabbar Se Yeong Jeong Jae Yong Cho Seong Do Hong Wonseop Hwang Jung Hwan Ahn Jeong Pil Jhun Tae Hyun Sung

Electronics , Electronics 2020

Impact Factor: 2.412 | **Quartile:** 2 | **Citations:** 6

DOI: https://doi.org/10.3390/electronics9010041

Optimized composite piezoelectric energy harvesting floor tile for smart home energy management 2018

Kyung-BumKim Jae Yong Cho Hamid Jabbar Jung Hwan Ahn Seong Do Hwan Sang Bum Woo Tae Hyun Sung

Energy Conversion and Management , Volume: 171 Pages: 31-37

Impact Factor: 7.181 | **Quartile:** 1 | **Citations:** 84

DOI: 10.1016/j.enconman.2018.05.031

Design of Optimized Cantilever Form of a Piezoelectric Energy Harvesting System for a Wireless Remote Switch 2018

Jae YongCho Kyung-BumKim Hamid Jabbar Sin WooJeong Jung Hwan Ahn Won Seop Hwang Se YeongJeong Haimoon Cheong Hong Hee Yoo Tae HyunSung

Sensors and Actuators A-Physical , Volume 280, Pages 340-349

Impact Factor: 2.739 | **Quartile:** 2 | **Citations:** 19

DOI: 10.1016/j.sna.2018.07.023

Sustainable micro-power circuit for piezoelectric energy harvesting tile 2017

Hamid Jabbar Seong Do Hwang Seong Kwang Hong Chan Ho Yang Se Yeong Jeong Tae Hyun Sung

Integrated Ferroelectrics , Volume 183, Issue 1, Pages 193-209

Impact Factor: 0.367 | **Quartile:** 4 | **Citations:** 17

DOI: 10.1080/10584587.2017.1376964

Piezoelectric energy harvester impedance matching using a piezoelectric transformer 2017

Hamid Jabbar Hyun Jun Jung Nan Chen Dae Heung Cho Tae Hyun Sung

Sensors and Actuators A-Physical , Volume 264, Pages 141-150

Impact Factor: 2.311 | **Quartile:** 2 | **Citations:** 29
DOI: https://doi.org/10.1016/j.sna.2017.07.036

A piezoelectric impact-induced vibration cantilever energy harvester from speed bump with a low-power power management circuit 2017

Nan Chen Hyun Jun Jung Hamid Jabbar Tae Hyun Sung Tingcun Wei

Sensors and Actuators A:Physical, Volume: 254 Pages: 134-144 Published: FEB 1 2017

Impact Factor: 2.311 | **Quartile:** 2 | **Citations:** 96
DOI: 10.1016/j.sna.2016.12.006

Piezoelectric energy harvesting system with magnetic pendulum movement for self-powered safety sensor of trains 2016

Jae Yong Cho Sinwoo Jeong Hamid Jabbar Yewon Song Jung Hwan Ahn Jeong Hun Kim Hyun Jun Jung Hong Hee Yoo Tae Hyun Sung

Sensors and Actuators A-Physical, Volume 250, Pages 210-218

Impact Factor: 2.499 | **Quartile:** 1 | **Citations:** 60
DOI: 10.1016/j.sna.2016.09.034

Design of a multi-array piezoelectric energy harvester for a wireless switch 2016

Se Yeong Jeong Hyun Jun Jung Hamid Jabbar Seong Kwang Hong Jung Hwan Ahn Tae Hyun Sung

International Journal of Hydrogen Energy, Volume 41, Issue 29, Pages 12696-12703, Special Issue SI

Impact Factor: 3.582 | **Quartile:** 1 | **Citations:** 13
DOI: 10.1016/j.ijhydene.2016.03.077

Hybrid-type (d33 and d31) impact-based piezoelectric hydroelectric energy harvester for watt-level electrical devices 2016

Hyun Jun Jung Hamid Jabbar Yooseob Song Tae Hyun Sung

Sensors and Actuators A-Physical, Volume 245, Pages 40-48

Impact Factor: 2.499 | **Quartile:** 1 | **Citations:** 18
DOI: 10.1016/j.sna.2016.04.013

Non-resonant piezoelectric transformer based power converter for ultra-low-power electronic devices 2016

Hamid Jabbar Hyun Jun Jung Jae Yong Cho Tae Hyun Sung

Sensors and Actuators A-Physical, Volume 244, Pages 86-94

Impact Factor: 2.499 | **Quartile:** 1 | **Citations:** 3
DOI: 10.1016/j.sna.2016.04.001

Design of piezoelectric energy harvester with additional springs for varying stiffness of module 2015

Seong Kwang Hong Chan Ho Yang Hamid Jabbar Min Sik Woo Daniel Song Tae Hyun Sung

Journal of Electroceramics, Volume 35, Issue 1-4, Pages 11-18

Impact Factor: 1.263 | **Quartile:** 2 | **Citations:** 7
DOI: 10.1007/s10832-015-9986-9

Energy Harvesting Technique by Using Novel Voltage Multiplier Circuits and Passive Devices 2013

Hamid Jabbar Sungju Lee Taikyeong Jeong Kyeon Hur

IEICE Transactions on Electronics, Volume E96C, Issue 5, Pages 726-729

Impact Factor: 0.389 | **Quartile:** 4 | **Citations:** 5
DOI: 10.1587/transele.E96.C.726

A Novel Sensing Method and Sensing Algorithm Development for a Ubiquitous Network 2010

Hamid Jabbar Sungju Lee Seunghwan Choi Seunghyun Baek Sungwook Yu Taikyeong Jeong

Sensors, Volume 10, Issue 9, Pages 8129-8142

Impact Factor: 1.774 | **Quartile:** 1 | **Citations:** 6
DOI: 10.3390/s100908129

RF Energy Harvesting System and Circuits for Charging 1 of Mobile Devices 2010

Hamid Jabbar Young. S. Song Taikyeong Ted Jeong

IEEE Transactions on Consumer Electronics, Volume 56, Issue 1, Pages 247-253

Impact Factor: 1.057 | **Quartile:** 2 | **Citations:** 344
DOI: 10.1109/TCE.2010.5439152

Viewer Identification and Authentication in IPTV using RFID Technique 2008

Hamid Jabbar Taikyeong Ted Jeong Jun Hwang Gyungleen Park

IEEE Transactions on Consumer Electronics, Volume 54, Issue 1, Pages 105-109

Impact Factor: 0.985 | **Quartile:** 2 | **Citations:** 37
DOI: 10.1109/TCE.2008.4470031

Conference Proceedings

Assistive Feeding System: Design and Evaluation 2024

Usama Jahangir Wajid Ali Muhammad Fahad Amir Mohsin Islam Tiwana Hamid Jabbar

2024 International Conference on Robotics and Automation in Industry (ICRAI), res.country(177,)

Citations: N/A

DOI: 10.1109/ICRAI62391.2024.10894327

Robust State of Charge Estimation of Lithium-Ion Batteries Using a Nonlinearity-Aware PID Observer 2024

Hafiz Muhammad Jawaad Muhammad Saeed Hamid Jabbar Anjum Naeem Malik Hassan Elahi Umar Shahbaz Khan

2024 International Conference on Robotics and Automation in Industry (ICRAI), res.country(177,)

Citations: N/A

DOI: 10.1109/ICRAI62391.2024.10894055

Design of Olive Pitting Machine 2021

Ahmed Faizan Tariq Eisha Gul Manahil Shahid Amir Hamza Hamid Jabbar Umar Shahbaz Khan

IEEE, 2021 International Conference on Robotics and Automation in Industry (ICRAI), res.country(177,)

Citations: N/A

DOI: 10.1109/ICRAI54018.2021.9651337

Efficient Edge Server Computing on a Scaled IoT Based Sensory Network 2021

Syed Asad Amin Mujtaba Rafique Ghotu Umar Shahbaz Khan Hamid Jabbar

IEEE, 2021 International Conference on Robotics and Automation in Industry (ICRAI), res.country(275,)

Citations: N/A

DOI: 10.1109/ICRAI54018.2021.9651429

Enhancement of electrochemical properties of Niobium Doped lead free piezoceramic material for energy harvesting applications 2021

Faysal Naeem Mohsin Saleem Tayyab Rafiq Hamid Jabbar

The international conference on advances in chemical engineering and science (ICACES), res.country(177,)

Citations: N/A

DOI: Nil

Self-Start Piezoelectric Energy Harvesting Circuit With Adjustable UVLO Converter for Wireless Sensor Network 2017

Jung, H.J. Lee, S hamid Jabbar Jeong, S.Y. Sung, T.H

ASME 2017 Conference on Smart Materials, Adaptive Structures and Intelligent Systems, res.country(233,)

Citations: N/A

DOI: https://hanyang.elsevierpure.com/en/publications/self-start-piezoelectric-energy-harvesting-circuit-with-adjustabl

Using tuning fork as piezoelectric energy harvester 2015

Hamid Jabbar Jae Young Cho Jung Hwan Ahn Tae Hyun Sung

3rd international conference on advanced electromaterials (ICAE), res.country(121,)

Citations: N/A

DOI: http://2015.icae.kr/icae2015/pdf/FP/FP-593.pdf

Ethernet-based Communication Architecture Design and Fault-Tolerant System 2012

Hysunshin Lee Hamid Jabbar Sungju Lee Saejeong Choi Taikyeong Jeong

IMECS 2012, International MultiConference of Engineers and Computer Scientists 2012, IMECS 2012, res.country(94,)

Citations: N/A

DOI: ISBN: 978-988-19251-9-0

Wirelessly charging mobile devices from ambient RF sources 2010

Hamid Jabbar Youngseok Song Taikyeong Ted. Jeong

2010 Digest of Technical Papers International Conference on Consumer Electronics (ICCE), res.country(233,)

Citations: N/A

DOI: 10.1109/ICCE.2010.5418717

RFID Connectivity with STB for Viewer Identification in IPTV 2008

Hamid Jabbar Taikyeong Jeong Jun Hwang Humor Hwang Gyungleen Park

International Conference on Consumer Electronics (ICCE), res.country(233,)

Citations: N/A

DOI: 10.1109/ICCE.2008.4587950

Optimum Sensing Technique and Approach for Low Power Consumption Network 2007

Hamid Jabbar Taewan Kim Jin-Suk Kang Jangho Lee Hyosik Yang Meeyoung Sung Gyunleen Park Taikyeong Jeong

5th ACIS International Conference on Software Engineering Research, Management & Applications (SERA 2007), res.country(121,)

Citations: N/A

DOI: https://doi.org/10.1109/SERA.2007.103

Book Chapters

RFID System Integration 2010

Hamid Jabbar Taikyeong Ted. Jeong

In: *Radio Frequency Identification Fundamentals and Applications Bringing Research to Practice*, Chapter:15, Pages:211-228

Citations: N/A

DOI: https://doi.org/10.5772/8000

Editorial Activities

2019

Reviewed Papers for Journals

Impact Factor: 0.975

2019

Reviewed Papers for Journals

Impact Factor: 0.975

2019

Reviewed Papers for Journals

Impact Factor: 4.098

2018

Reviewed Papers for Journals

Impact Factor: 0.975

2018

Reviewed Papers for Journals

Impact Factor: 0.975

Intellectual Property

Copyrights

Patents

An Apparatus for Lead-mono-Oxide Manufacturing 2022

Status: Licensed Filed

Industrial Designs

Trademarks

Matentx Class 09 2023

Status: Licensed Filed