

# CONFERENCE PROGRAM

DAY 1 (17th October 2024)			
08:30	Registration		
09:15	Guests to be seated		
09:30	Arrival of the Chief Guest		
09:35	National Anthems		
09:40	Recitation from the Holy Quran & Naat		
09:45	Welcome Remarks by the Conference Chair		
09:50	Introduction and Invitation to guest speaker by Conference Chief Organizer		
10:00	Keynote address title “Advantages and Challenges of 3D Printed Components for Aerospace Applications *by International Speaker, <b>Prof. Dr. Lida Shen</b> (College of Mechanical and Electrical Engineering, Nanjing University of Aeronautics & Astronautics (NUAA), Nanjing, China)		
10:30	Address by the Vice Chancellor / Patron in Chief		
10:35	Address by the Chief Guest		
10:40	Presentation of shields and Group Photo		
10:50	<b>Refreshment / Tea Break</b>		
	<b>Keynote Talks</b>		
Time	Speaker Name	Title	Location
11:20	<b>Prof. Dr. Muhammad Tufail</b> NED University of Engineering and Technology, Karachi	Advancement in sustainable composites embedded with smart electronics	Multipurpose (MP) Hall
11:50	<b>Prof. Dr. Mehmet Karahan</b> uludag University, Turkey	Effect of ZnO Filler Modification on Aging and Mechanical Properties of Carbon-Epoxy Composites	Multipurpose (MP) Hall
12:20	<b>Prof. Dr. Yasir Nawab</b> School of Engineering and Technology, National Textile University, Pakistan	Composite Materials Research and Applications: A Focus on Global Trends and the Landscape in Pakistan	Multipurpose (MP) Hall
12:50	<b>Dr. Mohsin Haider</b> Engineering Leader /Country-Director Turkish Aerospace	Applications of advanced composite materials towards aerostructure design and manufacturing	Multipurpose (MP) Hall
13:20	Presentation of shields & Group Photo		
13:30	<b>Lunch &amp; Prayer Break</b>		
	<b>Keynote Talks</b>		
Time	Speaker Name	Title	Location
14:30	<b>Dr. Mohsin Ali Raza</b> Professor Institute of Metallurgy and Materials Engineering Faculty of Chemical and Materials Engineering University of the Punjab, Lahore, Pakistan	Graphene Oxide: From Coatings to Composites and Beyond	MP Hall UET Taxila

14:30	<b>Prof. Dr. Nadeem Ahmed Sheikh</b> Department of Mechanical Engineering, International Islamic University, Islamabad, Pakistan	Efficient Techniques to Recover Power from Waste Using CO <sub>2</sub> As Working Fluid	Conference Room Energy Engineering Department
14:30	<b>Prof. Dr. Umar Shahbaz</b> Director/chairman National Center of Robotics and Automation, EME, NUST	Navigating Tomorrow: Pakistan's Robotic Odyssey	Conference Room Electrical Engineering Department
15:00	<b>Prof. Dr. Rizwan Mehmood Gul</b> Faculty of Mechanical, Chemical and Industrial Engineering University of Engineering and Technology, Peshawar	Advance in Use of UHMWPE in Total Joint Replacement	Multipurpose (MP) Hall
15:30	<b>Dr. Hafiz Muhammad Ali</b> Mechanical Engineering Department, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia	Advancement in Sustainable Composites with Smart Electronics	Multipurpose (MP) Hall
15:00 to onward	<b>Paper Presentations</b> Mechanical Engineering session: MP Hall UET Taxila & Conference Room Mechanical Engineering Department Materials Engineering session: Conference Room Mechanical Engineering Department Energy Engineering session: Conference Room Energy Engineering Department Mechatronics Engineering session: Conference Room Electrical Engineering Dept		
<b>Presentation of shields and Group Photo</b>			
<b>DAY 2 (18th October 2024)</b>			
08:30	Registration		
09:15	Guests to be seated		
09:30	Recitation from the Holy Quran		
09:40	Welcome remarks by Conference Chair/ Chief organizer		
<b>Keynote Talks</b>			
<b>Time</b>	<b>Speaker Name</b>	<b>Title</b>	<b>Location</b>
09:50	<b>Prof. Dr. Muslum Arici</b> Kocaeli University, Mechanical Engineering Department, Turkey	Role of phase change materials in sustainable development goals: Performance evaluation indexes and performance comparison with conventional methods	Multipurpose (MP) Hall
10:20	<b>Prof. Ir. Dr. Mohd Sapuan Salit</b> (Department of Mechanical and Manufacturing Engineering,	Recent Advances in Biocomposites in Engineering Applications: Piezoelectric Sensor and Electric Vehicles Battery Casing	Multipurpose (MP) Hall

	University Putra Malaysia)		
10:50	<b>Prof. Dr. Emad ud Din (SMME-NUST)</b>	Interactions Between Fluids and Flexible Bodies: Engineering Insights from Nature	Multipurpose (MP) Hall
11:20	Presentation of shields & Group Photo		
11:30	<b>Refreshment / Tea Break</b>		
11:50	<b>Poster Presentations</b>		
	<b>Keynote Talks</b>		
<b>Time</b>	<b>Speaker Name</b>	<b>Title</b>	<b>Location</b>
12:20	<b>Prof. Dr. Muhammad Abid</b> Mechanical Engineering department, Comsats Wah	Sedimentation - A Threat to Water-Energy-Food Nexus	Multipurpose (MP) Hall
12:20	<b>Dr. Taqi Ahmed Cheema</b> Dean, Faculty of Mechanical Engineering, GIK Institute of Engineering Sciences and Technology	Tessellations in Thermal Energy Systems	Conference Room Mechanical Engineering Department
12:20	<b>Dr. Hafiz Farhan Maqbool</b> Chairman Department of Mechanical, Mechatronics, and Manufacturing Engineering	Objective Evaluation of Lower Limb Amputees using Inertial Measurement Units	Conference Room Electrical Engineering Department
12:20	<b>Prof. Dr. Khurram Pervez</b> Mechanical Engineering Department, Mirpur University of Science & Technology	Energy Consumption in Pakistani Residential Buildings: Insights from Degree Days Analysis and Appliance Consumption Patterns	Conference Room Energy Engineering Department
12:50	<b>Lunch &amp; Prayer Break</b>		
14:15	Keynote address by: <b>Prof. Dr. Shahab Khushnood</b> Venue: MP Hall UET Taxila		
	Keynote address by: <b>Prof. Dr. Adeel Waqas (USPCASE-NUST)</b> Title of talk: Thermal Management of the Batteries for Electric Vehicles Venue: Conference Room Energy Engineering Department		
14:30	Keynote address by: <b>Prof. Dr. Muhammad Ramazan Karim</b> Department of Materials Science and Engineering – GIKI Title of talk: Empowering Energy Storage: Unveiling the Potential of Transition Metal Based electrode materials for Supercapacitors Venue: Conference Room Mechanical Engineering Department		
<b><u>Technical session: Mechanical Engineering</u></b>			
<b>Day -1</b>			
Date: 17 <sup>th</sup> October 2024 (Thursday)			
Time: 11:30 am – 1:30 pm			
Venue: Conference Room, Mechanical Engineering Department			
<b>Paper ID</b>	<b>Paper Title</b>	<b>Presenting Author</b>	<b>Time (PST)</b>
Mechanical-Research-114	Numerical, Structural and Thermal Investigation of Multiple Configurations of Super Insulated Cryogenic pipe for Liquid Nitrogen	Syed Yousaf Raza	11:30-11:50

Mechanical-Research- 107	Electromagnetic Testing: Prospects And Advancements for Industrial Inspections	Muhammad Tayyab	11:50-12:10
Mechanical-Research-181	Optimization analysis of innovative counter flow spiral absorber tubes for thermal management of photovoltaic modules	Muhammad Danyal	12:10-12:30
Mechanical-Research-101	Incorporating Power Law for Estimation of maximum strain	Faizan Ali	12:30-12:50
Mechanical-Research- 106	Quantitative Assessment of Ground Penetrating Radar For Concrete Structure Integrity	Athar Chandio	12:50-1:10
Mechanical-Research-115	Design And Development of Solar Assisted Hybrid Bicycle	Mamoon Ahmad Khilji	1:10-1:30

### Day -1

Date: 17<sup>th</sup> October 2024 (Thursday)

Time: 03:00 pm – 05:20 pm

Venue: Multipurpose (MP) Hall, UET Taxila

Paper ID	Paper Title	Presenting Author	Time (PST)
Mechanical-Research-111	Experimental Investigation of Tensile Behavior for Hybrid Composites: Effects of Hole And Stacking Sequences	Shahid Iqbal	3:00-3:20
Mechanical-Research-124	Performance Analysis Of V-Trough Concentrator	Amnah Kamran, Azan Ijaz	3:20-3:40
Mechanical-Research-132	Comparison of Different Reverse Engineering Techniques used for the Fabrication of Total Hip Joint System	Mohsin Hayat	3:40-4:00
Mechanical-Research-155	A Study on Flow Induced Vibrations Behavior of Finned Tube Heat Exchanger: An Experimental Approach	Waqas Javid	4:00-4:20
Mechanical-Research-176	Topology Optimization of Bell Crank Lever Using FEA	Saghar Ali Rabbani	4:20-4:40
Mechanical-Research- 151	Experimental Identification of Campbell Diagram Of A Flexible Rotor Using Active Magnetic Bearings	Muhammad Saad Fasih	4:40-5:00
Mechanical-Research-141	Improvement in Shear properties of Fused Filament Fabrication printed polymers through process parameters optimization.	Wajid Ali Khan	5:00-5:20

### Day -2

Date: 18<sup>th</sup> October 2024 (Friday)

Time: 10:20 am – 12:00 pm

Venue: Conference Room, Mechanical Engineering Department

Paper ID	Paper Title	Presenting Author	Time (PST)
Mechanical-Research-144	Enhancing Mint Yield through IoT-Integrated Vertical Hydroponic Systems: A Sustainable Solution for Future Agriculture	Sardar Muhammad Aneeq Khan	10:20-10:40
Mechanical-Research- 102	Supply Chain Management in Oil & Gas Field in Pakistan-Challenges and Solutions	Obaid Ur Rehman	10:40-11:00
Mechanical-Research- 121	FEM Based Complex Multivariate Random Vibration Fatigue Life Prediction of a Tracked Vehicle Balance Arm Using Various Road Surface Profiles	Engr. Yasir Hamid	11:00-11:20

Mechanical-Research- 142	Finite element analysis of synthetic and natural fiber composites with different stacking sequences to improve mechanical properties	Wajid Ali Khan	11:20-11:40
Mechanical-Research-148	Review on aspect of erosive wear of bend pipe in multiphase flow	Muhammad Ahsan Ayub	11:40-12:00

### Day -2

Date: 18<sup>th</sup> October 2024 (Friday)

Time: 02:40 pm – 04:00 pm

Venue: Multipurpose (MP) Hall, UET Taxila

Paper ID	Paper Title	Presenting Author	Time (PST)
Mechanical Research- 109	Finite Element Analysis of Portable Grain Segregation System	Muhammad Huzaifa Ansari	2:40-3:00
Mechanical Research-185	Eco-Transient Revolution: Design and Fabrication of Three Wheeled Reverse Trike Vehicles	Waqas Javed	3:00-3:20
Mechanical-Research-188	Effect of Pressure on Rough Piston Skirt in Iso-Thermal Hydrodynamic Lubrication Case for High Torque Low Speed Diesel Engine	Engr Arslan hafeez	3:20– 3:40
Mechanical-Research-187	Unmanned Under Water Vehicle (UUV) Pressure Hull Design using Composite Materials.	Muzammal hussain	3:40 – 4:00.

### Technical session: Materials Engineering

### Day -1

Date: 17<sup>th</sup> October 2024 (Thursday)

Time: 03:00 pm – 05:20 pm

Venue: Conference Room, Mechanical Engineering Department

Paper ID	Paper Title	Presenting Author	Time (PST)
Materials-Research-108	Parametric Optimization and Comparison of Digital Radiography with Conventional Radiographic Testing	Maryum Abdul Rehman	3:00-3:20
Material-Research-134	Estimation Of Creep Behavior of CFRP Composite Under Hoop Stress Through ASTM D2290 And Accelerated Testing Methodology	Azaz Ullah	3:20-3:40
Material-Review-183	Recent Advances in Energy Materials for Sustainable Energy Materials	Ali Hassan, Fatima Azhar, Arfa Ghaffar, Furqan Ahmed, Ehsan Ul Haq	3:40 – 4:00
Material-Research-133	Crosslinking Of VE/UHMWPE: A Path to Superior Wear Resistance in Total Joint Replacement	Muhammad Kaleem Ullah Khalil	4:00-4:20
Material-Review-182	Corrosion Inhibition Through Biofilms: A Comprehensive Review	Aqsa Saeed, Maheen Siddiqui and Musa Raja. Dr. Ehsan Ul Haq	4:20-4:40
Material-Research-131	Evaluating The Influence of Sic Coating on Surface Characteristics Of UHMWPE	Muhammad Tahir	4:40-5:00

Material-Research-143	Effect of Ag exchanged zeolite for the capture of MeI for the protection of environment from accidental NPP Releases	Talhat Yaqoob	5:00-5:20
<p><b>Day -2</b>  Date: 18<sup>th</sup> October 2024 (Friday)  Time: 02:40 pm – 03:40 pm  Venue: Conference Room, Mechanical Engineering Department  Session Title: Materials Engineering</p>			
Paper ID	Paper Title	Presenting Author	Time (PST)
Materials-Research-126	Experimental Investigation of Mechanical Properties of Biodegradable Polymer Composite for Artificial Orthopedic Implants	Muhammad Faisal	2:40-3:00
Materials-Research-150	Assessment Of Erosive Wear Resistance Characteristics Of 3D Printed Polymers Agitator Blade	Suleman Qamar	3:00-3:20
Material-Research-180	Superelasticity Of Mesoscopically Porous Ni-Fe-Ga Shape Memory Alloy Foam With 69% Porosity	Muhammad Imran	3:20 – 3:40
<p style="text-align: center;"><b>Technical session: Energy Engineering</b></p> <p><b>Day -1</b>  Date: 17<sup>th</sup> October 2024 (Thursday)  Time: 03:00 pm – 06:00 pm  Venue: Conference Room, Energy Engineering Department  Session Title: Energy &amp; Mechatronics Engineering</p>			
Paper ID	Paper Title	Presenting Author	Time (PST)
Energy-Research-113	Investigation of heat exchange performance with stainless steel double-walled pipes of power plants	Babar Hayat	3:00-3:30
Energy-Research-173	Analysis of vertical axis wind turbine utilizing dissimilar airfoil blade combination	Asif Khan	3:30-4:00
Energy-Research-186	Numerical analysis and performance optimization of innovative multi-stage regenerative heat and mass exchanger	Hurmat Fatima	4:00-4:30
Energy-Research-162	Investigating Public Opinion to Overcome Energy Policy Hurdles in Pakistan	Hamza Babar	4:30-5:00
<p><b>Day -2</b>  Date: 18<sup>th</sup> October 2024 (Friday)  Time: 02:40 pm – 04:00 pm  Venue: Energy Conference Room, Engineering Department  Session Title: Energy Engineering</p>			
Paper ID	Paper Title	Presenting Author	Time (PST)
Energy-Research-161	Evaluating Capillary Pressure and Relative Permeability Models for Enhanced Reservoir Management	Muhammad Arslan	2:40-3:00

Energy-Research-118	Prioritizing Energy Efficiency in Pakistani SMEs: A Techno-Economic Framework Using EUAC and Payback Period	Sheeraz Ahmed	3:20-3:40
Energy-Research-125	Experimental Comparative Investigation of EGR and Indirect Water Injection for Lean and Rich Combustion in Turbocharged Diesel Engine	Asad Asghar Janjua	3:40-4:00

### Technical session: Mechatronics Engineering

**Day -1**

Date: 17<sup>th</sup> October 2024 (Thursday)

Time: 03:00 pm – 04:40 pm

Venue: Conference Room, Electrical Engineering Department

Paper ID	Paper Title	Presenting Author	Time (PST)
Mechatronics-Research-177	Model Curtailment of Hybrid Time-Frequency Limited Interval Gramianns for Continuous Time Second Order-form Systems	Dr. Sadaqat Ali	3:00 – 3:20
Mechatronics-Research-167	Enhancing the accuracy of SSVEP target frequency detection: A user-friendly approach	Adeel Wahab	3:20-3:40
Mechatronics-Research-172	Balanced Model Order Reduction Technique for Nonlinear Systems in Limited Frequency Interval	Dr. Khawaja Shafiq Haider Assistant Professor	3:40-4:00
Mechatronics-Research-123	Simulation of Collaborative Controlled Collision Avoiding Robot	Muhammad Argum Razzaq	4:00-4:20
Mechatronics-Research-179	Intelligent System for Real-time Health Monitoring of Power MOSFETs	Tabish Nawaz	4:20-4:40

**Day -2**

Date: 18<sup>th</sup> October 2024 (Friday)

Time: 03:00 pm – 04:00 pm

Venue: Conference Room, Electrical Engineering Department

Paper ID	Paper Title	Presenting Author	Time (PST)
Mechatronics-Research-178	Model Reduction of Combined Time-Frequency Limited Interval Gramianns for Discrete Second Order-form Systems	Dr. Khawaja Shafiq Haider Assistant Professor	3:00-3:20
Mechatronics-Research-104	Temporal Assessment Box: Neurological Disease Diagnosis through Manual Dexterity Analysis or Upper Arm Motion Kit Development for Parkinson's Diagnosis	Raheel Naveed	3:20 -3:40
Mechatronics-Research-119	Wearable Data Acquisition System for Biomechanical Analysis.	Mahad Ali	3:40 -4:00.

16:00	<b>Closing Ceremony at MP Hall</b>
16:10	Vote of Thanks by the Conference Chair
16:20	Address by the Vice Chancellor / Patron in Chief

16:30	Address by the Chief Guest
16:40	Presentation of shields and certificates
17:00	Closing note from Conference secretary
<b>END of DAY 2</b>	