



# 2<sup>nd</sup> International Workshop on Functional Reverse Engineering of Machine Tools (WRE 2020)

Wednesday, 30<sup>th</sup> December 2020

## Program

### Online Inauguration Ceremony

Activities	Schedule (Pakistan Standard Time)	Meeting Link
Mic and Camera Check	8:00 AM Onward	<a href="#">Click on this link to join the Zoom session</a> Passcode: 607962
Recitation from the Holy Qur'an	09:15 AM	
National Anthem	09:20 AM	
Welcome Address by General Co-Chair, Professor Dr. Jameel Un Nabi, Pro-Rector (Academics), GIK Institute	09:25 AM	
Keynote Talk: 'Functional Reverse Engineering of Machine Tools', Professor Dr. Wasim A. Khan, GIK Institute	09:35 AM	
Keynote Talk: "Design and Development of Novel 3D Printed Lattice Structures for Energy Absorption Capabilities and FRE of SHPB Setup for their Performance Evaluation", Professor Dr. Muhammad Abid, COMSATS, Wah	09:50 AM	
Address by Dr. Uzair Khan, Vice Chair, IEEE Islamabad Section	10:10 AM	
Address by Dr. Muhammad Uneeb, Representative IMechE Pakistan Group	10:20 AM	
Address by Chief Guest 'Professor Dr. Fazal Ahmed Khalid' Chairman HEC (Punjab), Vice President (Pakistan Engineering Council)	10:30 AM	



## **Parallel Technical Session 1: Functional Reverse Engineering Activities in Pakistan**

Session Chairs: Dr. Muhammad Faisal Khan, Hamdard University, Karachi, and Dr. Arshad Islam, FAST, NUCES

<b>Chapter/Invited Talk Title</b>	<b>Author/<u>Speaker</u> &amp; Affiliation</b>	<b>Schedule (Pakistan Standard Time)</b>	<b>Meeting link</b>
Mic and Camera Check		8:00 AM Onward	<a href="#">Click on this link to join the Zoom session</a> Passcode: 607962
Invited Talk 1: 'Promoting Enterprises of Reverse Engineering'	Dr. Cedric Aimal Edwin, CECOS University, Peshawar, Pakistan	10:30 AM to 11:00 AM	
Design and Fabrication of 3D Scanner	Mohammad Zainullah, Khan GIK Institute of Engineering Sciences & Technology Topi, Pakistan	11:00 AM to 11:20 AM	
Functional Reverse Engineering of Universal Testing Machine with enhanced positioning and reduced power consumption	Salman Amin. GIK Institute of Engineering Sciences & Technology Topi, Pakistan	11:20 AM to 11:40 AM	
Design, modeling, analysis, and characterization of a pin-on-disk tribometer with a novel spring loading mechanism	Sarmad Chohan; Iftikhar Ahmad, GIK Institute of Engineering Sciences & Technology Topi, Pakistan	11:40 PM to 12:00 PM	
Design and Development of 5-Axes Milling Machine	Sohaib Jabran, GIK Institute of Engineering Sciences & Technology Topi, Pakistan	12:00 PM to 12:20 PM	



## **Parallel Technical Session 2: Electronics Systems**

Session Chairs: Dr. Noshewan Shoaib, NUST, and Dr. Khalid Rahman, GIK

<b>Chapter/Invited Talk Title</b>	<b>Author/Speaker &amp; Affiliation</b>	<b>Schedule (Pakistan Standard Time)</b>	<b>Meeting link</b>
Mic and Camera Check		8:00 AM Onward	<a href="#">Click on this link to join the Zoom session</a> Passcode: 933027
Invited Talk 2: Safety Engineering of Electromedical Devices	Dr. Atif Aftab Ahmed Jilani, National University of Computer and Emerging Sciences, Pakistan.	10:30 AM to 11:00 AM	
PCB Design and Fabrication	Dr. Muhammad Faisal Khan, Hamdard University, Karachi, Pakistan	11:00 AM to 11:20 AM	
Sensors and Actuators: Selection and Interfacing	Dr. Memoon Sajid, Mazhar Javed GIK Institute of Engineering Sciences and Technology, Pakistan	11:20 AM to 11:40 AM	
Vibration based piezoelectric energy harvester for wireless sensor node application	Dr. Muhammad Iqbal, Malik M. Nauman, Farid U. Khan, Asif Iqbal, Muhammad Aamir, A. E. Pg. Abas, and Quentin Cheok, Universiti Brunei Darussalam, Brunei	11:40 AM to 12:00 PM	
Reverse Engineering the LQR Controller to Find an Equivalence with PID Controller	Dr. Ali Nasir, University of Central Punjab, Lahore, Pakistan	12:00 PM to 12:20 PM	

## **Lunch & Prayer Break (12:30 PM to 2:00 PM)**



### **Parallel Technical Session 3: Machine Tools and Computational Analysis**

Session Chairs: Professor Duc T. Pham, OBE (Honorary Chair WRE2020), University of Birmingham, and Professor Dr. Ghulam Hussain, GIK

<b>Chapter/Invited Talk Title</b>	<b>Author/<u>Speaker</u> &amp; Affiliation</b>	<b>Schedule (Pakistan Standard Time)</b>	<b>Meeting link</b>
Mic and Camera Check		8:00 AM Onward	
Invited Talk 3: Professor Duc T. Pham, OBE, 'Robotic disassembly as a key to Remanufacturing 4.0'	University of Birmingham, UK	2:00 PM to 2:20:00 PM	
Machine Tool Improvement through Reverse Engineering and Computational Analysis with an Emphasis on Sustainable Design	Kaan Buyuktas, Muhammad Suhaib Waqar Joyia, Kemran Karimov, Ihtesham Khan and Dr. Volkan Esat, Middle East Technical University, Northern Cyprus, Turkey	2:20 PM to 2:40 PM	
A coarse-to-fine classification method for aviation high similarity sheet metal parts based on machine vision	LV Zhengyang, LI Xiaojun, LIN Yutao, ZHANG Liyan, Nanjing University of Aeronautics and Astronautics, Nanjing, China	2:40 PM to 3:00 PM	
Combustion Timing Control of a Recompression HCCI Engine Using negative Valve Overlap through Reverse Engineering	M. Suleman, Muftooh Ur Rehman Siddiqi, Sundus Tariq CECOS university of Emerging science and information, Peshawar, Pakistan	3:00 PM to 3:20 PM	
Fabrication of Smart-Meter for Power Consumption Measurements of Machine Tools	Aqib Masood khan, Muhammad Jamil, Xiaoyuan Chen, Qazi Salman Khalid, Qinghua Song Nanjing University of Aeronautics and Astronautics, Nanjing, China	3:20 PM to 3:40 PM	

[Click on this link to join the Zoom session](#)  
Passcode: 607962



## **Parallel Technical Session 4: Modeling and Simulation**

Session Chairs: Dr. Muhammad Tahir Awan, CUST, and Dr. Ghulam Abbas, GIK

<b>Chapter/Invited Talk Title</b>	<b>Author/Speaker &amp; Affiliation</b>	<b>Schedule (Pakistan Standard Time)</b>	<b>Meeting link</b>
Mic and Camera Check		8:00 AM Onward	
Invited Talk 4: "Development of Intelligent Instrumentation Approach Towards Dynamic Identification of Railway Track Surface Faults"	Professor Dr. Bhawani Shankar Choudary Mehran University of Engineering & Technology, Jamshoro, Pakistan	2:00 PM to 2:20 PM	<a href="#">Click on this link to join the Zoom session</a> Passcode: 933027
Keynote Talk 5: "Aerial Sensor Networks"	Dr. Ahmar Rashid, GIK Institute	2:20 PM to 2:40 PM	
A Six Degree of Freedom Machining Bed: Kinematic Model Development, Verification, and Validation	Muhammad Faizan Shah, Kamran Nazeer, Zareena Kausar, Muhammad Umer Farooq, Syed Saad Farooq and Ghias Mahmood Khan Khwaja Fareed University of Engineering and IT, Rahim Yar Khan, Pakistan	2:40 PM to 3:00 PM	
Learning Fault Tolerant Control Using a Table Sat Platform	Dr. Ali Nasir, Ella M Atkins University of Central Punjab, Lahore, Pakistan University of Michigan, Ann Arbor, USA	3:00 PM to 3:20 PM	



## Online Closing Ceremony

Closing Session	Schedule (Pakistan Standard Time)	Meeting Link
Mic and Camera Check	8:00 AM Onward	<a href="#">Click on this link to join the Zoom session</a> Passcode: 607962
Keynote Talk: “Using Business Ecosystems Mapping to Generate New Competitive Value Propositions”, Andrew Gill, Institute for Manufacture, University of Cambridge, UK	4:00 PM to 4:20 PM	
Keynote Talk: “Latest trends in Reverse Engineering”, Dr. Muhammad Tufail, Pro-Vice Chancellor, NEDUET	4:20 PM to 4:40 PM	
Closing Address by General Chair, Rector, GIK Institute	4:40 PM to 4:50 PM	
Closing Remarks by Secretary ST & IT, Government of Khyber Pakhtunkhwa	4:50 PM to 5:00 PM	
Presentation of Best Chapter Awards	5:00 PM	
Vote of Thanks by Dr. Ghulam Abbas, GIK Institute	5:05 PM	