ENGR. DR. MUHAMMAD IMRAN

MAILING ADDRESS:
C/O Faculty Offices, Department of Mechanical Engineering, International Islamic University, H-10, Islamabad, Pakistan
OFFICE# 0092 51 9019918, **CELL#** 0092 334 5083979
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- Lecturer in Department of Mechanical Engineering, IIUI
- PhD Mechanical Engineering
- MS Mechanical Engineering
- BE Mechanical (Honors)

Research Interests:

Characterization/properties of materials, Composite materials, Advanced Engineering Materials, Vibrations, Simulations.

Publications:

[1] M. Imran, R. Khan, and S. Badshah, "Vibration Analysis of Cracked Composite Laminated Plate," *Pakistan Journal of Scientific and Industrial Research Series A: Physical Sciences,* vol. 61, pp. 84-91, 2018.

[2] M. IMRAN, K. Rafiullah, and S. BADSHAH, "Vibration Analysis of Cracked Composite Laminated Plate and Beam Structures," *Romanian Journal of Acoustics and Vibration,* vol. 15, pp. 3-13, 2018.

[3] M. Imran, R. Khan, and S. Badshah, "Finite Element Analysis to Investigate the Influence of Delamination Size, Stacking Sequence and Boundary Conditions on the Vibration Behavior of Composite Plate," *Iranian Journal of Materials Science & Engineering,* vol. 15, pp. 0-0, 2018.

[4] M. Imran, R. Khan, and S. Badshah, "A review on the effect of delamination on the performance of composite plate," *Pakistan Journal of Scientific and Industrial Research Series A: Physical Sciences,* vol. 61, pp. 173-182, 2018.

[5] R. K. Muhammad Imran, Saeed Badshah, "Vibration Analysis of Cracked Composite laminated Plate: A Review," in *Mehran University Research Journal of Engineering and Technology*, ed, 2019. [Accepted]

[6] M. Imran, R. Khan, and S. Badshah, "Investigating the Effect of Delamination Size, Stacking Sequences and Boundary Conditions on The Vibration Properties of Carbon Fiber Reinforced Polymer Composite," *Materials Research,* vol. 22, 2019.

[7] I. Muhammad, K. Rafiullah, and B. Saeed, "A Review on the Vibration Analysis of Laminated Composite Plate," *Pakistan Journal of Scientific and Industrial Research Series A: Physical Sciences,* vol. 62, 2019.

[8] I. Muhammad, K. Rafiullah, and B. Saeed, "Experimental, Numerical and Finite Element Vibration Analysis of Delaminated Composite Plate" *Scientia Iranica [Accepted]*

[9] I. Muhammad, K. Rafiullah, and B. Saeed, " Experimental investigation of the influence of stacking sequence and delamination size on the natural frequencies of delaminated

composite plate" *Pakistan Journal of Scientific and Industrial Research Series A: Physical Sciences, [Accepted]*

[10] Muhammad Mujahid, Abdur Rafai, Muhammad Imran, Mustansar Hayat Saggu and Noor Rahman, "Design analysis and optimization of HAWT rotor blade using Q-blade software" *Pakistan Journal of Scientific and Industrial Research Series A: Physical Sciences, [Accepted]*

[11] M. Imran, S. Badshah. "Vibration Analysis of an ocean current turbine blade". *International Journal of Scientific and Engineering Research, IJSER Volume 3, Issue 10, October 2012.*

[12] K.Ahmad, A.F. Rafique, S.Badshah, M. Imran. "Effect of Windows area reduction and Glazing type on energy consumption of Residential Buildings in Islamabad". *International Journal of Scientific and Engineering Research, IJSER Volume 3, Issue 12, December 2012.*

Conference Paper

[1] Muhammad Umer Farooq, Dr.Saeed Badshah, Muhammad Iman,Abdu Rafai, Dr. Athar Masood, Design and Analysis of cross flow impulse turbine for water stream near Trapi village KPK Pakistan, *4th International Conference on Energy, Environment and Sustainable Development 2016 (EESD 2016),*

MS Student (s) Supervised:

[1] Babar Ashfaq; 52-FET/MSME/F16;
Synopsis Title: Damage analysis of Bird Impact on GLARE using Finite Element Methods
Supervisor: Dr. Engr. Rafiullah Khan, **Co-Supervisor**: Engr. Muhammad Imran

Qualification:

PhD in Mechanical Engineering (2020) International Islamic University Islamabad	3.83/4.0 CGPA	A
MS in Mechanical Engineering, International Islamic University Islamabad	3.60/4.0 CGPA	A
BE Mechanical Engineering, (2008) University of Engineering & Technology, Taxila	78.00%	A
Higher Secondary School Certificate (HSSC) Govt Degree College, AliPur, Distt. Muzaffargarh	77.00%	A
Secondary School certificate (SSC) Govt High School Thaheem, AliPur, Distt. Muzaffargarh	82.00%	A+

Professional Experience:

Department of Mechanical Engineering, IIU, Islamabad, Pakistan

Web Portal **:** www.iiu.edu.pk
Job Duration **:** 30th April 2014 to Present…
Job Description **:** Working as **Lecturer** in Department of Mechanical Engineering. Fluent in OBE related work and taught the following courses

- Mechanics of Machines
- Engineering Statics
- Engineering Materials
- Machine Design
- Workshop Technology
- Engineering Management & Economics
- Operation Research
- Mechanical Vibrations

Department of Mechanical Engineering, IIU, Islamabad, Pakistan
Web Portal **:** www.iiu.edu.pk
Job Duration **:** 19th April 2010 to 29th April 2014…
Job Description **:** Worked as **Laboratory Engineer** in Department of Mechanical Engineering. I have taught following courses and labs

- Machine Design
- Finite Element Methods
- Engineering Dynamics
- Engineering Statics
- Mechanics of Materials
- Workshop Practice
- Operation Research

Tata Energy Limited, Tata Group of Industries, Pakistan
Web Portal **:** www.tatatex.com
Job Duration **:** 2nd September 2008 to 18th April, 2010 (Twenty Months)
Job Description **:** Worked as **Assistant Manager Operations** in **Tata Energy Limited** Muzaffargarh branch. Power House has capacity of 15MW. Power house consists of 11 Gensets. I supervised all operations like

- Installation of two Capital Power Projects (two new Gensets G3516B,2x1.9MW). A Major Project of 2 billion.
- Writing Technical Reports
- Proper Load Management
- Daily and Monthly generation Reports
- Consumption reports of Fuel and Lubrications
- Daily reports to General Manager Power House
- Executing maintenances of Gensets
- Preparing Monthly and annual budget reports
- Quality assurance of Power House Staff

Technical & Computer Skills:

- Design/Modeling (Solid works, CATIA, Pro/Engineer Wildfire v 3.0 & v 4.0)
- Analysis (Ansys Workbench v 14.0)
- MATLAB
- Engineering Drawing (Auto CAD v 10.0)
- MiniTab
- Laminator (Matrix Design)
- MS Office (Power Point, Excel, Word, Access)

Short Courses/ Activities

- Three months training course on 'Mechanics of Composites' in Institute of Space Technology.
- One month course on Vacuum Technology, NINVAST 2012
- Attended Seminar on Energy Engineering under "Continuing Professional Development Program" on June 20-21 2011
- Got Training on Mercet Boiler including installation/commissioning and operation on 08-06-2011
- Certificate of Participations in 1st Open House 19-20 May 2010, FET, IIUI
- CPD Conference on"Improving energy efficiency in electrical system" under Continuing Professional Development Programme, September 15, 2014
- CPD Conference on"Tubewell Energy Audit" under Continuing Professional Development Programme, September 17, 2014
- CPD Conference on"Improving boiler operating efficiency" under Continuing Professional Development Programme, September 26, 2014
- **Internship** – Thermal Power Station MuzaffarGarh (GENCO-III). (04weeks, March-2008)
  Worked as an internee at TPS. Study, Operations, Maintenance and Generation Methodology at 1500MW Plant Muzaffargarh. Worked on its Efficiency Improvement. Experienced operations and maintenance of gas/oil fired boilers, pumps, compressors, heat exchangers, cooling towers, pre-heaters, and different reciprocating and static equipments etc
- **Internship** – Heavy Mechanical Complex, Taxila. (03weeks, March-2007)
  Experienced designing, rolling mills, annealing furnaces, roll grinding equipment, machining processes, Shapers and Planars etc. Gained basic understanding of design, reliability and maintenance of machines.

Term Projects:

- Design and Analysis of Wind Turbine; Calculated load demand per house in a specific village/town per annum including variation requirement throughout the seasons
- Design and Finite Element Analysis of Step Pulley frame using Ansys and Pro/Engineer
- Design and analysis of Jigs and Fixtures for a specific custom sheet
- Design of Energy Extraction Methods by using Ocean shore
- Design of 256KW Kaplan Turbine (installed at Mohra Murado,Taxila)
- Study of Pumps, Compressors and Turbines considering their Applications.
- Feasibility of cellular Manufacturing in industry
- Study of NDT Techniques and implementation
- Design a system for Corrosion Testing; Study of Corrosion, types and remedies
- Design and analysis of Rotary Equipment Maintenance requirement layout
- Design and Modeling of a Solar Collector , Types and Feasibility in Pakistan

Games

- Chess
  Participated in Inter University Chess Competitions. Got 1st Prizes in many games of chess at University-level competitions.