



## Muhammad Huzaifa

📍 **Home** : house B#2,Ayub Agriculture research institute,Faisalabad,Pakistan., 38000,  
Faisalabad, Pakistan

✉ **Email:** [huzaifa.sajjad@uaf.edu.pk](mailto:huzaifa.sajjad@uaf.edu.pk) ☎ **Phone:** (+92) 3207441898

🏠 **Phone:** (+92) 3427606376

**Date of birth:** 24/07/1998 **Nationality:** Pakistani

### WORK EXPERIENCE

[ 15/10/2024 – Current ] **Assistant Executive Engineer**

**Dept. of Farm Machinery and Power,  
Faculty of Agricultural Engineering and Technology,  
University of Agriculture, Faisalabad.**

- Overseeing the operations and maintenance of farm machinery.
- Delivering lectures and conducting Lab sessions for undergraduate students on the functioning, operation, and applications of various farm machines.

[ 25/07/2021 – 31/07/2023 ] **Mechanical Maintenance Engineer**

**Mughal Iron and Steel Industries Ltd.**

- Equipment inspection and monitoring.
- **Maintenance planning and scheduling.**
- **Preventive maintenance** program implementation.
- **Corrective maintenance** for breakdowns.
- **Root cause analysis for failures.**
- Spare parts inventory management.
- Training and skill development for maintenance personnel.
- Safety and compliance enforcement.
- Collaboration with cross-functional teams.
- Documentation and reporting of maintenance activities.

### EDUCATION AND TRAINING

[ 05/09/2022 – 24/09/2024 ] **Masters in Manufacturing Engineering**

**University of Engineering and Technology Lahore** [www.uet.edu.pk](http://www.uet.edu.pk)

**City:** Lahore | **Country:** Pakistan | **Field(s) of study:** Manufacturing Engineering | **Final grade:** 3.42/4 CGPA | **Thesis:** Topic: " To Investigate and Optimize the effect on mechanical properties by hybridizing Hemp and Sisal natural fibres with synthetic Glass fibre."

I have created innovative bio-inspired hybrid Polymer composites which involved selecting natural fibers i.e. Hemp, Sisal and traditional glass fibers. After **treating the fibers for improved adhesion**, a compatible polymer resin matrix i.e. **epoxy** was chosen. Composite fabrication involved impregnating fibers with resin and curing the material.

Mechanical testing then assesses **tensile, flexural, impact, and hardness** properties to evaluate the composite's performance and durability.

[ 25/09/2017 – 23/07/2021 ]

## Bachelors in Mechanical Engineering

**National University of Science and Technology, Islamabad, Pakistan** <https://nust.edu.pk/>

**City:** Islamabad | **Country:** Pakistan | **Field(s) of study:** Mechanical Engineering | **Final grade:** 2.81 CGPA | **Thesis:** Topic: "PARAMETRIC EVALUATION OF SUSPENSION SYSTEMS FOR LOW-COST VEHICLE FOR HANDLING AND RIDE"

Parametrically evaluating suspension systems for a budget-friendly vehicle's handling and ride quality follows a structured process. **Initial objectives are defined, suspension components chosen, and a computer-aided model created.**

Through systematic parameter variations, **simulations are conducted** to assess handling and ride behavior, leading to data analysis and **optimal parameter combinations that strike a balance** between ride comfort and handling performance.

[ 10/08/2015 – 12/09/2017 ]

## FSc Pre-Engineering

**Kips College, Faisalabad** <https://kipscolleges.com/>

**City:** Faisalabad | **Country:** Pakistan | **Field(s) of study:** pre-engineering | **Final grade:** 92%

[ 01/04/2013 – 25/07/2015 ]

## Matriculation

**Minhaj ul quran Model secondary School Faisalabad** <https://www.minhaj.org/index.html>

**City:** Faisalabad | **Country:** Pakistan | **Field(s) of study:** Matric | **Final grade:** 90.81%

## PUBLICATIONS

[ 2024 ]

### Exploring Mechanical Properties of Eco-Friendly Hybrid Epoxy Composites Reinforced with Sisal, Hemp, and Glass Fibers

**Reference:** Journal of Materials Research and Technology Volume 33 , November–December 2024, Pages 2785-2793

#### ABSTRACT

It is now widely accepted that various subsets of hybrid fiber composites reinforced with combined natural and synthetic fibers can significantly expand the applicability of composite-based materials in design and technology practice. The already existing unnatural circumstances on the planet put natural fibers far ahead of traditions in the field of materials thanks to their biodegradability characteristics, availability and over-term endurance and corrosion resistance. At the same time, composites are rapidly taking their place in many industries and sectors of the economy as metals in as much as it is economically and energetically justified. This study evaluates the mechanical properties of hybrid composites reinforced with glass, hemp, and sisal fibers. Using a hand lay-up method with epoxy resin, composite laminates were fabricated and tested for tensile, flexural, impact strengths and hardness test in accordance with ASTM standards. The experimental results revealed that glass-sisal fiber composites achieved the highest tensile strength of 69.1 MPa, while glass-hemp-sisal fiber composites exhibited superior flexural strength of 15.22 MPa and impact strength of 137.45kJ/m<sup>2</sup> while best hardness value was 24.73 HV for glass-sisal fibre composite. These findings underscore the potential of glass-sisal-hemp fiber-reinforced epoxy composites as viable alternatives to traditional synthetic fiber-reinforced materials in automotive industry where there are no structural loadings i.e. automobile interiors; offering enhanced mechanical performance and sustainability.

**Keywords:** Composites, Epoxy resin, Flexural strength, Glass-Sisal-Hemp fiber, Hybrid Composites, Impact strength, Mechanical properties, Tensile strength

**Link:** <https://doi.org/10.1016/j.jmrt.2024.08.189>

[ 2024 ] **HEMP FIBERS AS SUSTAINABLE REINFORCEMENT IN NATURAL FIBER COMPOSITES: A COMPREHENSIVE REVIEW**

**Reference:** Huzaifa et al. ,WORLD JOURNAL OF BIOLOGY AND BIOTECHNOLOGY Vol 9, No 2 (2024)

**ABSTRACT**

*Cannabis sativa*, sometimes known as industrial hemp, is frequently used for manufacturing of high-cellulose bast (highly fibrous) fibers. The need for environmental conservation, combined with the beneficial characteristics of these fibers like their low thickness, high definite forte, and toughness prompts a strong interest in their utilization. Additionally, a great deal of effort has been put into developing novel materials thus improves the mechanical performance through surface modifications. Hemp fibers' most promising uses involve hybridization or as reinforcement in polymeric composites. However, more research is required to enhance their properties and broaden the scope of their uses. In the context of long-lasting applications and the ability to consistently reproduce the desired qualities of these composites, one significant concern is the biodegradability aspect, which requires careful consideration. This review offers a comprehensive examination of the existing body of research on hemp fibers, encompassing aspects such as the mechanical as well as chemical properties of hemp fibers, surface enhancements, hybrid composite materials, and both current and prospective applications.

**KEYWORDS**

Biodegradable, composites, ecofriendly, fiber, natural

**Link:** <https://www.sciplatform.com/index.php/wjb/issue/view/Accepted for Publication>

**SKILLS**

FEM calculation model and stress analysis: ANSYS (Workbench/Fluent) | FEM Abaqus | Autocad and Solidworks | Ptc Creo 2 | Microsoft Office | Microsoft Excel | Microsoft Word | Microsoft Powerpoint | Google Docs | LinkedIn | MINITAB software

**LANGUAGE SKILLS**

**Mother tongue(s):** Urdu , Punjabi **Other language(s):** English

**ENGLISH PROFICIENCY SCORE**

[ 08/08/2024 – 08/08/2026 ] **IELTS Test Report (Academic)**

**Test Results**

Listening **8.0**

Reading **7.0**

Writing **6.5**

Speaking **6.5**

**Overall Band Score: 7.0**

## HONOURS AND AWARDS

---

- [ 05/12/2017 ] **Laptop from youth initiative Awarding institution:** BISE,Faisalabad  
Awarded Laptop for getting 90% marks in Matriculation exams,by the Govt.
- [ 16/05/2019 ] **Annual Badminton Championship Awarding institution:** EME Sports Club  
Awarded gold medal on winning men's single badminton championship

## HOBBIES AND INTERESTS

---

### Book reading

The Alchemist is my best read so far.

### Playing Badminton and Cricket

## RECOMMENDATIONS

---

**Name: Dr. Sana Ehsan** Assistant Professor

"I am pleased to recommend Muhammad Huzaifa. He works hard and is good at fixing engineering challenges.

**Email:** [sanaehsanime@uet.edu.pk](mailto:sanaehsanime@uet.edu.pk)

**Name: Dr. Naseem Akhtar** Senior Scientist

I confidently recommend Muhammad Huzaifa for any engineering role. He possesses a strong aptitude for learning and excels in collaborative environments. His skills and dedication would make him an invaluable asset to any engineering team.

**Email:** [dr.naseem@aari.punjab.gov](mailto:dr.naseem@aari.punjab.gov)