

## **Mostafizur Rahman**

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### **CURRENT POSITION**

**Assistant Professor**, Department of Mechanical Engineering

Chittagong University of Engineering & Technology (CUET), Chattogram - 4349, Bangladesh

### **RESEARCH INTEREST**

Self-Healing Ceramic Materials, Engineering Materials, Mechanics of Materials, Fracture Mechanics, Advanced Functional Materials, and Applied & Computational Mechanics.

### **ACADEMICS QUALIFICATIONS**

**Master of Science in Mechanical Engineering (M.Sc.)**

**CGPA: 4.00**

Department of Mechanical Engineering

on a scale of **4.00**

Chittagong University of Engineering & Technology (CUET), Bangladesh

June 2016 - August 2019

**Bachelor of Science in Mechanical Engineering (B.Sc.)**

**CGPA: 3.80 with 'Honors'**

Department of Mechanical Engineering

on a scale of **4.00**

Chittagong University of Engineering & Technology, Bangladesh

**(83.20% Marks)**

March 2011- September 2015

**Merit Position 1<sup>st</sup>**

Out of **127** students

**Higher Secondary School Certificate (HSC)**

**CGPA: 5.00**

Chuadanga Government College, Chuadanga, Bangladesh

on a scale of **5.00**

August 2008 - August 2010

**Secondary School Certificate (SSC)**

**CGPA: 5.00**

Ail Hash Luxmipur High School, Chuadanga, Bangladesh

on a scale of **5.00**

August 2008

### **SKILLS & INTERESTS**

- ❖ **Design Software:** Auto-CAD, SolidWorks, Ansys
- ❖ **Programming Languages:** C, C++, Python, FORTRAN, and MATLAB.
- ❖ **Others:** MS Office packages, Adobe Photoshop, Adobe Illustrator, Mendeley, EndNote
- ❖ **Language:** Bangla (Native), English (Fluent in Reading, Writing, Listening & Speaking)
- ❖ **Interest:** Traveling and Trekking, Reading Scientific Articles, Novels, History, and Culture

### **PROFESSIONAL AFFILIATIONS**

- ❖ Associate Member of Institute of Engineers, Bangladesh, **IEB**
- ❖ Member of Bangladesh Society of Mechanical Engineers, **BSME**.

## PUBLICATIONS

### Peer-Reviewed Journal Articles

- [1] **Mostafizur Rahman** and Md. Arafat Rahman\*, “**Driver Seat Suspension using Quasi-Zero Stiffness System: A Numerical and Experimental Approach**”, *Jordan Journal of Mechanical and Industrial Engineering*, Under Review
- [2] **Mostafizur Rahman** and Sadnan Mohosin Mondol, “**Mechanical Behaviors of Al Based Metal Composites Fabricated by Stir Casting Technique**”, *Journal of Engineering Advancements*, Vol. 01(04), pp.144-149, 2020.
- [3] T. B. Hai, **M. Rahman**, S. S. Kabir, M. A. H. A. Askary, and M. A. Rahman\*, “**Experimental and Numerical Study on Harvesting of Wave Energy with the Help of Buoy Effect**”, *Mechanical Engineering Research Journal*, Under Review
- [4] **Mostafizur Rahman\***, Md. Arafat Rahman and Md. Mehdi Masud Talukder, “**Design and Fabrication of Seat Suspension using Quasi-Zero Stiffness System**”, *DUET Journal*, vol. 05, no.01, and pp.: 1-8, 2019
- [5] **Mostafizur Rahman**, Md. Arafat Rahman\*, Md. Abu Mowazzem Hossain, Farida Ahmed Koly and Md. Mehdi Masud Talukder, “**Mathematical Simulation of Vehicle Driver Seat Suspension System Using Quasi-Zero Stiffness System**”, *Mechanical Engineering Research Journal*, vol.11, pp.66-71, 2018

### International Conference Papers

- [6] **Mostafizur Rahman**, Md. Iftekhar Arefin\*, Faisal Ahmed and Sadnan Mohosin Mondol, “**Performance Improvement of Solar Cell by Submerging in Chemicals: A Case Study in CUET**”, *5<sup>th</sup> International Conference on Mechanical Engineering and Renewable Energy*, PI: 210, December 2019, Chattogram, Bangladesh
- [7] **Mostafizur Rahman**, Md. Abu Bakkar Sikdar\*, Sadnan Mohosin Mondol, “**Production and Analysis of Iron Metal Foam by Dealloying Process**”, *5<sup>th</sup> International Conference on Mechanical Engineering and Renewable Energy*, PI: 195, December 2019, Chattogram, Bangladesh
- [8] **Mostafizur Rahman**, Sadnan Mohosin Mondol\* and Abu Bakkar Sikder, “**Comparative Study of Mechanical Behaviors of Al-Cu Metal Composites Fabricated By Stir Casting Process**”, *5<sup>th</sup> International Conference on Mechanical Engineering and Renewable Energy*, PI: 197, December 2019, Chattogram, Bangladesh
- [9] **Mostafizur Rahman**, Moham Ed Abdur Razzaq\*, Abdullah Al Noman and Jamal Uddin Ahamed, “**Performance of Heat Transfer of Plain Tube Fitted with V-shaped Twisted Tape Inserts of Copper and Stainless Steel Material for Turbulent Flow**”, *5<sup>th</sup> International Conference on Mechanical, Industrial and Energy Engineering*, PI:322, Khulna, Bangladesh, 2018.
- [10] Amir Hamza Limon, Muhammad Mostafa Kamal Bhuiya\*, **Mostafizur Rahman** and Majedul Islam, “**Cleaning of Accumulated Dust Particle of a Flat Plate Solar Collector**”, *5<sup>th</sup> International Conference on Mechanical, Industrial and Energy Engineering*, PI: 326, Khulna, Bangladesh, 2018
- [11] Md. Rabiul Islam , Muhammad Mostafa Kamal Bhuiya\*, Bably Das, **Mostafizur Rahman** and Amir Hamza Limon, “**Pyrolysis of Sawdust for Bio-Oil Production using Infrared Heat Source**”, *5<sup>th</sup> International Conference on Mechanical, Industrial and Energy Engineering*, PI:325, Khulna, Bangladesh, 2018

[12] Farida Ahmed Koly\*, Abu Raihan Ibna Ali, Moham Ed Abdur Razzaq and **Mostafizur Rahman**, "Comparative Numerical Analysis of Heat Transfer between Nonporous and Porous Cylindrical Fins", *5<sup>th</sup> International Conference on Mechanical, Industrial and Energy Engineering*, PI: 321, Khulna, Bangladesh, 2018

### **RESEARCH EXPERIENCE**

#### **M.Sc. Thesis (18 credits)**

##### **Design and Fabrication of a Driver Seat Suspension using Quasi-Zero Stiffness System**

Passive vehicles drivers' seat suspension system was modified using negative stiffness system to reduce natural frequency and vibration transmissibility in order to increase riding comfort and safety. Potential energy method was used to obtain mathematical formulations and design reliability, dynamic stability, and effectiveness of that proposed seat suspension system was checked varying suspension parameters.

**Supervisor:** Dr. Md. Arafat Rahman, Associate Professor, Department of Mechanical Engineering, Chittagong University of Engineering & Technology (CUET), Bangladesh

#### **B.Sc. Thesis (03 credits): Design and Fabrication of a Mechanically Powered Lawn Mower**

A new mechanically powered lawn mower was designed and fabricated cost effectively and evaluated its grass cutting performance compared with others. Knowledge of use of some tools and production process was utilized to do this study.

**Supervisor:** Dr. Md. Abdul Wazed, Professor, Department of Mechanical Engineering, Chittagong University of Engineering & Technology (CUET), Bangladesh

### **PROFESSIONAL EXPERIENCES**

#### **Assistant Professor**

**7<sup>th</sup> January, 2020 to Present**

Department of Mechanical Engineering  
Chittagong University of Engineering & Technology (CUET)

#### **Lecturer**

**8<sup>th</sup> January, 2017 to 6<sup>th</sup> January, 2020**

Department of Mechanical Engineering  
Chittagong University of Engineering & Technology (CUET)

#### **Consultant**

**7<sup>th</sup> January, 2020 to Present**

**BRTC** (Bureau of Research, Testing, and Consultation)  
Department of Mechanical Engineering  
Chittagong University of Engineering & Technology (CUET)

#### **Assistant Manager (Production)**

**20<sup>th</sup> August, 2016 to 25<sup>th</sup> September, 2016**

DPL (Durable Plastic Limited), RFL Plastic Limited  
Pran-Rfl Group, Dhaka, Bangladesh

#### **Assistant Trainee Engineer (Production)**

**1<sup>th</sup> January, 2016 to 19<sup>th</sup> August, 2016**

DPL (Durable Plastic Limited), RFL Plastic Limited  
Pran-Rfl Group, Dhaka, Bangladesh

### **TEACHING AFFILIATIONS**

**Strength of Materials** (Theory & Sessional Courses), **Engineering Mechanics** (Theory & Sessional Courses), **Mechanical Engineering Design & Drawing**, **Computing Basics** (Theory & Sessional Courses)

## **PROJECT & THESIS UNDER MY SUPERVISION**

- ❖ Production and Analysis of Iron Metal Foam by Dealloying Process
- ❖ Comparative Study of Mechanical behaviors Of Al-Cu Metal Composites Fabricated by Stir Casting Process
- ❖ Performance Improvement of Solar Cell by Submerging in Chemicals: A Case Study in CUET
- ❖ Optimization of Vehicles' Front Wheel Suspension system by Changing Spring Parameters

## **TRAINING SUMMARY & TECHNICAL EXPERIENCES**

**Operating Experiences:** Digital & Analogue UTM, Digital & Analogue Impact Tester, Hardness Tester, Devices Related to Thermodynamics, Heat Transfer, Fluid Mechanics & Machinery, Experimental Mechanics, IC Engines, Accelerometer etc.

**Testing Experience:** Mechanical properties like tensile, compression, hardness, impact of different materials, Chemical composition & microstructure of materials, Pressure gauge testing, Flow meter testing, Submersible pump testing and other devices used in Engineering.

**Training on Ship Building,** at Khan & Brothers Ship Building Limited, Munshigonj, Dhaka  
**Special Short Training Program on Automobile,** Bangladesh Korea Technical Training Center, Chittagong Bangladesh Chittagong, Duration 3 month, 2014

## **AWARDS, ACHIEVEMENT, LEADERSHIP, & EXTRA-CURRICULUR ACTIVITIES**

- ❖ CUET Alumni Scholarship in 2014 (For Obtaining Highest CGPA).
- ❖ Akij Group Scholarship from 2011 to 2015 (For Securing 1st Position in Undergraduate Class).
- ❖ Technical Scholarship from 2011 to 2015 (Every Semester, For Excellent Results).
- ❖ Education Board Scholarship from 2009 to 2015 (For Excellent Result in Higher Secondary Certificate & Secondary School Certificate)
- ❖ Championship Award in Intra School Math Quiz Competition, September 2007

## **REFERENCES**

Dr. Md. Arafat Rahman (Masters' Supervisor)

Associate Professor

Department of Mechanical Engineering, Chittagong University of Engineering & Technology

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Google Scholar: <https://scholar.google.com/citations?user=dVtgeZcAAAAJ&hl=en&oi=ao>

Dr. Jamal Uddin Ahamed

Dean, Faculty of Mechanical Engineering

Professor, Department of Mechanical Engineering, Chittagong University of Engineering & Technology

E-mail: [jamal@cuet.ac.bd](mailto:jamal@cuet.ac.bd) , [jamal293@yahoo.com](mailto:jamal293@yahoo.com) Contact Telephone: +8801720-641636

Google Scholar Link: <https://scholar.google.com/citations?user=Ib6RoWkAAAAJ&hl=en>