

ISSN 2708-9835

# BAUST JOURNAL

Volume 2

Issue 1

July 2022



Bangladesh Army University of Science and Technology (BAUST)  
Saidpur Cantonment, Saidpur 5311, Nilphamari  
Bangladesh

# **BAUST JOURNAL**

## **Nature of Publication**

Peer reviewed semi-annual engineering and multidisciplinary research journal.

## **Disclaimer**

The analyses, opinions and conclusions expressed or implied in this journal are those of the authors and do not necessarily represent the views of BAUST, Bangladesh Armed Forces or any other agencies of Bangladesh Government. Statements of fact or opinion appearing in BAUST Journal are solely those of the authors and do not imply endorsement by the editors or the publisher.

## **ISSN 2708-9835**

## **Proof Reader**

Dr.-Ing. Irfan Ahmed, Dept. of ME  
Dr. Md. Mahmudul Hasan, Dept. of CE  
Rakibul Islam, Dept. of BA

## **Style Edited by**

Dr.-Ing. Irfan Ahmed, Dept. of ME  
Dr. Md. Mahmudul Hasan, Dept. of CE

## **Cover Design**

Muhammad Tanvir Rahman  
Student ID: 160201076, Dept. of CSE  
Md Samin Yeasar Bhuyan  
Student ID: 180203009, Dept. of ME  
Md.Asaduzzaman Nur  
Student ID: 180203039, Dept. of ME

## **Printed by**

Ankita Printers, Rangpur

## **Published by**

Institutional Quality Assurance Cell (IQAC), BAUST  
Contact: +8801769662720, email: director\_iqac@baust.edu.bd

Web: <https://baust.edu.bd/journal/>

Copyright © 2022 IQAC, BAUST, all rights reserved by the publisher. No part of this publication may be reproduced, stored, in retrieval system, or transmitted in any form, or by any means, electrical, photocopied, recorded, or otherwise, without the prior permission of the publisher.

## **Subscription Rate (Single Copy)**

Individual: BDT 250/ USD 10  
Individual: BDT 350/ USD 15 (including postage)

## Message

### Area Commander, Rangpur Area and General Officer Commanding, 66 Infantry Division



I am very delighted to know that, Bangladesh Army University of Science and Technology (BAUST), Saidpur has recently published the third circulation of “BAUST Journal”. This auspicious moment is a testimony to the continuous endeavor of BAUST, Saidpur to become a center of excellence for education and research activities in the fields of engineering, technology, science, arts and business administration.

Education is power, and the foundation to success. Quality education is a must to create the future leaders of the world. Quality education entails a significant amount of research and knowledge gathering activities beyond the class hours. Engaging oneself in research and innovation broadens the horizon for the students and sharpens the minds of the educators. Having a platform to nurture such research and innovative activities is essential for an excellent university. The regular publication of BAUST Journal is thus of great significance.

I would like to convey my sincere appreciation to the Vice Chancellor of BAUST, Saidpur for his noble initiative and his continuous support behind the success story of BAUST Journal. My heartfelt gratitude goes to the members of the editorial board, the reviewers, and all other involved in achieving this success. I would like to congratulate the authors on publication of their research papers. I advise the students and the faculty members of BAUST, Saidpur to continue the culture of research and innovative activities. I wish “BAUST Journal” a glorious future. May Almighty Allah bless us all.

---

**Major General Md Faizur Rahman, SGP, ndc, afwc, psc**

Area Commander, Rangpur Area

General Officer Commanding, 66 Infantry Division and

Member, Board of Trustees

Bangladesh Army University of Science and Technology (BAUST), Saidpur

# Editorial Board

## Chief Patron

Brigadier General Professor Dr. Engr. Md Lutfor Rahman (Retd.)  
Vice Chancellor, BAUST, Saidpur

## Chief Editor

Professor Md. Jahurul Islam  
Dean, Faculty of Science and Humanities

## Associate Editors

Dr. Md. Mahmudul Hasan  
Associate Professor and Head, Dept. of CE

Dr. -Ing. Irfan Ahmed  
Associate Professor and Head, Dept. of ME

## Members

Professor Dr. Md. Shah Alam  
Dean, Faculty of Business Studies

Professor Dr. S. M. Jahangir Alam  
Head, Dept. of CSE

Dr. Kazi Mohammad Anamoul Haque  
Associate Professor and Head, Dept. of A&S

Dr. Muhammad Ahsan Habib  
Associate Professor and Head, Dept. of IPE

Dr. Md. Sowket Ali  
Associate Professor and Head, Dept. of ICT

Ashrafun Naher Pinky  
Associate Professor and Head, Dept. of EEE

Md. Zaber Hossain  
Assistant Professor and Head, Dept. of BA

Md. Ashikulla  
Assistant Professor and Head, Dept. of English

## External Members

Professor Dr. Maglub Al Nur  
Dept. of ME, BUET

Professor Dr. Mohammad Ali  
Dept. of ME, BUET

Professor Dr. Muhammad Masroor Ali  
Department of CSE, BUET

Professor Dr. Md. Aynal Haque  
Department of EEE, BUET

## Message

### Vice Chancellor Bangladesh Army University of Science and Technology



I am extremely happy on the occasion of publishing the first issue of volume 2 of “BAUST Journal”. Bangladesh Army University of Science and Technology (BAUST), Saidpur, is striving forward to become the center of excellence in engineering and technology, science, arts, and business administration. The third publication of the BAUST journal is a testimony to its ever-broadening footprint of research and innovation in the fields of academia. BAUST, Saidpur boasts of an impressive team of qualified faculty members and aspiring students. The quantity and the quality of research and innovation have been continuously improving, which is reflected in the impressive collection of peer-reviewed articles. BAUST Journal is a gateway for local researchers to publish their core research outcomes. This serves the country’s and Bangladesh Army’s initiative to spread out quality education among the future leaders of the country.

I am thankful to the reviewers, the authors, the editorial team, members of the BAUST Journal committee, and the Board of Trustees members of Bangladesh Army University of Science and Technology (BAUST), Saidpur for their efforts, which resulted in the publication of the current issue. My heartfelt gratitude goes to the Bangladesh Army Welfare Trust and Army Headquarter Rangpur area for their contribution to the development of BAUST, Saidpur and their support in the publication of the BAUST Journal. I wish BAUST Journal all its success in becoming an outlet of the center of excellence in the countries teaching, research, and innovation activities. May Almighty Allah bless us all and help us in our noble endeavors.

---

**Brigadier General Professor Dr. Engr. Md Lutfor Rahman (Retd.)**

Vice Chancellor

Bangladesh Army University of Science and Technology (BAUST), Saidpur, and  
Chief Patron, BAUST Journal

## Message

### Chief Editor BAUST Journal



It gives me immense pleasure to write this editorial note for the first issue of the second volume of the BAUST journal published by Bangladesh Army University of Science and Technology (BAUST), Saidpur. This issue contains a total of 12 research articles which cover a large variety of fields including engineering science and technology, social science, business studies and literature. I congratulate the young and experienced researchers whose excellent contributions have given the BAUST journal a high status. I strongly believe that each and every article published in this issue will make a great contribution to their respective field of knowledge. It is also expected that these write-ups will motivate other teachers and students to engage themselves in further research.

The BAUST journal is a peer-reviewed journal. All the articles published in this issue have been thoroughly reviewed by a panel of renowned experts from different reputed universities of Bangladesh. Their expert opinions and suggestions have greatly enriched the quality of the articles. They deserve special thanks for their sincere co-operation and hard work. On behalf of the editorial board, I would like to give thanks and express my sincere gratitude to our honourable Vice Chancellor, Brigadier General Professor Dr. Engr. Md Lutfor Rahman (Retd.), without whose active support and able guidance this journal could not have seen the light of day. I also thank the other members of the board for their hard work and sincere co-operation.

We left no stone unturned to give the journal a good shape and status. We sincerely apologize for any of our lapses. Any suggestions from any corner for the improvement of our endeavour will be highly appreciated. The quality of a research journal depends entirely on the quality of its articles. We are looking forward to standard papers for publication in the next issue of this volume.

*J. Islam*

**Professor Md. Jahurul Islam**

Dean

Faculty of Science and Humanities, and  
Chief Editor, BAUST Journal



## CONTENTS

### Message from Area Commander

Major General Md Faizur Rahman, SGP, ndc, afwc, psc ..... iii

### Message from Vice Chancellor

Brigadier General Professor Dr. Engr. Md Lutfor Rahman (Retd.) ..... v

### Message from Chief Editor

Professor Md. Jahurul Islam .....vi

### Potential Disease Detection Using Naive Bayes and Random Forest Approach

Dr. Mohammed Sowket Ali, Junayed Mahmud, S. M. Fahim Shahriar, Shameha Rahmatullah, and Abu Saleh Musa Miah.....9

### Study on Performance Characteristics of Different Microbial Fuel Cells

Md. Moniruzzaman, Md. Hedaetul Alam, Md. Zahid Bin Haq, Md. Washim Akram1, M. Ahasan Habib, Dr. Kazi Mohammad Anamoul Haque ..... 15

### Fuzzy And Ahp Approach for Designing a University Hall Bed Based on Anthropometric Analysis

Mst. Anjuman Ara, Md. Abubakar Siddique, Md. Fahimul Islam, Saikat Hasan, Md. Nazmul Hasan ..... 20

### Performance Evaluation of Cutting Tools using Minimum Quantity Lubrication (MQL) System during the Machining of Hardened Steel (AISI 1040) In Different Conditions

M. Ahasan Habib, Jahid Hasan Ashik, Md. Al Amin, M. Hossain Limon, Sayed Tahsin, Nuruzzaman Nahid ..... 30

### The Role of Exchange Rate on Export, Import and Trade Balance: Empirical Evidence from Australia, Argentina, Chile, Denmark, New Zealand

Mahmudul Islam, Md. Siraz Meah..... 38

### Reconstructing the Self in on/Offline: Decolonial aestheSis in the design poems of Rupi Kaur

Nusrat Jahan ..... 47

### Organic Food Consumers in Dhaka, Bangladesh: A Demography Analysis

Md. Muzakkeerul Huda, Dr. Parves Sultan, Dr. Ho Yin Wong, and Tina Umnia Hussain..... 52



**Impact of Financial, Social and Political Issues on Students' Academic Performance- An Empirical Study on Public and Private Universities in Bangladesh**

Jinia Afroz Sharmin, Rabbir Rashedin Tirno ..... 61

**Investigating the Influence of Customers' E-Word of Mouth, E-Service Quality on Online Shopping Intention: Does Customer's Security Concern Really Matter?**

Md. Rabiul Awal, Md. Zaber Hossain, Md. Anowar Hossain, Most. Mukta Khatun, Nazmun Nahar Shova ..... 70

**The Attitudes of Visitor's to Cultural Festivals: A Case Study of Pohela Boishakh at Rajshahi University in Bangladesh**

Most. Mukta Khatun, Sanzida Begum..... 78

**Congenial Factors of Workplace and Its Effect on Employee Motivation in the Banking Sector of Bangladesh**

Mohammad Azizur Rahman..... 87

**Fixed Assets Management Practices-Study on Kazi Farms Limited (KFL)**

Shamima Islam ..... 97