

# MURAD HOSSAIN

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## EDUCATION

- MS in Electrical & Electronic Engineering** Sep 2023 - Jun 2025
- University of Chittagong - CGPA: 3.53/4.00
- BSc in Electrical & Electronic Engineering** Jan 2018 - Sep 2023
- University of Chittagong - CGPA: 3.27/4.00

## PUBLICATION

- M. A. Hossain, H. K. Rouf, **M. Hossain**, "Synthesis and Exploration of Structural, Optical, Magnetic & Electrical Properties of Ti doped Mn-Ni-Zn Ferrite," **AIP Advances**, ([DOI](#))
- R. Rubel, **M. Hossain**, J. U. Ahamed et al "Tuning Ti on Structural, Optical & Magnetic Properties of Ba<sub>0.8</sub>Sr<sub>0.2</sub>Fe<sub>12-x</sub>Ti<sub>x</sub>O<sub>19</sub> for Magnetic Device Application" **Journal of Alloys and Compounds** ([DOI](#))
- **M. Hossain**, J. U. Ahamed, M. K. Alam, M. N. I. Khan, "Ultrahigh Resistivity and Low-Loss Mo Doped Ni-Zn Ferrites for 5G/6G High-Frequency Applications" **JMSC (Under Review)** ([Preprint Link](#))
- J. U. Ahamed, **M. Hossain**, "Synergistic Enhancement of Magnetic and Dielectric Properties in Mn-Nb Co-doped Ba<sub>0.7</sub>Mg<sub>0.3</sub>TiO<sub>3</sub> Perovskite Ceramics" **Ceramics International (Under Review)**

## PRESENTATION

- **M. Hossain**, Influence of Mo-Substitution on Structural and Optical Properties of Ni-Zn Ferrites by Solid State Reaction Method" (**41<sup>st</sup> Bangladesh Chemical Society Annual Conference**, 2024).
- **M. Hossain**, "Properties Investigation of Mo-Substituted Ni-Zn Ferrites Using Solid-State Synthesis Techniques" (**International Conference on Electronics and Informatics - 2024**).

## RESEARCH EXPERIENCE

- Graduate Research Assistant, Bangladesh Atomic Energy Center, Dhaka** Sep 2023- March 2025
- Worked on 4 ferrite/titanate projects for magnetic, dielectric, & 5G/6G device applications.
  - Characterized using XRD, TEM, SEM, FTIR, UV-vis, DSC/TGA, Kerr Analyzer & VSM techniques.
  - Supported experiments, analyzed data, and published findings on various properties.
- Undergraduate Thesis (Unpublished)** Nov 2022- May 2023
- Designed MZI-based electro-optic switch in ANSYS Lumerical, optimizing efficiency & behavior.
  - Analyzed results to enhance switch performance and documented vital findings.

## INDUSTRIAL EXPERIENCE

- Executive Engineer, Product Development (Meghna Group Bike Division)** Aug 2025 - Present
- Researching material and component compatibility for bikes, e-vehicles, per industry standards.
  - Collaborate with cross-functional teams to resolve issues and ensure efficient product execution.
- Co Founder & CMO, Swojon** Apr 2023 - Present
- Analyzed customer data to drive targeted strategies and boost engagement.
- Trainee Engineer, General Electric Manufacturing Company Limited** Dec 2022 - Jan 2023
- Engaged in manufacturing processes & machinery operations to understand production workflows.

## **RELEVANT ACADEMIC COURSES**

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- **CHEM 273** - Physical & Inorganic Chemistry
- **EEE 413** - Solid State Physics
- **EEE 619** - Material Engineering
- **EEE 813** - VLSI Technology
- **EEE 717** - Microelectronics & SC Technology
- **EEE M207** - Characterization of SC & Materials-I
- **EEE M301** - Material Structure Analysis
- **EEE M305** - High-Speed NanoPhotonic Device

## **STANDARDIZED TEST SCORE**

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**International English Language Testing System, (IELTS)** **Sep 2024 - Sep 2026**  
**Overall : 6.5 (B2)**      Listening 7.5      Reading 6.5      Writing 6.0      Speaking 6.5

## **TECHNICAL SKILLS**

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- **Simulation:** Material Studio, Ansys Lumerical, Pspice, Cisco, Proteus, AutoCAD
- **Data Visualization:** OriginPro, Excel, Powerpoint
- **Paper Formatting:** LaTex, Microsoft Office, Google Docs
- **Programming:** MATLAB, C, HTML, CSS, JavaScript, Bootstrap
- **Operating System:** Windows, Linux

## **COURSE CERTIFICATIONS**

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**Materials Science for Advanced Technological Applications Specialization, Arizona State University**

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|--|---|
| 1. Phase Diagrams, <u>Grade</u> -90%                 | 3. Electrical Properties & SC <u>Grade</u> -87% |
| 2. Hardening, Polymers, Properties <u>Grade</u> -86% | 4. Ceramics and Composites, <u>Grade</u> -95%   |

**Semiconductor Characterization Specialization, Arizona State University**

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|--|---|
| 1. Fundamentals of SC Characterization, <u>Grade</u> -100%   | 4. Ion & E-Beam Characterization, <u>Grade</u> -100%    |
| 2. Electrical Characterization: Diodes, <u>Grade</u> -84%    | 5. Optical & X-Ray Characterization, <u>Grade</u> -100% |
| 3. Electrical Characterization: MOSFETs , <u>Grade</u> -100% |   |

**CAD and Digital Manufacturing Specialization, Autodesk**

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|---|---|
| 1. Intro to Digital Manufacturing with Autodesk | 4. Engineering Design Process with Autodesk |
| 2. Autodesk Integrated CAD/CAM/CAE              | 5. Manufacturing Process with Autodesk      |
| 3. 3D Model Creation with Autodesk              |   |

**Density Functional Theory, Grade-100%, École Polytechnique**

**Professional Certificate in Google Project Management, Google**

## **EXTRA CURRICULAR ACTIVITIES**

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- **Race Director:** CU Runners 10K 2025 organizing committee.
- **Active Blood Donor:** Donated blood numerous time to save life.
- **Triathlon Finisher (Wild 70.3):** Finisher (Swim-Bike-Run) in 7 hrs 21 min.
- **Channel Swimmer:** Recognized as the 243rd swimmer in the Bangla Channel record book.
- **Ultra Marathon Runner:** Finisher at Coastal Ultra 2025-100 Km, MDU & VDHM Ultra-2024.

## **MENTORING & LEADERSHIP**

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- **General Secretary** at Chittagong University Runners
- **Coach and Ex Captain** at EEE CU Football
- **Ex-Vice President** of Lakshmipur Zilla Students Association, University of Chittagong
- **Ex Cadet** at Bangladesh National Cadet Corps, Karnafully Regiment (Jan 2019- Mar 2020)