Curriculum Vitae

Md. Ashraf Ali, Ph.D.

BAS-Gold Medalist-2023 (Physical Sciences - Junior Group)

Professor

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and

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Short Biography:

Prof. Ali is an Associate Fellow of the Bangladesh Academy of Sciences (BAS) and the proud recipient of the BAS-Gold Medal-2023 in the junior group for Physical Science. He holds the esteemed position of Professor of Physics at Chittagong University of Engineering & Technology (CUET), located in Chattogram-4349, Bangladesh. Prof. Ali's academic journey includes the successful completion of his B.Sc (Honours), M.Sc., M. Phil., and Ph.D. degrees in Physics, with a specialization in Condensed Matter Physics.

Prof. Ali is the Principal Investigator of the Advanced Computational Materials Research Laboratory (ACMRL), which receives funding [a total of 40810 USD] from The World Academy of Sciences (TWAS). His current research pursuits primarily focus on the First-Principles Study of Materials (Computational Materials Science) and the Synthesis and Characterization of Materials (Experimental). He already has published 96 research articles, most of which are published in reputed Scopus-indexed journals with an average impact factor of 2.9. These publications have garnered significant recognition within the scientific community, as demonstrated by a total number of citations exceeding 2581, which has resulted in an esteemed h-index of 31 and an i10-index of 59 in Google Scholar. Dr. Ali supervised 07 M.Sc. students so far and is currently supervising 02 Ph.D. students, 03 M.Phil. students, and 03 M.Sc. students. In addition to his research commitments, Prof. Ali actively contributes to the academic community by serving as a peer reviewer for numerous esteemed international journals, totaling 57 at present.

In recognition of his contributions, he has received a number of awards. He has been awarded the BAS-Gold Medal-2023 in the junior group for Physical Science and listed in the top 2% of scientists by Stanford University, USA, and Elsevier. Furthermore, CUET has acknowledged Prof. Ali's dedication to excellence, honoring him with the "Best Research Publication Award" for three consecutive years (2020, 2021, and 2022).

Prof. Ali maintains research collaborations with scientists and research groups in countries such as Australia, USA, Japan, India, Malaysia, and China. He consistently participates in national and

international conferences to showcase his work. At present, Prof. Ali plays an active role in various committees at his university and other universities in his country and contributes as a member of several professional organizations.

Dr. Ali successfully accomplished some research projects, including the grants provided by TWAS, UGC Bangladesh, MOST, DRE CUET, and Khulna University, which signifies his broader impact and dedication to advancing scientific knowledge in the realm of Physics and Materials Science.

Research Metrics:

Publications: 96 [First Author and/or Corresponding Author: 54]
Total Impact Factor: 275 (JCR-2023)
Google Scholar Citations: 2581; i-10 index: 59; h-index: 31
Reviewer of Journals: 57
Students Supervision:

M.Sc.		M.Phil.		Ph.D.	
Awarded	Ongoing	Awarded	Ongoing	Awarded	Ongoing
07	01	--	04	--	02

Personal Information:

Name: Md. Ashraf Ali, *Father's name:* Late Asgar Ali, *Village:* Brammongram, *P.O.:* Kakonhat, *Upa-Zilla:* Godagari, *District:* Rajshahi, Bangladesh; *Date of Birth*: 16-11-1986; *Marital status*: Married; *Religion*: Islam; *Nationality*: Bangladeshi.

Educational Information:

Degree	Group/ Subject	Passing Year	Institution	Grade/ Class
S.S.C.	Science	2002	Pakri high school (Rajshahi Board)	A
H.S.C.	Science	2004	Rajshahi Govt. City College (Rajshahi Board)	A
B.Sc. (Hons) (4 years Integrated)	Physics	2008 (held in 2009, Result in 2010)	Rajshahi University	First Class
M.Sc. (Solid State Physics)	Physics	2009 (held in 2010, Result in 2011)	Rajshahi University	First Class
M.Phil.	Physics	2015 (12.08.2019	Chittagong University of Engineering and Technology	Awarded
Ph.D.	Physics	2019 (02.11.2019)	Chittagong University of Engineering and Technology	Awarded

Dissertations:

M. Sc. Thesis entitled "*First principles study of tin oxides SnO_2 and SnO*" submitted to the Department of Physics, University of Rajshahi- work done as a partial fulfillment of Master degree.

M. Phil. Thesis entitled "*Study of the structural, magnetic and electrical properties of Sn-substituted Ni-Zn ferrites*" submitted to the Department of Physics, CUET - work done as a partial fulfillment of Master of Philosophy degree.

Ph.D. Thesis entitled "*Synthesis and characterization of Y and Sn ions substituted Mg-Zn ferrites*" submitted to the Department of Physics, CUET - work done as a partial fulfillment of Doctor of Philosophy degree.

Awards and Honors:

1. **Awarded BAS-Gold Medal-2023 (Physical Sciences - Junior Group) by Bangladesh Academy of Sciences (BAS),** the apex body of eminent scientists and technologists in Bangladesh.
2. **Elected Associate Fellow (2023) of the Bangladesh Academy of Sciences (BAS),** the apex body of eminent scientists and technologists in Bangladesh.
3. **Awarded best research paper award for 2022** from the Faculty of Engineering and Technology, CUET.
4. **Awarded best research paper award for 2021** from the Faculty of Engineering and Technology, CUET.
5. **Awarded a TWAS [The World Academy of Sciences] research grant** [40,810 USD] for the development of an Advanced Computational Materials Research Laboratory (ACMRL) at the Department of Physics, CUET.
6. **Awarded best research paper award for 2020** from the Faculty of Engineering and Technology, CUET.
7. **Awarded a research fellowship** of the Ministry of Science and Technology (MoST) for the period of 2010-2011.
8. **Awarded University Scholarship** (General) on the basis of B.Sc. (Hons.) result.
9. **Awarded Rajshahi Board Scholarship** (General) on the basis of H.S.C. result.
10. **Awarded local MP's Scholarship** (General) on the basis of S.S.C. result.

Invited/Distinct Positions

1. The rise of 212 MAX phase borides with enhanced thermo-mechanical properties.
   Invited Talk, presented at International Conference on Advanced Materials Science & Engineering and High Tech Device Application (ICMATSE), held on 24-26 October 2024, Ankara, Turkiye.
2. MAX/MAB Phases: A Family of Prospective Materials
   Invited Talk, presented at International Conference on Physics-2024, organized by Bangladesh Physical Society, 9-11 May 2024, Dhaka, Bangladesh.
3. **Organizing secretary,** 5^{th} international conference (5^{th} ICPSDT-2023) hosted by the physics department at CUET. The conference featured four keynote speakers and fourteen invited speakers, with 200 participants in attendance. Twenty of those participants were from overseas and participated in the conference in person.
4. DFT Prediction of Stability and Physical Properties of Ti_2PB_2 Boride.
   Invited Presentation at the Department of Physics, CUET, 2023, Chattogram, Bangladesh.
5. **Co-Chair** at 6th ICMERE-2021, organized by the Department of Mechanical Engineering, CUET, 12-13 December 2021, Chattogram, Bangladesh.

List of Publications

[Bold letters indicate Dr. Ali; *Indicates corresponding authorship; Citations: 2562 h-index: 31, i10 index: 59; Cumulative Impact Factor (JCR-2023) ~270]

1. M. A. Rayhan, M. M. Hossain, M. M. Uddin, S. H. Naqib, **M. A Ali*,** *DFT exploration of novel direct band gap semiconducting halide double perovskites, $A_2AgIrCl_6$ (A = Cs, Rb, K), for solar cells application,* **submitted**.

2. A. K. M Naim Ishtiaq, Md Nasir Uddin, Md. Rasel Rana, Shariful Islam, Noor Afsary, Karimul Hoque, **Md. Ashraf Ali*,** *Exploration of new 212 MAX phases: M_2AB_2 (M=Mo, Ta; A=Ga, Ge) via DFT calculations,* **submitted**.

3. Sonet Kumar Saha, **Md. Ashraf Ali**, A. K. M. Akther Hossain, Study of the structural, dielectric properties and AC conductivity of $Bi_{1-x}Y_xFe_{0.7}Mn_{0.3}O_3$ ceramics, **submitted**.

4. Md. Rasidul Islam, Ovijit Das, **M. A. Ali**, Asif Abdullah Khan, Dayan Ban, Density function theory analysis of the physical properties of $Pb_{10}(PO_4)_6(OH)_2$(K99) material, **submitted to Nanoscale (2024).**

5. **M. A. Ali*,** S. Nath, S. Mahmud, N. Jahan, M. M. Uddin, *MAX phase borides, the potential alternative of well-known MAX phase carbides: a case study of V_2AB [A = Ge, P, Tl, Zn] via DFT method*, **Diamond & Related Materials** 150 (2024) 111668.

6. Noor Afsary, Md Nasir Uddin, A. K. M Naim Ishtiaq, Md Koushik Alam, **Md. Ashraf Ali**, Karimul Hoque, Md Omar Faruk Rasel, *First-principal analysis and design of $TaPO_5$-based waveguides for photonic circuitry* **Physica B** 696 (2024) 416645.

7. Noor Afsary, Md Nasir Uddin, Shariful Islam, Md Koushik Alam, **Md. Ashraf Ali**, Karimul Hoque, Md Omar Faruk Rasel, *Elevating NIR Photonic Integration with Tantalum-Niobium Pentoxide,* **Physica Scripta** 99 (2024) 115972.

8. M. M. Uddin, M. Z. Hossain, M. H. Kabir, Swarup Ghosh, M. H. Haque, M. M. Hossain, **M. A. Ali**, Md. Akhtaruzzaman, Abdulaziz M. Alanazi, S. Mondal, Joydeep Chowdhury, D. Karmakar, and Debnarayan Jana; *Synergistic Effects of Rare-Earth Ions (Ho, Yb) Doped on the Photo-Catalytic Efficacy of V_2O_5 for Removal of Pollutants from Industrial Waste Water* **Heliyon** 10 (2024) e37689.

9. S. Mahmud, M. M. Hossain, M. M. Uddin, **M. A. Ali*,** *Prediction of X_2AuYZ_6 (X = Cs, Rb; Z = Cl, Br, I) double halide perovskites for photovoltaic and wasted heat management device applications*, **Journal of Physics and Chemistry of Solids** 196 (2025) 112298.

10. Md. Ferdous Rahman, Md. Abul Bashar Shanto, **Md. Ashraf Ali**, Latha Marasamy, Abdellah Benami, Aijaz Rasool Chaudhry, Ahmad Irfan, *A new exploration of the impact*

of different wide-bandgap S-chalcogenides Electron Transport Layers (ETL) on the performance of BaSi2-based solar cells, **Emergent Materials** (2024).

11. Ruma Akther, N. Jahan, **M. A. Ali***, *Study of New MAX Phase Materials: Sc_2AX (A= Bi, Br; X=C, N, B) via Ab-initio Method* **Materials Today Communications** 40 (2024) 109679.

12. A. K. M Naim Ishtiaq, Md Nasir Uddin, Noor Afsary, Md Koushik Alam, **Md. Ashraf Ali***, Karimul Hoque, *A DFT approach to investigate the electronic, mechanical, and optical properties of M_3GaB_2 (M = Ti, Hf) 312 MAX Phases* **Heliyon** 10 (2024) e33651.

13. M. Biswas, S. Ghosh, J. Chowdhury, **M. A. Ali,** M. M. Hossain, S. H. Naqib, and M. M. Uddin, *An inclusive study of lead-free perovskite $CsMI_3$ materials for photovoltaic and optoelectronic appliance explored by a first principles study,* **Materials Today Communications** 40 (2024) 109422.

14. M.R. Rana, S. Islam, K. Hoque, S. Mahmud, **M. A. Ali***, *Newly synthesized Pb-based 312 MAX phases M_3PbC_2 (M=Zr and Hf): A First-principles study,* **Diamond & Related Materials** 146 (2024) 111245.

15. S. Islam, M.R. Rana, Prima Das, K. Hoque, S.H. Naqib, **M. A. Ali***, *DFT insights into i-MAB phase, $Mo_4Y_2Al_3B_6$: a potential thermal barrier coating and solar heat reducing material,* **Physica Scripta** 99 (2024) 055975.

16. M. A. Rayhan, **M. A. Ali***, N. Jahan, M. M. Hossain, M. M. Uddin, A. K. M. A. Islam, S. H. Naqib, *Insights into the unrevealed physical properties of $Sc_2Al_2C_3$ compared with other Sc-Al-C systems via ab-initio investigation*, **Physics Open** 19 (2024) 100217.

17. H. Akter, M. M. Hossain, M. M. Uddin, S. H. Naqib, **M. A. Ali***, *Effects of S substitution on the structural, optoelectronic, and thermomechanical properties of $KTaO_3$ through density functional theory,* **Journal of Physics and Chemistry of Solids** 190 (2024) 112021.

18. S. Islam, R. Ahmad, **M. A. Ali**, M. M. Hossain, M. M. Uddin, S. H. Naqib, *Ab-initio insights into the physical properties of XIr_3 (X = La, Th) superconductors: A comparative analysis*, **Results in Materials** 22 (2024) 100568.

19. H. Akter, **M. A. Ali***, M. M. Hossain, M. M. Uddin, S. H. Naqib, *Oxysulfide Perovskites: Reduction of the Electronic Band Gap of $RbTaO_3$ by Sulfur Substitution,* **Physica Scripta** 99 (2024) 045950.

20. Md Nasir Uddin; A. K. M Naim Ishtiaq; Shariful Islam; Md. Rasel Rana; **Md. Ashraf Ali***, Karimul Hoque, *Prediction of new 212 M_2AB_2 borides as a promising candidate for future engineering: DFT calculations,* **Materials Today Communications** 39 (2024) 108536.

21. M. N. Hossain, M. M. Rahman, **M. A. Ali**, N. Jahan, A. A. Momin, M. M. Rahman, M. A. Hakim, *Novel Gadolinium (Gd) and Chromium (Cr) Co-Doped Yttrium Iron Garnet*

($Y_3Fe_5O_{12}$) Nanoparticles, **Arabian Journal for Science and Engineering** 49 (2024) 9967–9982.

22. A. Hossain, **M. A. Ali**, M.M. Uddin, S.H. Naqib, M.M. Hossain, *Theoretical studies on phase stability, electronic, optical, mechanical and thermal properties of chalcopyrite semiconductors $HgXN_2$ (X=Si, Ge and Sn): A comprehensive DFT analysis,* **Materials Science in Semiconductor Processing** 172 (2024) 108092.

23. Razu Ahmed, Md Sajidul Islam, M.M. Hossain, **M. A. Ali**, M.M. Uddin, S. H. Naqib, *A comprehensive first-principles insights into the physical properties of binary intermetallic Zr_3Ir compound*, **Results in Materials** 21 (2024) 100518.

24. S. Mahmud, **M. A. Ali***, M.M. Hossain, M.M. Uddin, *DFT aided prediction of phase stability, optoelectronic and thermoelectric properties of A_2AuScX_6 (A= Cs, Rb; X= Cl, Br, I) double perovskites for energy harvesting technology*, **Vacuum** 221 (2024) 112926.

25. M. H. Kabir; M. Z. Hossain; M. A. Jalil; M.M. Hossain; **M. A. Ali**; M.M. Uddin; D. Jana; M. M. Rahman; M. K. Hossain; K. S. Al-mugren, *Enhancement of the photocatalytic performance of V_2O_5 by rare-earth ions doping, synthesized by facile hydrothermal technique,* **Optical Materials** 147 (2024) 114724.

26. Md. Mohi Uddin, Mohammad Humaun Kabir, **Md. Ashraf Ali**, Md. Mukter Hossain, Mayeen Uddin Khandaker, Sumit Mandal, A. Arifutzzaman, Debnarayan Jana, *Graphene-like Emerging 2D Materials: Recent Progress, Challenges and Future Outlook*, **RSC Advances** 13 (2023) 33336.

27. Md. Rasidul Islam, Abu Zahid, M Atikur Rahman, Md. Ferdous Rahman, M. A. Islam, M. Khalid Hossain, **M. A. Ali**, Muhammad Aamir Iqbal, FarhadIlahi Bakhsh, and Sohail Ahmad; *Tuning the optical, electronic, and mechanical properties of inorganic Ca_3PCl_3 perovskite via biaxial strain*, **Journal of Physics and Chemistry of solids** 184 (2024) 111722.

28. Md. Ferdous Rahman, Md. Harun-Or-Rashid, Md. Rasidul Islam, Avijit Ghosh, M. Khalid Hossain, Mustafa K. A. Mohammed, Sagar Bhattarai, Rahul Pandey, Jaya Madan, **M. A. Ali**, *Exploring the Impact of Strain on the Electronic and Optical Properties of Inorganic Novel Cubic Perovskite Sr_3PI_3,* **Physica Scripta** 98 (2023) 115105.

29. J. Islam, M. D. Islam, **M. A. Ali***, H. Akter, A. Hossain, M. Biswas, M. M. Hossain, M. M. Uddin, S. H. Naqib, *DFT insights into MAX phase borides Hf_2AB [A = S, Se, Te] in comparison with MAX phase carbides Hf_2AC [A = S, Se, Te]*, **ACS Omega** 8 (2023) 32917-32930.

30. F. Rahman, M. M. Ali, **M. A. Ali**, M. M. Uddin, S. H. Naqib, M. M. Hossain; *DFT approach into the physical properties of MTe_3 (M = Hf, Zr) superconductors: a comprehensive study;* **AIP Advances** 13 (2023) 085126**.**

31. S. Islam, M. R. Rana, M. K. Hoque, G. G. Biswas, M. E. Hossain, M. M. Hossain, M. M. Uddin, S. H. Naqib, **M. A. Ali*,** *A comprehensive exploration of the physical properties*

of M_2GaB (M = Ti, Zr, Mo, Hf) through DFT method, **Results in Materials** 19 (2023) 100438.

32. Shazzad Hossain, Md Emran Hossain, Shariful Islam, Md Rasel Rana, G.G. Biswas, **Md Ashraf Ali*,** K. Hoque, M.N.I. Khan, *Synthesis of Sr-doped $Ni_{0.5}Zn_{0.5}Sr_xFe_{2-x}O_4$ and the study of its structural, mechanical, magnetic, and electrical properties for high-frequency applications,* **Physics Open** 17 (2023) 100172.

33. Atanu Sarker Jyoti, G. G. Biswas, Md. Rasel Rana, Shariful Islam, Md. Emran Hossain, M. N. I. Khan, K. Hoque, **Md. Ashraf Ali***, *Investigation of the Structural, Electrical and Magnetic Properties of Vanadium Substituted Mn-Zn Ferrites*, **Discover Materials** 3 (2023) 20.

34. M. I. Naher, **M. A. Ali**, M. M. Hossain, M. M. Uddin, S. H. Naqib, *A comprehensive ab-initio insights into the pressure-dependent mechanical, phonon, bonding, electronic, optical, and thermal properties of CsV_3Sb_5 Kagome compound,* **Results in Physics** 51 (2023) 106742.

35. M. H. Kabir, M. H. Hossain, **M.A. Ali**, M.M. Uddin, M.L. Ali, M.Z. Hasan, A.K. M. A Islam, S.H. Naqib, *First-principles study of mechanical, thermal, electronic, optical and superconducting properties of C40-type germanide-based MGe_2 (M = V, Nb and Ta),* **Results in Physics** 51 (2023) 106701**.**

36. M. Sohel, M. M. Uddin, **M. A. Ali**, Md Mukter Hossain, A. K. M. A. Islam, S. H. Naqib *Impact of M atomic species on physical properties of M_2TlC (M= Ti, Zr, Hf): a first principle calculations,* **AIP Advances** 13 (2023) 065209.

37. M. R. Rana, S. Islam, M. K. Hoque, G. G. Biswas, M. E. Hossain, S. H. Naqib, **M. A. Ali***, *DFT prediction of the stability and physical properties of M_2GaB (M = Sc, V, Nb, Ta),* **Journal of Materials Research and Technology** 24 (2023) 7795-7815.

38. Gokhan Surucu, Aysenur Gencer, Ozge Surucu, **Md. Ashraf Ali**, *DFT insights into noble gold-based compound, Li_5AuP_2: effect of pressure on physical properties,* **ACS Omega** 8 (2023) 15673–15683.

39. Mehnaj Akhter, Md. Shamim Ahasan, **M. A. Ali***, F. Parvin; *Elastic, electronic, optical and thermodynamic properties of M_2SeC (M= Hf, Zr) under high pressure;* **AIP Advances** 13 (2023) 025154.

40. Prima Das, N. Jahan, **M. A. Ali***, *DFT insights into Nb-based 211 MAX phase Carbides: Nb_2AC (A= Ga, Ge, Tl, Zn, P, In, Cd),* **RSC Advances** 13 (2023) 5538.

41. **M. A. Ali***, M. M. Hossain, M. M. Uddin, A. K. M. A. Islam, S. H. Naqib, *The rise of 212 MAX phase borides: DFT insights into the physical properties of Ti_2PB_2, Zr_2PbB_2, and Nb_2AB_2 [A = P, S] for thermo-mechanical applications,* **ACS Omega** 8 (2023) 954.

42. M. S. Hossain, N. Jahan, M. M. Hossain, M. M. Uddin, **M. A. Ali***, *High pressure mediated physical properties of Hf_2AB (A = Pb, Bi) via DFT calculations*, **Materials Today Communications** 34 (2023) 105147.

43. Rafiqul Islam, M. M. Hossain, **M. A. Ali**, M. M. Uddin, S. H. Naqib, *Metallicboro-carbides of A_2BC (A=Ti, Zr, Hf and W): A comprehensive theoretical study for thermo-mechanical and optoelectronic applications*; **RSC Advances** 12 (2022) 32994.

44. J. Islam, S. K. Mitro, M. M. Hossain, M. M. Uddin, N. Jahan, A. K. M. A. Islam, S. H. Naqib, **M. A. Ali***, *Exploration of physical properties of newly synthesized Kagome superconductor $LaIr_3Ga_2$ using different exchange correlation functional*, **Physical Chemistry Chemical Physics** 24 (2022) 29640.

45. M.A. Hadi, Istiak Ahmed, **M.A. Ali**, M.M. Hossain, M.T. Nasir, M.L. Ali, S.H. Naqib, A.K.M.A. Islam, *A comparative DFT exploration on M- and A-site double transition metal MAX phase, Ti_3ZnC_2*; **Open Ceramics** 12 (2022) 100308.

46. Md. Atikur Rahman, Ibrahim Kholil, Rukaia Khatun, Sushmita Sarker, Mahbub Hasan, **M. A. Ali**, Md. Zahidur Rahaman, Khandaker Monower Hossain, Md. Zahid Hasan, *High pressure study of new type of MAX phases: Hf_2AB_2 (A = In, Sn)*, **Physica Status Solidi B** 260 (2022) 202200102.

47. Muhammad Waqas Qureshi, **M. A. Ali**. Xinxin Ma, Guangze Tang, M. Usman Javed, Durga Paudyal, *Verification of stability and unraveling the electronic and physical properties of bulk and (001)-surfaces of newly synthesized Ti_2ZnX (X = C, N) MAX phases*, **Surfaces and Interfaces** 31(2022) 102032.

48. **M. A. Ali***, Muhammad Waqas Qureshi, *DFT insights into the new Hf-based chalcogenide MAX phase Hf_2SeC*, **Vacuum** 201 (2022) 111072.

49. M. N. Hossain, M. A. Matin, M. M. Rahman, **M. A. Ali**, M. A. Hakim, S. K. Roy. Structural and dielectric progression of 5 % Gd doped $BiFeO_3$nanoparticles through Cr (2-8%) doping, **Journal of Engineering Science** 12(3) (2021) 101 – 110.

50. M. M. Hossain, **M. A. Ali**, M. M. Uddin, A. K. M. A. Islam, S. H. Naqib, *Newly Synthesized Three-Dimensional Boron-Rich Chalcogenides $B_{12}X$ (X = S and Se): Theoretical Characterization of the Physical Properties for Optoelectronic and Mechanical Applications*, **ACS Omega** 6 (2021) 33899–33913.

51. **M. A. Ali***, M. M. Hossain, M. M. Uddin, A. K. M. A. Islam, S. H. Naqib, *Understanding the improvement of thermo-mechanical and optical properties of 212 MAX phase borides Zr_2AB_2 (A = In, Tl)*, **Journal of Materials Research and Technology** 15 (2021) 2227-2241.

52. Md. Mizanur Rahman, Anisur Rahman, Shafiul Hossain, P.K. Das, **Md. Ashraf Ali**, Md. Abdul Malek Soner and Abdullah-Al-Mahmud, *Calculation of fuel burnup and excess reactivity using TRIGLAV code for the BAEC TRIGA research reactor*, **Int. J. Nuclear Energy Science and Technology** 14 (2020) 291.

53. Muhammad Waqas Qureshi, **M. A. Ali***, Xinxin Ma, *Screen the physical properties of the new ductile 314 MAX phase boride Zr_3CdB_4: A DFT insight*, **Journal of Alloys and Compounds** 877 (2021) 160248.

54. **M. A. Ali***, Muhammad Waqas Qureshi, *Newly synthesized MAX phase Zr_2SeC: DFT insights into physical properties towards possible applications*, **RSC Advances** 11 (2021) 16892.

55. M. M. Hossain, **M. A. Ali**, M. M. Uddin, A.K.M.A. Islam, S. H. Naqib, *Origin of high hardness and optoelectronic and thermo-physical properties of boron-rich compounds B_6X (X = S, Se): a comprehensive study via DFT approach*, **Journal of Applied Physics** 129 (2021) 175109.

56. M. S. Hossain, **M. A. Ali***, M. M. Hossain, M. M. Uddin, *Physical properties of predicted MAX phase borides Hf_2AB (A = Pb, Bi): A DFT insight*, **Materials Today Communications** 27 (2021) 102411.

57. M. D. Hossain, M. N. I. Khan, **M. A. Ali**, M. A. Matin, S. M. Hoque, M. A. Hakim, A. T. M. K. Jamil, *Impact of V substitution on the physical properties of Ni-Zn-Co ferrites: Structural, magnetic, dielectric and electrical properties*, **Materials Research Express** 8 (2021) 046102.

58. **M. A. Ali***, M.N.I. Khan, F.-U.-Z. Chowdhury, M.M. Hossain, S.M. Hoque, M.M. Uddin; *Impact of Sn^{4+} substitution in Mg-Zn ferrites: deciphering the structural, morphological, dielectric, electrical and magnetic properties*, **Materials Chemistry and Physics** 263 (2021) 124357**.**

59. M. M. Uddin, **M. A. Ali**, M. M. Hossain, S. H. Naqib, A. K. M. A. Islam; *Comparative study of predicted MAX phase Hf_2AlN with recently synthesized Hf_2AlC: A first principle calculation*, **Indian Journal of Physics** 96 (2022) 1321–1333**.**

60. **M. A. Ali***, M. M. Hossain, M. M. Uddin, A. K. M. A. Islam, S. H. Naqib, *Physical properties of new MAX phase borides M_2SB (M = Zr, Nb, Hf) in comparison with conventional MAX phase carbides M_2SC (M = Zr, Nb, Hf): Comprehensive insights*, **Journal of Materials Research and Technology** 11 (2021) 1000-1018**.**

61. A.M. M. Tanveer Karim, M. A. Helal, M. A. Alam, **M. A. Ali**, I. Ara, S. H. Naqib, *Optoelectronic, thermodynamic and vibrational properties of intermetallic $MgAl_2Ge$: A first-principles study*, **SN Applied Sciences** 3 (2021) 229**.**

62. **M. A. Ali***, M. M. Uddin, M. N. I. Khan, F -U -Z Chowdhury, D. K. Saha, S. M. Hoque, S. I. Liba, and S. Akhter; *Effect of sintering temperature on structural and magnetic properties of $Ni_{0.6}Zn_{0.4}Fe_2O_4$ ferrite: Synthesized from nanocrystalline powders*; **Journal of Physics: Conference Series** 1718 (2021) 012013.

63. M. M. Hossain, M A Hossain, S. A. Moon, **M. A. Ali**, M. M. Uddin, S. H. Naqib, A. K. M. A. Islam, M. Nagao, S. Watauchi, I. Tanaka; *$NaInX_2$ (X = S, Se) layered materials for energy harvesting applications: First-principles insights into optoelectronic and*

thermoelectric properties; **Journal of Material Science: Materials In electronics** 32 (2021) 3878-3893.

64. M. M. Hossain, **M. A. Ali**, M. M. Uddin, M A Hossain, M. Rasadujjaman, S. H. Naqib, M. Nagao, S. Watauchi, I. Tanaka, *Influence of Se doping in recently synthesized* $NaInS_{2-x}Se_x$ *solid solutions for potential thermo-mechanical applications studied via first-principles method,* **Materials Today Communication** 26 (2021) 101988**.**

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66. **M. A. Ali***, M. M. Hossain, M. M. Uddin, A. K. M. A. Islam, D. Jana, S. H. Naqib; *DFT insights into new B-containing 212 MAX phases:* Hf_2AB_2 *(A = In and Sn),* **Journal of Alloys and Compounds** 860 (2021) 158408**.**

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70. **M. A. Ali***, S. H Naqib, *Recently synthesized* $(Ti_{1-x}Mo_x)_2AlC$ $(0 \leq x \leq 0.20)$ *solid solutions: deciphering the structural, electronic, mechanical and thermodynamic properties via ab initio simulations,* **RSC Advances** 10 (2020) 31535.

71. **M. A. Ali***, M.N.I. Khan, F.-U.-Z. Chowdhury, M.M. Hossain, M N Hossain, R. Rashid, S.M. Hoque, M.A. Hakim and M.M. Uddin, *Mechanical behavior, enhanced dc resistivity, energy band gap and high temperature magnetic properties of Y-substituted Mg-Zn ferrites,* **Materials Research Express** 7 (2020) 036101.

72. M. A. Matin, M. N. Hossain, F. A. Mozahid, **M. A. Ali**, M. A. Hakim, M. F. Islam, *Dielectric and optical properties of Ni doped* $LaFeO_3$ *nanoparticles,* **SN Applied Sciences** 1 (2019) 1479.

73. M. D. Hossain, M. N. I. Khan, A. Nahar, **M. A. Ali**, M. A. Matin, S. M. Hoque, M. A. Hakim, A. T. M. K. Jamil, *Tailoring the properties of Ni-Zn-Co ferrites by* Gd^{3+} *substitution,* **Journal of Magnetism and Magnetic Materials** 497 (2020) 165978.

74. **M. A. Ali***, M.N.I. Khan, F.-U.-Z. Chowdhury, M.M. Hossain, M. Z. Rahaman, S. M. Hoque, M. A. Matin, M.M. Uddin, *Study of physical properties towards optimizing*

sintering temperature of Y-substituted Mg-Zn ferrites, **Results in Physics** 14 (2019) 102517.

75. **M. A. Ali**, M.N.I. Khan, F.-U.-Z. Chowdhury, M.M. Hossain, A.K.M. Akhter Hossain, A. Nahar, S.M. Hoque, M.A. Matin, M.M. Uddin; *Yttrium substituted Mg-Zn ferrites: correlation of physical properties with Yttrium content,* **Journal of Materials Science: Materials in Electronics** 30 (2019) 13258–13270.

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77. **M. A. Ali**, M. A. Hossain, M. A. Rayhan, M. M. Hossain, M. M. Uddin, M. Roknuzzaman, K. Ostrikov, A. K. M. A. Islam, S. H. Naqib*; First-principles study of elastic, electronic, optical and thermoelectric properties of newly synthesized* $K_2Cu_2GeS_4$ *chalcogenide,* **Journal of Alloys and Compounds** 781 (2019) 37-46.

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80. **M. A. Ali***, M. M. Hossain, M. A. Hossain, M. T. Nasir, M. M. Uddin, M. Z. Hasan, S. H. Naqib, A. K. M. A. Islam; *Recently synthesized* $(Zr_{1-x}Ti_x)_2AlC$ $(0 \leq x \leq 1)$ *solid solutions: Theoretical study of the effects of M mixing on physical properties;* **Journal of Alloys and Compounds** 743 (2018) 146-154.

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84. M. Roknuzzaman, M. A. Hadi, **M. A. Ali**, M. M. Hossain, N.Jahan, M. M. Uddin, J.A. Alarco, K. Ostrikov; *First hafnium-based MAX phase in the 312 family,* Hf_3AlC_2*: A first-principles study*; **Journal of Alloys and Compounds** 727 (2017) 616-626.

85. **M. A. Ali**, M. M. Uddin, M.N.I. Khan, F.-U.-Z. Chowdhury, S.M. Hoque, S.I. Liba; *Magnetic properties of Sn-substituted Ni-Zn ferrite: synthesized from nano-sized powders of NiO, ZnO, Fe_2O_3 and SnO_2,* **Chinese Physics B** 26 (2017) 077501.

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87. **M. A. Ali***, M. R. Khatun, N. Jahan, M. M. Hossain; *Comparative study of Mo_2Ga_2C with superconducting MAX phase Mo_2GaC: first-principles calculations*; **Chinese Physics B** 26 (2017) 033102.

88. **M. A. Ali**, M. M. Hossain, N. Jahan, S. H. Naqib, A. K. M. A. Islam; *Newly synthesized $Zr_2(Al_{0.58}Bi_{0.42})C$, $Zr_2(Al_{0.2}Sn_{0.8})C$, and $Zr_2(Al_{0.3}Sb_{0.7})C$ MAX phases: A DFT based first-principles study;* **Computational Materials Science** 131 (2017) 139-145.

89. **M. A. Ali**, M. M. Uddin, M. N. I. Khan, F.-U.-Z. Chowdhury, S. M. Hoque; *Structural, morphological and electrical properties of Sn-substituted Ni-Zn ferrites synthesized by double sintering technique*; **Journal of Magnetism and Magnetic Materials** 424 (2017) 148-154.

90. **M. A. Ali***, A.K.M.A. Islam, N. Jahan, S. Karimunnesa; *First-principles study of SnO under high pressure*; **International Journal of Modern Physics B** 30 (2016) 1650228.

91. **M. A. Ali**, M. T. Nasir, M. R. Khatun, A. K. M. A. Islam, S. H. Naqib; *Ab initio investigation of vibrational, thermodynamic, and optical properties of Sc_2AlC MAX compound*; **Chinese Physics B** 25 (2016) 103102.

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94. **M. A. Ali**, M. Roknuzzaman, M. T. Nasir, S. H. Naqib, A. K. M. A. Islam; *Structural, elastic, electronic and optical properties of Cu_3MTe_4 (M=Nb, Ta) sulvanites: an ab-initio study;* **International Journal of Modern Physics B** 30 (2016) 1650089.

95. **M. A. Ali**, M. N. I. Khan, F.-U.-Z. Chowdhury, S. Akhter, and M. M. Uddin; *Structural properties, impedance spectroscopy and dielectric spin relaxation of Ni-Zn ferrite synthesized by double sintering technique*; **Journal of Scientific Research** 7 (2015) 65-75.

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97. **M. A. Ali***, N. Jahan, A. K. M. A. Islam; *Sulvanite compounds Cu_3TMS_4 (TM= V, Nb and Ta): elastic, electronic, optical and thermal properties using first-principles method*; **Journal of Scientific Research** 6 (2014) 407-419.

98. N. Jahan, **M. A. Ali**; *A theoretical study of elastic, electronic, optical and thermodynamic properties of AlB_2 and TaB_2*; **Bangladesh Journal of Physics** 15 (2014) 93-103.

99. **M. A. Ali**, A. K. M. A. Islam; *$Sn_{1-x}Bi_xO_2$ and $Sn_{1-x}Ta_xO_2$ ($0 \leq x \leq 0.75$): A First-principles Study*; **Physica B** 407(2012) 1020-1026.

100. **M. A. Ali**, A. K. M. A. Islam; M. S. Ali; *Ni-rich nitrides $ANNi_3$ (A = Pt, Ag, Pd) in comparison with superconducting $ZnNNi_3$*; **Journal of Scientific Research** 4 (2012) 1-10.

Research Projects:

Sl No	Role	Title	Funding organization	Duration	Amount
1.	Principal Investigator	DFT Prediction of Double Perovskites $A_2B'B''Cl_6$ [A = Cs/Rb; B′ = Na/K; B″=Au/Rh] for Green Energy Technology.	**CUET DRE**	01.02.2024 – 31.01.2025	214000 BDT
2.	Principal Investigator	Prediction of the M_2AB [M=V, Nb, Ta; A=Ge, Tl, P, Zn, Cd, Cu] borides by the DFT method	**UGC, Bangladesh**	01.01.2024 – 31.12.2024	212000 BDT
3.	Co-Principal Investigator	Exploring the stability and Physical properties of M_2AX [M = Ti,Zr, Hf; A=Ge, Tl, P, Zn, Cd, Cu; X = C/B] phases: a DFT study	**Khulna University Research and Innovation Centre**	2023- 2024	300000 BDT
4.	Principal Investigator	Synthesis and study of the photo-catalytic activity of R_2CrFeO_6 [R = Y, La] for the degradation of organic dyes	**MoST, Bangladesh**	01.07.2023 – 30.06.2024 (**Completed**)	250000 BDT
5.	Principal Investigator	Development of an Advanced Computational Materials Research Laboratory	**TWAS**	03/11/2021-31/12/2023 (**Completed**)	40810 USD
6.	Co-Principal Investigator	First principles analysis of Y-based 211 M2AX compounds (M = transition metals, A = main group elements, X = C/N)	**Khulna University Research Cell**	October 2022-October 2023 (**Completed**)	200000 BDT
7.	Project member	Study of photocatalytic behavior of recently synthesized high-quality V_2O_5 by hydrothermal technique for wastewater treatment	**UGC, Bangladesh**	01/05/2022-30/04/2023 (**Completed**)	298400 BDT

8.	Principal Investigator	"First-principles study of 211 MAX phase carbides: Nb_2AC (A = P, Zn, Ga, Ge, Cd, In, Tl)"	**MoST, Bangladesh**	01/07/2021-30/06/2022 (**Completed**)	200000 BDT
9.	Co-Principal Investigator	First principles study of 211 MAX phase borides (M = Transition metal, A = Al/Ga, X = B)	**Khulna University Research Cell**	October 2021-October 2022 (**Completed**)	200000 BDT
10.	Project member	Synthesis and characterization of 2D transition metal carbides (MXenes, Ti_2C and Ti_3C_2): A theoretical and an experimental approach	**CUET DRE**	2021-2023 (**Completed**)	450000 BDT
11.	Project Student	Synthesis and characterization of Y and Sn ions substituted Mg-Zn ferrites	**CUET DRE**	July 2017 - June 2019 (**Completed**)	450000 BDT
12.	Project member	Study of Ni-Sn-Zn nano ferrites for high frequency electronicsapplications	**CUET DRE**	July 2014 – June 2016 (**Completed**)	300000 BDT

Students Supervision

Sl No.	Name	Identity	Level	Status
1.	Md. Abu Rayhan	20PPHY002P	Ph.D.	Ongoing
2.	Shuib Mahmud	20PPHY003P	Ph.D.	Ongoing
3.	Kohinur Begum	21MPHY007P	M.Phil.	Ongoing
4.	Ruma Das	21MPHY006P	M.Phil.	Ongoing
5.	Siyara Bibi	15MPHY005P	M.Phil.	Ongoing
6.	Syed Saifullah Saif			
7.	Shrabonti Nath	22MSPHY008	M.Sc.	Ongoing
8.	Md. Navid Anjum Roktim	MS – 231709 (Khulna University)	M.Sc.	Awarded 2024
9.	Shahadat Hossen Sakib	MS 231703 (Khulna University)	M.Sc.	Awarded 2024
10.	Hasina Akter	20MSPHY002F	M.Sc.	Awarded 2024
11.	Prima Das	19MSPHY001F	M.Sc.	Awarded 2023
12.	Md. Rasel Rana	M.Sc.-201711 (Khulna University)	M.Sc.	Awarded 2023
13.	Md. Shariful Islam	M.Sc.-201702 (Khulna University)	M.Sc.	Awarded 2023
14.	Md. Sumon Hossain	18MSPHY004F	M.Sc.	Awarded 2022

Reviewer:

1. ACS Applied Engineering Materials (**ACS**)
2. ACS Omega (**ACS**)
3. Advances in Materials Science and Engineering (**Hindawi**)
4. Applied Physics A (**Springer**)
5. Canadian Journal of Physics (**Canadian Science Publishing**)
6. Chinese Physics B (**IOP Science**)
7. Ceramic International (**Elsevier**)
8. Construction and Building materials (**Elsevier**)
9. Diamond and related materials (**Elsevier**)
10. Energy storage (**Wiley**)
11. Emergent Materials (**Springer**)
12. Europhysics letters (**Springer**)
13. Engineering and Technology Journal (**University of Technology-Iraq**)
14. ECS journal of solid state science and technology (**IOP Science**)
15. Heliyon (**Elsevier**)
16. High Temperature Materials and Processes (**De Gruyter**)
17. International Journal of Modern Physics B (**World Scientific**)
18. International Journal of Energy Research (**Wiley**)
19. IEEE Transactions on Nanotechnology (**IEEE**)
20. International journal of quantum chemistry (**Wiley**)
21. Journal of Alloys and Compounds (**Elsevier**)
22. Journal of the American Ceramic Society (**Wiley**)
23. Journal of Energy Storage (**Elsevier**)
24. Journal of Materials Research and Technology (**Elsevier**)
25. Journal of Materials Chemistry A (**RSC**)
26. Journal of Materials Chemistry C (**RSC**)
27. Journal of Materials Science (**Springer**)
28. Journal of Materials Engineering and Performance (**Springer**)
29. Journal of Nanoelectronics and Optoelectronics
30. Journal of Physics and Chemistry of Solids (**Elsevier**)
31. Journal of Rare Earths (**Elsevier**)
32. Journal of Taibah University for Science (**Taylor and Francis**)
33. Materials Advances (**RSC**)
34. Materials Chemistry and Physics (**Elsevier**)

35. Materials Science & Engineering B (**Elsevier**)
36. Materials Science in Semiconductor Processing (**Elsevier**)
37. Materials Research Express (**IOP Science**)
38. Materials Research Innovations (**Taylor and Francis**)
39. Modern Physics Letters B (**World Scientific**)
40. Nano-structures & nano-objects (**Elsevier**)
41. Next materials (**Elsevier**)
42. Optical and Quantum Electronics (OQEL) (**Springer**)
43. Open Physics (**de Gruyter**)
44. Physica Scripta (**IOP Science**)
45. Phase Transition (**Taylor and Francis**)
46. Physica Status Solidi B (**Wiley**)
47. Physica B (**Elsevier**)
48. Physical Chemistry Chemical Physics (**RSC**)
49. RSC Advances (**RSC**)
50. Rare Materials (**Springer**)
51. Solid States Sciences (**Elsevier**)
52. Solid state communications (**Elsevier**)
53. Surfaces and Interfaces (**Elsevier**)
54. Scientific Reports (**Springer Nature**)
55. SCIENCE CHINA Materials (**Springer Nature**)
56. The Journal of physics and chemistry of solids (**Elsevier**)
57. Turkish Journal of Chemistry
58. Vacuum (**Elsevier**)

Research Experience:

1. **Jan 2010 to March 2011**
   M. Sc.thesis work - for partial fulfillment of Master's degree.
   Supervisor: Dr. A. K. M. Azharul Islam, Rtd. Professor, Department of Physics, University of Rajshahi, Bangladesh.
2. **March 2011 to June 2012**
   As a Research Assistant at Condensed Matter Physics Lab, Dept. of Physics, R.U.
3. **June 2013 to August 2015**
   M. Phil. thesis work - for partial fulfillment of M.Phil. degree.
   Supervisor: Dr. Md. Mohi Uddin, Professor, Department of Physics, Chittagong University of Engineering and Technology, Bangladesh.
4. **August 2015 to November 2019**

Ph.D. Thesis work - for partial fulfillment of Ph.D. degree.
Supervisor: Dr. Md. Mohi Uddin, Professor, Department of Physics, Chittagong University of Engineering and Technology, Bangladesh.

5. **November 2019 to present, My duties involve:**
    1. Teaching undergraduate and postgraduate students.
    2. Supervising postgraduate students.
    3. Researching various materials of interest.

I have received a research grant of 40810 USD from TWAS for the development of an advanced Computational Materials Research Laboratory (CMRL) in the Department of Physics at Chittagong University of Engineering & Technology (CUET) in Bangladesh. As the principal investigator of this project, I am actively involved in it. I maintain close communication with various domestic and international institutions, including the Bangladesh Atomic Energy Commission (BAEC), Bangladesh University of Engineering and Technology (BUET), University of Rajshahi (BD), University of Calcutta (India), University of Yamanashi (Japan), Queensland University of Technology (Australia), Harbin Institute of Technology (China), and Gazi University (Turkey) as a proactive collaborator.

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8. **Dr. Md. Nazrul Islam Khan** (Chief Scientific Officer, Materials Science Division, Atomic Energy Centre, Dhaka, **Bangladesh**).
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10. **Dr. Md. Mukter Hossain** (Associate Professor of Physics, Chittagong University of Engineering and Technology, **Bangladesh**).

11. **Dr. A. T. M. Kaoser Jamil** (Professor of Physics, Dhaka University of Engineering & Technology (DUET), Gazipur, **Bangladesh**).
12. **Md. Abdul Hadi** (Department of Physics, University of Rajshahi, **Bangladesh**).
13. **M. Roknuzzaman** (Post Doc. Research Scholar, The University of Sydney, **Australia**).
14. **Dr. K. Ostrikov** (Professor of Physics, Queensland University of Technology and Commonwealth Scientific and Industrial Research Organization, **Australia**).
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19. **Dr. Masanori Nagao** (Professor, Center for Crystal Science and Technology, University of Yamanashi, **Japan**)
20. **Dr. Xinxin Ma** (Professor, Harbin Institute of Technology, Harbin 150001, **China**)
21. **Dr. Muhammad Waqas Quresh** (University of Wisconsin-Madison, Madison, WI, **USA**)
22. **Dr. Gokhan Surucu** (Gazi University, **Turkey**)

Teaching Experience:

1. **11.12.2022 to till date**
   Professor, Department of Physics, Chittagong University of Engineering and Technology (CUET), Chattogram-4349, Bangladesh.

2. **18.11.2020 to 10.12.2022**
   Associate Professor, Department of Physics, Chittagong University of Engineering and Technology (CUET), Chattogram-4349, Bangladesh.

3. **20.09.2015 to 17.11.2020**
   Assistant Professor, Department of Physics, Chittagong University of Engineering and Technology (CUET), Chattogram-4349, Bangladesh.

4. **10.06.2012 to 19.09.2015**
   Lecturer, Department of Physics, Chittagong University of Engineering and Technology (CUET), Chattogram -4349, Bangladesh.

5. **Main Topics Taught:**
   Physical Optics: Interference of light, Diffraction of light, Polarization of light.

Properties of Matter: Elasticity, Surface Tension of water and mercury, Hydrodynamics, Viscosity.

Modern Physics: Special theory of relativity, Photoelectric effect, Compton Effect, de Broglie wave, Bohr's postulates, Wave mechanics.

Nuclear Physics: Radioactivity, Nuclear Reactions, Reactor Physics, etc.

Waves and Oscillation: Vibrations and Oscillations, Damped vibration, Forced vibration, Wave motion, Sound waves, Acoustics.

Heat and Thermodynamics: Heat, Hygrometry, Heat Radiation, Measurement of temperatures, Transmission of heat, Laws of thermodynamics.

Solid State Physics: States of matter, Crystallography, X-rays, Crystal defects, bonding in solids, Band theory, Magnetism.

Materials Science: Introduction to materials science, Charecterization methods of materials, Ceramic and Bio-ceramic materials, Magnetic Materials.

Condensed Matter Physics: Band theory of solids, Thermal, optical, magnetic and dielectric properties of solids.

Experimental Techniques in Solid State Physics: Synthesis techniques: Solid states reaction, sol-gel and hydrothermal techniques, Characterization: XRD, SEM; Magnetic, Mechanical and Optical properties of solids.

Nano Physics: Basic Properties of Nanoparticle, Synthesis Techniques of Nanostructured Materials, Physics of Nanomaterials Characterizations.

Research Methodology: Introduction to research, Various stages of a research, Report/Thesis/Article writing.

Administrative/Professional Experience:

Post	Institution/organization	Duration
Member	**Academic Council, CUET**	18.11.2020 to till date
Member	Academic Committee for Post-graduate Studies (ACPGS), **Department of Physics, CUET**	April 2019 to till date
Member	Academic Committee for Post-graduate Studies (ACPGS), **Department of ETE, CUET**	July 2019 to till date
Member Secretary	5th International Conference on "Physics for Sustainable Development and Technology" (5th ICPSDT-2023)	7-8 September 2023
Tresurer	4th International Conference on "Physics for Sustainable Development and Technology" (4th ICPSDT-2023)	22-23 January 2022
Assistant Provost	Bangabandhu Hall, CUET	27.02.2017to 28.02.2018
Assistant Provost	Shaheed Tareq Huda Hall, CUET	10.11.2014 to 31.12.2016

Member	Steering committee, International Journal of Integrated Sciences &Technology (IJIST) published by the Faculty of Engineering & Technology, CUET.	2014-2016
External Examiner	Pabna University of Science and Technology (PUST), Pabna	2015

Notable Professional Society Involvements:

1. Life Member, Bangladesh Physical Society
2. Life Member, Physics Alumni Association of Rajshahi University

Language Proficiency:

Considerably good both in written and spoken in English. The medium of instruction was English at the Bachelor of Science (Honors), Master of Science, Master of Philosophy, and Doctor of Philosophy levels.

Experimental Skills:

(i)Materials Synthesis Techniques: Solid-state Reaction techniques and Sol-gel process;
(ii) Measurement Techniques: Structural, Electrical and Magnetic Properties.

Analysis Techniques and Computer Software:

WINDOWS based application software's like MS-Word, Excel, Power point, Microsoft word-2007; Plotting software: Sigma Plot and Origin Lab; Simulation software: CASTEP code; Data analysis: XRD, FTIR, EDS, Dielectric behavior, VSM, Permeability, UV data.

References:

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I do hereby declare that all the above information is true and correctly describes my qualifications and myself to the best of my knowledge.

Date: November, 2024 (Prof. Md. Ashraf Ali, PhD)