

PERSONAL
INFORMATION

Department of Electrical and Electronic Engineering
Begum Rokeya University, Rangpur-5400, Bangladesh



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AD Scientific Index ID: 3921450



Research Gate: https://www.researchgate.net/profile/Md_Rahman558

Sex: Male; Date of birth: 12/08/1987; Nationality: Bangladeshi; Blood Group: AB (+ve)

RESEARCH
INTEREST

- Material Characterization
- Nanotechnology
- Thin Film Solar-Cells

WORKING
EXPERIENCE

January 2012
to January 2015

Lecturer

Department of Electronics and Telecommunication Engineering
Begum Rokeya University, Rangpur-5400, Bangladesh

January 2015
to Present

Assistant Professor

Department of Electrical and Electronic Engineering
Begum Rokeya University, Rangpur-5400, Bangladesh

Job Responsibility

- Delivering lecture
- Mentoring undergraduate project/thesis
- Research

EDUCATION

- 2008-2009** **M.Sc. in Applied Physics and Electronic Engineering (Thesis group)**
Dept. of Applied Physics & Electronic Engineering, University of Rajshahi, Bangladesh
- Result: First Class
 - Group: Thesis
 - Merit position: 3rd
 - Language of instruction: English
 - Course duration: 1 year
- 2005-2008** **B.Sc.(Honour's) in Applied Physics and Electronic Engineering**
Dept. of Applied Physics & Electronic Engineering, University of Rajshahi, Bangladesh
- Result: First Class
 - Merit position: 5th
 - Language of instruction: English
 - Course duration: 4 years
- 2004** **H.S.C** ▪ Result: 4.60 out of 5.00
- 2002** **S.S.C** ▪ Result: 4.63 out of 5.00

**LANGUAGE
PROFICIENCY**

Bengali (Mother Tongue) : Both Verbal and writing.
English : Fluent in both Verbal and writing.

**COMPUTER
SKILLS**

Programming and Simulation : C/C++, MATHLAB, Xilinx ISE, Proteus
Hardware description language : VHDL, verilog
Plotting and data analysis : Origin, MATHLAB
Others : Windows, MS Office, Mendeley

**PUBLICATIONS
(JOURNAL)**

1. **Md. Ferdous Rahman**, Md. Mahabub Alam Moon, Md. Hasan Ali, Shamim Ahmmed, Samia Tabassum, Jaker Hossain, Abu Bakar Md Ismail, A systematic study of how annealing conditions lead to the application-based microstructural, crystallographic, morphological, and optical features of spin-coated CdS thin-films. *Optical Materials*, 117 (2021) 111136. <https://doi.org/10.1016/j.optmat.2021.111136>. **Elsevier**.
2. Md. Mahabub Alam Moon, **Md. Ferdous Rahman**, Md. Kamruzzaman, Jaker Hossain, Abu Bakar Md Ismail, Unveiling the prospect of a novel chemical route for synthesizing solution-processed CdS/CdTe thin-film solar cells, *Energy Reports*, 7 (2021) 1742-1756. <https://doi.org/10.1016/j.egy.2021.03.031>. **Elsevier**.
3. Shamim Ahmmed, Asma Akter, Samia Tabassum, Md. Hafijur Rahman, **Md Ferdous Rahman**, Abu Bakar Md Ismail, CuO based solar cell with V₂O₅ BSF layer: Theoretical validation of experimental data, *Superlattices and Microstructures*, 151 (2021) 106830. <https://doi.org/10.1016/j.spmi.2021.106830>. **Elsevier**.
4. **Md. Ferdous Rahman**, Jaker Hossain, Abu Bakar Md Ismail, Structural, surface morphological and optical properties and their correlation with the thickness of spin coated superior quality CdS thin film synthesized using a novel chemical route, *SN Applied Sciences*, 2 (2020)1956. <https://doi.org/10.1007/s42452-020-03836-2>. **Springer Nature**.
5. Jaker Hossain, Mahbubur Rahman, Md Mahabub Alam Moon, Bipanko Kumar Mondal, **Md. Ferdous Rahman** and Mirza H K Rubel, Guidelines for a highly efficient CuI/n-Si heterojunction solar cell, *Engineering Research Express*, 2 (2020) 045019. <https://doi.org/10.1088/2631-8695/abc56c>. **IOP Publishing**.
6. Abdul Kuddus, **Md. Ferdous Rahman**, Jaker Hossain, Abu Bakar Md. Ismail, Enhancement of the Performance of CdS/CdTe Heterojunction Solar Cell Using TiO₂/ZnO Bi-layer ARC and V₂O₅ BSF layers: A Simulation Approach, *The European Physical Journal Applied Physics*, 92 (2020) 20901, <https://doi.org/10.1051/epjap/2020200213>. **EDP Sciences**
7. Shamim Ahmmed, Asma Akter, **Md Ferdous Rahman**, Jaker Hossain, Abu Bakar Md Ismail, A numerical simulation of high efficiency CdS/CdTe based solar cell using NiO HTL and ZnO TCO, *Optik*, 223 (2020) 165625. <https://doi.org/10.1016/j.ijleo.2020.165625>. **Elsevier**.
8. **Md. Ferdous Rahman**, Jaker Hossain, Abdul Kuddus, Samia Tabassum, Mirza H. K. Rubel, Md. Mahbubor Rahman, Yuma Moriya, Hajime Shirai and Abu Bakar Md. Ismail, A novel CdTe ink-assisted direct synthesis of CdTe thin films for the solution-processed CdTe solar cells, *Journal of Material Science*, 55 (2020) 7715-7730. <https://doi.org/10.1007/s10853-020-04578-7>. **Springer Nature**.
9. Abdul Kuddus, **Md. Ferdous Rahman**, Samia Tabassum, Jaker Hossain, Abu Bakar Md. Ismail, Comparative Study on Modified Alumino-thermic Processed Si NPs doped CuO-ZnO Spin Coated Heterojunction: Tandem and Bulk, *Journal of Scientific and Engineering Research*, 7 (2020) 73-79. **CODEN (USA): JSERBR**

10. **Md Ferdous Rahman**, Jaker Hossain, Abdul Kuddus, Md. Mahabub Alam Moon, Abu Bakar Md Ismail, Effect of Triton X-100 surfactant on thiol-amine cosolvents assisted facile synthesized CdS thin films on glass substrate by spin coating method, SN Applied Sciences, 2 (2020) 590. <https://doi.org/10.1007/s42452-020-2423-y>. **Springer Nature**.
11. Sayed Rezwanul Islam Biplab, Md. Hasan Ali, Md. Mahabub Alam Moon, Md. Firoz Pervez, **Md. Ferdous Rahman**, Jaker Hossain, Performance enhancement of CIGS-based solar cells by incorporating an ultrathin BaSi₂ BSF layer, Journal of Computational Electronics 19 (2020) 342-352. <https://doi.org/10.1007/s10825-019-01433-0>. **Springer Nature**.
12. Md. Mahabub Alam Moon, Md. Hasan Ali, **Md. Ferdous Rahman**, Jaker Hossain, Abu Bakar Md. Ismail, Design and Simulation of FeSi₂-Based Novel Heterojunction Solar Cells for Harnessing Visible and Near-Infrared Light, Physica Status Solidi (A) Applications and Materials 217(2020) 1900921. <https://doi.org/10.1002/pssa.201900921>. **Wiley**.
13. **Md. Ferdous Rahman**, Jaker Hossain, Abdul Kuddus, Samia Tabassum, Mirza H. K. Rubel, Hajime Shirai and Abu Bakar Md. Ismail, A novel synthesis and characterization of transparent CdS thin films for CdTe/CdS solar cell, Applied Physics A, 126 (2020) 145. <https://doi.org/10.1007/s00339-020-3331-0>. **Springer Nature**.
14. Bipanko Kumar Mondal, Md. Asif Newaz, Md. Abdur Rashid, Khandaker Monower Hossain, Shaikh Khaled Mostaque, **Md. Ferdous Rahman**, Mirza Humaun Kabir Rubel, and Jaker Hossain, Electronic Structure of In_{3-x}Se₄ Electron Transport Layer for Chalcogenide/p-Si Heterojunction Solar Cells, ACS Omega, 4 (2019) 17762-17772. <https://doi.org/10.1021/acsomega.9b02210>. **American Chemical Society (ACS)**.
15. Md. Mahabub Alam Moon, Md. Hasan Ali, **Md. Ferdous Rahman**, Abdul Kuddus, Jaker Hossain, Abu Bakar Md Ismail, Investigation of thin-film p-BaSi₂/n-CdS heterostructure towards semiconducting silicide based high efficiency solar cell, Physica Scripta, 95 (2020) 035506. <https://doi.org/10.1088/1402-4896/ab49e8>. **IOP Publishing**.
16. Md. Hasan Ali, Md. Mahabub Alam Moon, **Md. Ferdous Rahman**, Study of ultra-thin CdTe/CdS heterostructure solar cell purveying open-circuit voltage 1.2V, Materials Research Express, 6 (2019) 095515. <https://doi.org/10.1088/2053-1591/ab3089>. **IOP Publishing**.
17. Abdul Kuddus, **Md Ferdous Rahman**, Shamim Ahmmed, Jaker Hossain, Abu Bakar Md Ismail, Role of facile synthesized V₂O₅ as hole transport layer for CdS/CdTe heterojunction solar cell: Validation of simulation using experimental data, Superlattices and Microstructures, 132 (2019) 106168. <https://doi.org/10.1016/j.spmi.2019.106168>. **Elsevier**.
18. Md. Mahabub Alam Moon, **Md. Ferdous Rahman**, Jaker Hossain and Abu Bakar Md. Ismail, Comparative Study of the Second Generation a-Si:H, CdTe and CIGS Thin-Film Solar Cells, Advanced Materials Research, 1154 (2019) 102-111. <https://doi.org/10.4028/www.scientific.net/AMR.1154.102>. Trans Tech Publications Ltd, Switzerland.
19. **Md. Ferdous Rahman**, Sheikh Rashel Al Ahmed, Golam Saklayen, Abu Bakar Md. Ismail, Experimental Study on Silicon Nanocrystals Rich Lanthanum Fluoride Films for Future Electronic Devices, Rajshahi University Journal of Science & Engineering, 44 (2016) 61-66. **Rajshahi University**.

20. Md. Shahinul Islam¹, Md. Golam Saklayen, **Md. Ferdous Rahman**, Hartmut Baerwolff, Abu Bakar Md. Ismail, Investigation on Lanthanum Fluoride as a Novel Cathode Buffer Material Layer for the Enhancement of Stability and Performance of Organic Solar Cell, Optics and Photonics Journal, 4 (2014) 280-287. <https://doi.org/10.4236/opj.2014.410027>. **Scientific Research.**
21. Md. Shahinul Islam, Md. Golam Saklayen, **Md. Ferdous Rahman**, Abu Bakar Md. Ismail, Investigation On The Optical, Electrical And Structural Properties Of ITO On Glass Substrate, International Journal of Scientific & Technology Research 3 (2014) 150-153.
22. Sheikh Rashel Al Ahmed, **Md. Ferdous Rahman**, Abu Bakar Md. Ismail, Novel Silicon Nanocrystal-Embedded LaF₃ Insulating Material for Metal-Insulator-Semiconductor-Type Non-Volatile Memory, 6 (2014) 694-697. <https://doi.org/10.1166/ asem.2014.1555>. **American Scientific Publishers (ASP).**
23. Md. Golam Saklayen, Md. Shahinul Islam, **Md. Ferdous Rahman**, Abu Bakar Md. Ismail, Investigation on the Effect of Film Thickness on the Surface Morphology, Electrical and Optical Properties of E-Beam Deposited Indium Tin Oxide (ITO) Thin Film. Advances in Materials Physics and Chemistry, 4 (2014) 194-202. <https://doi.org/10.4236/ampc.2014.410023>. **Scientific Research.**
24. Joarder Jafor Sadique, **Md. Ferdous Rahman**, Shaikh Enayet Ullah, Scrambled Audio Frequency Signal Transmission in a 3-slot STBC Scheme Based SC-FDMA Wireless Communication System, Scholars Journal of Engineering and Technology, 2(4A) (2014) 498-505. **Scholars Academic and Scientific Publisher.**

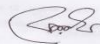
PUBLICATIONS (CONFERENCE)

1. Abdul Kuddus, **Md Ferdous Rahman**, Samia Tabassum, Jaker Hossain, Abu Bakar Md Ismail, Study on the Performance of ZnO/CuO Heterojunction Solar Cell Simulation and Experimental, 2019 International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC₄ME²), (2019) 1-4, <https://doi.org/10.1109/IC4ME247184.2019.9036573>. **IEEE.**
2. Md. Mahabub Alam Moon, **Md. Ferdous Rahman**, Abu Bakar Md. Ismail Optimization of active region thickness of CdTe/CdS Thin Film Superstrate Solar Cell to achieve ~25% efficiency: A simulation approach, 2018 International Conference on Computer, Communication, Chemical, Material and Electronic Engineering (IC₄ME²), (2018) 1-4. <https://doi.org/10.1109/IC4ME2.2018.8465600>. **IEEE.**
4. **Md. Ferdous Rahman**, Golam Saklayen, Abu Bakar Md. Ismail, Study on morphological and electronic properties of silicon nanocrystals embedded lanthanum fluoride insulating layer aiming its application in nonvolatile memory, International Conference on Computer, Communication, Chemical, Material and Electronic Engineering (IC₄ME²), (2017). <https://doi.org/10.13140/RG.2.2.16366.66886>. **Rajshahi University.**

5. Sheikh Rashel Al Ahmed, **Md. Ferdous Rahman**, Abu Bakar Md. Ismail, Novel silicon nanocrystal-embedded LaF₃ functional material for MIS memory device, Asian Pacific Conference on Chemical, Material and Metallurgical Engineering (APCCMME) (2013).
6. Md. Atiqur Rahman; Shahed Anwar; Md. Ilias Pramanik; **Md. Ferdous Rahman**, A survey on energy efficient routing techniques in Wireless Sensor Network, 15th International Conference on Advanced Communications Technology (ICTACT), (2013) 200-205. **IEEE**.

REFERENCE

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