Prof. Dr. Mahmud Abdul Matin Bhuiyan
Director, IET, Chittagong University of Engineering & Technology (CUET)
Former Dean, Faculty of Electrical & Computer Engineering (ECE), CUET
Professor & Former Head, Department of Electrical & Electronic Engineering (EEE)
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PERSONAL DETAILS:

Full Name	**: Dr. Mahmud Abdul Matin Bhuiyan**
Nationality	: Bangladeshi
Date of Birth	: 13 Oct, 1970
Marital Status	: Married
Present Address	: Professor, Department of Electrical & Electronic Engineering, Faculty of Electrical & Computer Engineering., Chittagong University of Engineering & Technology (CUET), Chittagong, Bangladesh.

EDUCATION

PhD.
Specialization: Electrical Engineering (Solar Energy)
Institute: Universiti Kebangsaan Malaysia (UKM), Malaysia.
Date of completion: June, 2011
Title of thesis: High Performance CdTe Solar Cells with BSF

M. Engg.
Specialization: Electrical Engineering (Fiber Optics)
Institute: Universiti Technologi Malaysia (UTM), Malaysia.
Date of completion: January, 2004
Title of master's thesis: Design and Simulation of Polymer Based 2×2 Optical Switch and Coupler.

B. Sc. Engg.
Specialization: Electrical & Electronic Engineering (EEE)
Institute: Chittagong University of Engineering & Technology (CUET), Bangladesh
Date of completion: April, 1996

SSC & HSC
Institute: Sylhet Cadet College, Bangladesh
Date of completion: SCC in 1986 & HSC in 1988

PROFESSIONAL EXPERINECE

TEACHING EXPERIENCE

Professor **:** June 2013 to date
Department of Electrical & Electronic Engineering (EEE),
Chittagong University of Engineering & Technology (CUET), Bangladesh

Associate Professor: January 2012 to June 2013
Department of Electrical & Electronic Engineering (EEE),
Chittagong University of Engineering & Technology (CUET), Bangladesh

Assistant Professor: February 2000 to January 2012
Department of Electrical & Electronic Engineering (EEE),
Chittagong University of Engineering & Technology (CUET), Bangladesh

Lecturer: 10 October 1996 to 28 February 2000
Department of Electrical & Electronic Engineering (EEE),
Chittagong University of Engineering & Technology (CUET), Bangladesh

ADMINISTRATIVE EXPERIENCE

(1) **Dean:** Faculty of Electrical & Computer Engineering (ECE), Chittagong University of Engineering & Technology (CUET), Bangladesh, from April 2015 to April 2017.

(2) **Director:** Institute of Energy Technology (IET), Chittagong University of Engineering & Technology (CUET), Bangladesh, from May 2019 to date.

(3) **Head:** Department of Electrical & Electronic Engineering (EEE), Chittagong University of Engineering & Technology (CUET), Bangladesh, from January 2012 to March 2015.

(4**) Provost:** Dr. Q. K. Hall, Chittagong University of Engineering & Technology (CUET), Bangladesh from March, 2011 to March, 20012.

(5) **Assistant Provost:** Dr. Q. K. Hall, Chittagong University of Engineering & Technology (CUET), Bangladesh from 28 March, 1999 to 14 January, 2001 & 7th September 2003 to 27 January 2008.

COMPUTER SKILL

Programming Language: FORTRAN, C+, Assembly Language
Packages: BPM_CAD, AMPS, SCAPS, MS Word, Power Point, Windows Supported Software.

LANGUAGE PROFICIENCY

Bengali: (Mother tongue) fluently spoken, written and understood.
English: Fluently spoken, written and understood.
Urdo: Spoken and understood.

Bahasa Malaysia: Spoken and understood.

PROFESSIONAL MEMBERSHIP

- **Member: IEB and IEEE**

PROFESSIONAL EXPEREIENCES

- **Chairman of BRTC (EEE), CUET: from January 2012 to March 2015**
- **Treasurer of BRTC (EEE), CUET: from January 2005 to January 2008**
- **Active Member of BRTC (EEE), CUET from January 2000 to date**

PROJECT MANAGEMENT

SPM, CP 3200 (HEQEP) Funded by World Bank (Project Money: 425 Lac), from July 2014 to December 2017

FIELD OF EXPERTISE

Energy Conversion, Renewable Energy Resources, Electrical Machines, Solar Photovoltaic Technologies, Solar Cells, Materials and PV systems, Microelectronics, Optical devices (couplers, switches & OADM), All optical networks (AON). High density optical switches. Electronic devices.

COURSES TAUGHT

In Undergraduate:

1) Basic Electrical Engineering
2) Electrical Circuits
3) Electronics
4) Electrical Machines and Transformers
5) Electrical Machines I
6) Electrical Machines II
7) Electrical Machines III
8) Generalized Machine Theory
9) Power Transmission and Distribution
10) Switchgear and Protection
11) Renewable Energy Conversion

In Postgraduate:

1) Optical Fiber Communication
2) Energy Engineering
3) Wind and Solar Energy Conversion Systems
4) Solar Photovoltaic Energy and Systems

Supervision

1) Supervised more than 180 undergraduate final year BSc. Students (EEE) for their thesis & projects.
2) Supervised 07 postgraduate students for MSc degree and few are going on.
3) Supervising 03 postgraduate students for PhD (On going).

LIST OF PUBLICATIONS

International Journals

1. **M. A. Matin,** M. Mannir Aliyu, Abrar H. Quadery and Nowshad Amin, "Prospects of Novel Front and Back Contacts for High Efficiency Cadmium Telluride Thin Film Solar Cells from Numerical Analysis", ***Solar Energy Materials and Solar Cells****,* 94 (2010), pp.1496-1500.

2. **Mahmud Abdul Matin Bhuiyan,** Anik Deb**,** Arefin Nasir "Optimum planning of Hybrid Energy System Using HOMER for Rural Electrification", *International Journal of Computer Applications*, Vol. 66 (2013), No.13, pp. 45-52.

3. Anik Deb**, Mahmud Abdul Matin Bhuiyan,** Arefin Nasir "Prospect of Solar Energy in Bangladesh", *IOSR Journal of Electrical and Electronics Engineering"*, Vol. 4 (2013), Issue 5, pp. 46-57.

4. Md. Sharafat Hossain, **Mahmud Abdul Matin**, M A Islam, Mohammad Mannir Aliyu, Takhir Razykov, Kamaruzzaman Sopian and Nowshad Amin, "Towards Ultra Thin and High Efficiency ZnxCd1-xS/CdTe Solar Cell by AMPS 1D" *Advanced Materials Research,* Vols. 622-623 (2013) pp. 1183-1187, Switzerland.

5. M. M. Aliyu, M. A. Islam, N. R. Hamzah, M. R. Karim, **M. A. Matin**, K. Sopian, and N. Amin, "Recent Developments of Flexible CdTe Solar Cells on Metallic Substrates: Issues and Prospects", *International Journal of Photoenergy,* Vol. 2012, pp. 1-10, 2012.

6. **Mahmud Abdul Matin Bhuiyan,** Mohammad Shafkat Islam, Amit Jyoti Datta**,** "Modeling, Simulation and Optimization of High Performance CIGS Solar Cell", *International Journal of Computer Applications*, Vol. 57 (2012), No.16, pp. 26-30.

7. M. S. Hossaina, M. M. Aliyua, **M. A. Matin**, M. A. Islama, M. R. Karimc, T. Razykovb, K. Sopianb and N. Amin, "Effect of different BSR in front and back contacts for $Zn_xCd_{1-x}S$/CdTe solar cell", *International Journal of Mechanical and Materials Engineering (IJMME)*, Vol.6 (2011), No.3, pp. 350-355.

8. Md. Sharafat Hossain, Nowshad Amin, **M. A. Matin**, M. Mannir Aliyu, Takhir Razykov and Kamaruzzaman Sopian, "A numerical study on the prospects of high efficiency ultra-thin $Zn_xCd_{1-x}S$/CdTe solar cell", *Chalcogenide Letters*, Vol. 8, no. 3 (2011), pp. 263-272. ISSN 1584-8663.

9. **M. A. Matin**, Nowshad Amin, Azmi Zaharim and Kamaruzzaman Sopian, "A study towards the Possibility of Ultra-Thin CdS/CdTe High Efficiency Solar Cell from Numerical Analysis", *WSEAS TRANSATION on ENVIRONMENT and DEVELOPMENT*, 8 (6), 2010, 572-580.

10. Nowshad Amin, **M. A. Matin,** M. M. Aliyu, M. A. Alghoul and K. Sopian, "Prospects of Back

Surface Field Effect in Ultra-Thin High Efficiency CdS/CdTe Solar Cells from Numerical Modeling. *International Journal of Photoenergy*, Volume 2010 (2010), Article ID 578580, doi:10.1155/2010/578580.

International Conferences

1. Hossain, M. S. Aliyu, **M. A.** Matin, M.A. Razykov, T. Sopian K. & Amin, N. Numerical Analysis on ZnxCd1-xS/CdTe Solar Cells with Different Buffer Layers, Front and Back Contacts", *IEEE-RSM Proc*., Kota Kinabalu, 2011 Malaysia. 82-86.

2. **M A Matin**, M U Tomal, K T Ahmed and A M Robin, "Prospect of thin film photovoltaic in Bangladesh" International Conference on Advances in Physics 2013 (ICAP 2013) 3-5 January, 2013, Sylhet, Bangladesh.

3. **M A Matin**, M U Tomal and A M Robin, "Prospect of Back Surface Field for High Performance Ultra-Thin CdTe PV Cells" International Conference on Engineering Research, Education and Innovation 2013, 11-13 January, 2013, Sylhet, Bangladesh.

4. M.S. Hossain; M.M. Aliyu; **M .A. Matin**; M.A. Islam; K. Sopian; M.R. Karim; N. Amin "Prospects of $Zn_xCd_{1-x}S$ window layer in CdTe thin film solar cells from numerical analysis", Proceedings of 2nd International Conference on the Developments in Renewable Energy Technology, ICDRET 2012. 2012:5-8.

5. M. Mannir Aliyu; N.R. Hamzah; Aminul Islam; **M. A. Matin**; R. Karim; Kamaruzzaman Sopian; Nowshad Amin, "The significance of substrate surfaces in flexible thin film CdTe solar cells fabrication", Proceedings of 2nd International Conference on the Developments in Renewable Energy Technology, ICDRET 2012. 2012:13-16.

6. Md. Sharafat Hossain; Nowshad Amin; Nur Radhwa Hamzah; M.M. Aliyu; **M. A. Matin**; T. Razykov; Kamaruzzaman Sopian, "Investigation of buffer layers, front and back contacts for $Zn_xCd_{1-x}S$/CdTe photovoltaic", 2011 IEEE 1st Conference on Clean Energy and Technology, CET 2011. 2011:237-241.

7. Md. Sharafat Hossain; M.M. Aliyu; **M. A. Matin**; T. Razykov; K. Sopian; Nowshad Amin, "Numerical analysis on $Zn_xCd_{1-x}S$/CdTe solar cells with different buffer layers, front and back contacts", 2011 IEEE Regional Symposium on Micro and Nanoelectronics, RSM 2011 - Programme and Abstracts. 2011:60-64.

8. Md. Sharafat Hossain; Nowshad Amin; M.M. Aliyu; **M. A. Matin**; M.K. Siddiki; T. Razykov; K. Sopian, "$Zn_xCd_{1-x}S$ as prospective window layer in CdTe thin film solar cells from numerical analysis", Conference Record of the IEEE Photovoltaic Specialists Conference. 2011:001223-001228.

9. **M. A. Matin**, N. Amin, M. M. Aliyu, A.S.M M. Zaman, K. Sopian and M. Y. Sulaiman Ultra Thin Absorber Layer with Novel Back Contact for High Efficiency CdS/CdTe Solar Cells *World Renewable Energy Congress XI 25-30 Sept. 2010, Abu Dhabi, UAE*.

10. M. M. Aliyu, **M. A. Martin**, N. Amin and M. Y. Sulaiman, Prospects of Ternary CdZnTe in a Graded Bandgap Thin film Solar Cells, *World Renewable Energy Congress XI 25-30 September 2010, Abu Dhabi, UAE.*

11. Aminul Islam, M. M. Aliyu, **M. A. Matin**, Yusuf Sulaiman and Nowshad Amin, Investigation of the affect of window layer thickness, Temperature and Sun Intensity on four different CdTe solar cell structure by Numerical Analysis. Proceedings of *International Conference on Advances in Renewable Energy Technologies*, 6-7 July 2010, Putrajaya, Malaysia.

12. **M. A. Matin**, M.M.Aliyu, M.R.Karim, N.Amin, M. Y . Sulaiman, K. Sopian Towards Ultra Thin and High Efficiency CdTe Solar Cell, Proceedings of International Conference on Advances in Renewable Energy Technologies, 6-7 July 2010, Putrajaya, Malaysia.

13. M. M. Aliyu, **M. A. Matin** , N. Amin and K. Sopian, CdTe-Based Flexible Solar Cells on Metallic Substrates: Issues and Prospects, *Proceedings of International Conference on Advances in Renewable Energy Technologies*, 6-7 July 2010, Putrajaya, Malaysia.

14. Mohammad Aminul Islam, **M. A. Matin**, Nowshad Amin and Yusuf Sulaiman, "A numerical analysis on CdS:O window layer in a CdTe solar Cell" in: Proceedings of the International Conference on the Development of Renewable Energy and Technology, Dhaka, Bangladesh, 17–19 December, 2009, Pages 181-184, ISBN 978-984-33-0616-6.

15. **M. A. Matin** , Azliza Binti Azlan, Nowshad Amin, "Enhancing the Efficiency of CdTe Thin Film Solar Cells by Inserting Novel Back Contact Buffer Layers" in: Proceedings of the International Conference on the Development of Renewable Energy and Technology, Dhaka, Bangladesh, 17–19 December, 2009, Pages 190-193. ISBN 978-984-33-0616-6.

16. **Mahmud Abdul Matin Bhuiyan** and Nowshad Amin, "Prospects of Ultra Thin and High Efficiency Cadmium Telluride Thin Film Solar Cells from Numerical Analysis by AMPS-1D" For: Proceedings of the European Photovoltaic Solar Energy Conference, EU PVSC 34, Munich, Germany, 22–26 August 2009.

17. **Mahmud Abdul Matin Bhuiyan**, Nowshad Amin and Kamaruzzaman Sopian, "Ultra Thin High Efficiency CdS/CdTe Thin Film Solar Cell from Numerical Analysis" Proceedings of the 8th WSEAS international conference on Non-linear analysis, non-linear systems and chaos 2009, La Laguna, Spain July 01-03, 2009; Pages 338-344. ISBN ~ ISSN:1790-2769, 978-960-474-094-9.

18. **Mahmud Abdul Matin Bhuiyan**, Nowshad Amin and Kamaruzzaman Sopian, "Investigation of Different Buffer Layers, Front and Back Contacts for CdS/CdTe PV from Numerical Analysis" in: Proceedings of the Photovoltaic Solar Energy Conference, USA, Jun 22–26, 2009.

19. **Mahmud Abdul Matin Bhuiyan**, Nowshad Amin and Kamaruzzaman Sopian, "Prospects of Novel Front and Back Contacts for High Efficiency Cadmium Telluride Thin Film Solar Cells from Numerical Analysis" in: Proceedings of the 18th Photovoltaic Solar Energy Conference, Kolkata, India, 22–26 January 2009.

20. **Mahmud Abdul Matin Bhuiyan**, Nowshad Amin and Kamaruzzaman Sopian, "Effects of Absorber and Window Layer Thickness on CdS/CdTe Thin Film Solar Cells from Numerical Analysis by SCAPS 1D", 2008 Regional Student Conference on Research and Development, SCOReD 2008, IEEE, UTM Malaysia, Nov. 26-27, 2008, ISBN: 978-1-4244-2869-4; Page-210.

21. **M. A. Matin**, B. Barua, M.H. Nayim, "A 2x2 MEMS Optical Switch Based On Piezoelectric Actuation" *Proceeding of International Conference on Electrical and Computer Engineering ICECE 2006*, Dhaka, Bangladesh, 19-21 December 2006.

22. **M. A. Matin**, A.B. Mohammad, A.S. M. Suppat, "A 2x2 TO Waveguide Based Optical Switch" *Proceeding of International Conference on Electrical and Computer Engineering ICECE 2004*, Dhaka, Bangladesh, December 28-31, 2004.

National Conferences

23. Hossain, M.S. **Matin, M. A.** Aliyu, M.M**.** Razkov, T. Sopian K. & Amin, N. 2011. Towards Ultra Thin and High Efficiency ZnCdS/CdTe Solar Cell. *Regional Engineering Postgraduate Conference* (EPC), UKM, Bangi.

24. **Mahmud Abdul Matin Bhuiyan**, Lu Hwei Fong and Nowshad Amin, "Effects of Bi-Layer Insertion to High Efficiency Cadmium Telluride Thin Film Solar Cells from Numerical Analysis", Proceedings of Seminar on Progress of Solar Energy Research & Development 2008, Bangi, Selangor, Malaysia, 21-22 October, 2008; Pages 125-130, ISBN 978-967-5048-31-9.

25. **Mahmud Abdul Matin Bhuiyan**, Lu Hwei Fong and Nowshad Amin, "Effect of Window Layer in High Efficiency Cadmium Telluride Thin Film Solar Cells", Engineering Postgraduate Conference (EPC) 2008, Universiti Kebangsaan Malaysia, October 21-22; Page-30.

26. **Mahmud Abdul Matin Bhuiyan,** A.B. Mohammad, N. Mohammad Kashem, "A 2x2 Optical Switch for All Optical Network" Malaysia Science and Technology Congress (*MSTC) 2002, Penang, Malaysia.*

REFERENCES

(1) **Name: Prof. Dr. Md. Rafiqul Alam**
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Relationship: Direct teacher & Supervisor of final year thesis and Employer.

(2**)** **Name: Prof. Dr. Nowshad Amin**
Position: Professor in the Department of Electrical Electronics & Systems Engineering, Faculty of Engineering and Built Environment, UKM, Malaysia and Researcher & group leader of PV group in SERI, UKM, Malaysia.
Address: Dept. of Electrical Electronics & Systems Engineering, Faculty of Engineering and Built Environment, UKM, Malaysia. Contact Tel Number & E-mail address: Tel: 603 - 8921 6325 (Off.), Mobile: +6019-3296750, Fax: +603-8921-6146, E-mail: nowshad@ukm.edu.my
Relationship: PhD Supervisor.

(Prof. Dr. Mahmud Abdul Matin Bhuiyan)
November, 2020