

# RSUME OF DR. A.B.M. OBAIDUL ISLAM

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## Education

1996–1999: Toyama University, Toyama, Japan.

**Doctor of Engineering** (in Materials Engineering)

- Dissertation: Surface modification of GaAs and CVD diamond by layered-compound GaS.

1987–1988: University of Dhaka, Dhaka, Bangladesh.

**M. Sc.** (in Solid State Physics); Grade: First class

- Dissertation: Preparation of plasma-polymerized m-xylene thin films and investigation of their properties.

1984–1987: University of Dhaka, Dhaka, Bangladesh

**B. Sc.** (Honours) in Physics; Grade: First class

## Research Experiences

- Presently, working on “Structural, electrical and optical characterization of thin films of semiconductor compounds grown by Electrodeposition (ED) and Chemical Bath Deposition (CBD) method for solar cells applications”.
- January, 2012 – June, 2012: **Postdoctoral research** at Interfaces and Correlated Electrons Systems Group, Faculty of Science and Technology, University of Twente, Enschede, The Netherlands.
- January, 2010 – March, 2010: Visiting Researcher, University of Toyama, Japan under Japan Student Services Organization (JASSO) Fellowship.
- September – October, 2009: Visiting Researcher, Department of Materials Science, Darmstadt University of Technology, Germany under Alexander von Humboldt Foundation Fellowship Program.
- October, 2005 – March, 2006: **Postdoctoral research** at Solar Energy Group, Materials and Engineering Research Institute, Sheffield Hallam University, U.K. under Commonwealth Academic Staff Fellowship program.
- June, 2003 – August, 2003: Visiting Researcher, Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy as Regular Associateship of ICTP.
- December, 2000 – May, 2002: **Postdoctoral research** at the Department of Materials Science, Darmstadt University of Technology, Germany under Alexander von Humboldt Foundation Fellowship Program.
- April, 1996 – March, 1999: **Ph.D. research** at the Department of Electrical and Electronic Engineering, Faculty of Engineering, Toyama University, Toyama, Japan.
- October, 1992 – December, 1992: Research Associate, Rajasthan University, Jaipur, India under the fellowship program of Abdus Salam International Centre for Theoretical Physics (ICTP).

## Teaching Experiences

March 19, 1994 – till date: Faculty Member, Department of Physics, University of Dhaka, Dhaka 1000, Bangladesh. Present Position: Professor.

Part-time Faculty: Bangladesh University of Science and Technology (BUET), North South University, Ahsanullah University of Science and Technology, South East University, Eastern University and Presidency University for the Last Several Years.

### Awards Received

- Erasmus Mundus Fellowship for Postdoctoral Research in the Netherlands.
- Japan Student Services Organization (JASSO) Fellowship for research stay in Japan from January 01, 2010 to March 31, 2010.
- Commonwealth Academic Staff Fellowship for Postdoctoral Research in U.K.
- Alexander von Humboldt Foundation Fellowship for Postdoctoral Research in Germany.
- Japanese Government (Monbusho) Scholarship for Postgraduate research in Japan.

### Affiliations

2009 and 2010: General Secretary, Dhaka University Teacher's Association (DUTA).  
2009 : Secretary General, Federation of Bangladesh University Teachers Association.  
2004 and 2005: Joint-Secretary, Dhaka University Teacher's Association (DUTA).  
2007, 2011- 2014: Elected EC Member, DUTA.  
2004 – till date: Senate Member, University of Dhaka.  
Fellow: The Bangladesh Physical Society (BPS).  
Member: The Bangladesh Association for the Advancement of Science (BAAS),  
Member: Association of Humboldt Fellows in Bangladesh (AHFB)  
Member: Alumni Association of German Universities in Bangladesh (AAGUB).  
Former General Secretary: Japanese Universities Alumni Association in Bangladesh (JUAAB).

### Languages

English, Japanese, German, Dutch and mother tongue Bengali.

### Publications

#### **Book Chapter:**

**A.B.M.O. Islam** and C. Tatsuyama, “Sulfur Passivation of III-V Semiconductor Surfaces”, in; III-V Semiconductor Heterostructures: Physics and Devices, Edited by Will Z. Cai, Research Signpost Publisher, India, 37/661 (2), pp. 57 (2003).

#### **Journal Papers:**

1. M.J. Alam, M.H. Doha and O. Islam; “Characterization of electrodeposited ZnSe Thin Films”; (In preparation).
2. M.I. Hossain, K.A.M.H. Siddiquee, **O. Islam**, M.A. Gafur, M.R. Qadir, S.N. Rahman and N.A. Ahmed; “Characterization of Electrodeposited ZnTe Thin Films”; J. Optics **48** (2019) 295.
3. M.H. Rashid, J. Rabeya, M.H. Doha, **O. Islam**, P. Reith, G. Hopman and H. Hilgenkamp; “Characterization of Single Step Electrodeposited Cu<sub>2</sub>ZnSnS<sub>4</sub> Thin Films”; J. Optics **47** (2018) 256 - 262.
4. S. Halder, M.A.K. Pathan, **O. Islam**, M.A. Gafur, M.R. Qadir, S. Islam, N. Khatun and S.H. Sarkar; “Effect of Zn Incorporation in Electrodeposited CdTe Thin Films”; Bang. J. Phys. **20** (2016) 33.
5. M.H. Doha, M.J. Alam, J. Rabeya, K.A.M.H. Siddiquee, S. Hussain, **O. Islam**, M.A. Gafur, S. Islam, N. Khatun, and S.H. Sarkar; “Characterization of Chemically Deposited ZnS Thin Films on bare and conducting glass”; Optik **126** (2015) 5194 - 5199.
6. M.I. Hossain, M. Kamruzzaman, A.B.M.O. Islam; “Effects of Temperature in Electrodeposition of ZnTe Thin Films”; J. Mater. Sci.: Mater. Electro. **26**

(2015) 1756.

7. K.A.M.H. Siddiquee, M.A.K. Pathan, S. Alam, **O. Islam** and M.R. Qadir; “*Characterization of CdS and CdTe Thin Films and Investigation of the Influence of CdCl<sub>2</sub> on CdTe/CdS Structure*”; *Optik* **124** (2013) 4383.
8. S. Alam, M.A.K. Pathan, K.A.M.H. Siddiquee, **A.B.M.O. Islam**, M.A. Gafur, D.K. Saha, M. Mori and T. Tambo; “*Optical and structural characterization of CdSe and CdTe layers and fabrication of a CdTe/CdSe structure*”; *Optik* **124** (2013) 2165.
9. M.A.K. Pathan, K.A.M.H. Siddiquee, S. Alam, **O. Islam** and M.A. Gafur; “*Structural and Optical Characterization of CdS and CdHgTe Thin Films for the Fabrication of CdHgTe/CdS Structure*”; *J. Mater. Sci.: Mater. Electro.* **24** (2013) 745.
10. M.R.I. Chowdhury, G. Mustafa, D.K. Saha, S. Hussain, and **A.B.M.O. Islam**; “*Air annealing effects on the structural, morphological, optical and electrical properties of chemically deposited CdS thin films*”; *Dhaka Univ. J. Sci.*, **60** (2012) 283.
11. M.R.I. Chowdhury, J. Podder, and **A.B.M.O. Islam**; “*Synthesis and characterization of manganese sulphide thin films deposited by spray pyrolysis*”; *Cryst. Res. Technol.*, **46** (2011) 267.
12. R.I. Chowdhury, M.A. Hossen, G. Mustafa, S. Hussain, S.N. Rahman, S.F.U. Farhad, K. Murata, T. Tambo and **A.B.M.O. Islam**; “*Characterization of chemically deposited cadmium sulfide thin films*”; *Int. J. Mod. Phys. B* **24** (2010) 5901.
13. Al-Mamun, S. Hussain and **A.B.M.O. Islam**; “*A comparative study of chemically-deposited and vacuum-evaporated copper selenide thin films*”; *Bang. J. Phys.* **7- 8** (2009) 97.
14. M.Z. Molla, R.I. Chowdhury, G. Mustafa, S. Hussain, K.S. Hossain, S.N. Rahman, N. Khatun, N.A. Ahmed, S.F.U. Farhad, K. Murata, T. Tambo and **A.B.M.O. Islam**; “*Characterization of chemically deposited silver sulfide thin films*”; *Int. J. Mod. Phys. B* **23** (2009) 5695.
15. **A.B.M.O. Islam**, N.B. Chaure, J. Wellings, G. Tolan and I.M. Dharmadasa; “*Development of electrodeposited ZnTe layers as window materials in ZnTe/CdTe/CdHgTe structure*”; *Mater. Character.* **60** (2009) 160.
16. M.N. Islam, M.A. Gafur, **A.B.M.O. Islam** and A.H. Khan; “*Fabrication and investigation of the AC electrical properties of pure polypropylene (PP) and polypropylene-banana fiber (PP-b) composites*”; *Bang J. Phys.* **3** (2007) 65.
17. **O. Islam**, N.B. Chaure, J. Wellings, G. Tolan and I.M Dharmadasa; “*Development of electrodeposited ZnTe layers for applications in thin film PV solar cells*”; *Ceylon J. Science* **12** (2007) 33.
18. B.K. Sarker, **A.B.M.O. Islam**, F. Ahmed and A.H. Bhuiyan; “*Optical and dielectric properties of PVC, PVA and their blends*”; *Polymers and Polymer Composites* **14** (2006) 651.
19. Al-Mamun, **A.B.M.O. Islam** and A.H. Bhuiyan; “*Structural, electrical and optical properties of copper selenide thin films deposited by chemical bath deposition technique*”; *J. Mater. Sci.: Mater. Electro.* **16** (2005) 263.
20. Al-Mamun and **A.B.M.O. Islam**; “*Bath parameter dependence of chemically-deposited copper selenide thin films*”; *Int. J. Mod. Phys. B* **18** (2004) 3063.
21. **A.B.M.O. Islam**, A. Thissen, A. Klein and W. Jaegermann; “*Deposition of the layered-semiconductor SnS<sub>2</sub> onto H-terminated Si(111) surfaces: failure of van der Waals epitaxy and possible implications*”; *Surf. Sci.* **572** (2004) 476.
22. Al-Mamun and **A.B.M.O. Islam**; “*Characterization of copper selenide thin films deposited by chemical bath deposition technique*”; *Appl. Surf. Sci.* **238** (2004) 184.
23. **A.B.M.O. Islam**, and C. Tatsuyama; “*Characterization of GaS-deposited*

- GaAs surface by XPS and PL*"; Indian J. Phys. **78** (7) (2004) 547.
24. Al-Mamun, S.H. Firoz and **A.B.M.O. Islam**; "*Detection of crystal structure of chemically-deposited copper selenide thin films*"; Indian J. Phys. **78A** (2004) 377.
  25. R. Fritsche, E. Wizotski, A. Thissen, **A.B.M.O. Islam**, A. Klein, W. Jaegermann, R. Rudolph, D. Tonti and C. Pettenkofer; "*Steps of Preparation of a Ga-Se half-sheet termination layer on Si(111) for electronic passivation*"; Surf. Sci. **515** (2002) 296.
  26. R. Fritsche, E. Wizotski, **A.B.M.O. Islam**, A. Thissen, A. Klein, W. Jaegermann, R. Rudolph, D. Tonti and C. Pettenkofer; "*Electronic passivation of Si(111) by Ga-Se half-sheet termination*"; Appl. Phys. Lett. **80** (2002) 1388.
  27. M. Mori, K. Tsukada, **Obaidul A.B.M. Islam**, T. Tambo, C. Tatsuyama and T. Ito; "*Interface formation between S/GaS and diamond films*"; New Diamond and Frontier Carbon Technology **11** (2001) 331.
  28. **A.B.M.O. Islam**, T. Tambo and C. Tatsuyama; "*Passivation of GaAs surface by GaS*" Vacuum **59** (2000) 894.
  29. F-U-Z. Chowdhury, **A.B.M.O. Islam** and A.H. Bhuiyan; "*Chemical analysis of the plasma-polymerized diphenyl thin films*"; Vacuum **57** (2000) 43.
  30. **A.B.M.O. Islam** and A.H. Bhuiyan; "*Electrical Properties of electrodeposited copper selenide thin films*" Bangladesh J. Sci. Res. **18** (2000) 175.
  31. **A.B.M.O. Islam**, Y. Nishiyama, T. Tambo, C. Tatsuyama and T. Ito; "*Characterization of GaS-deposited CVD diamond films by AES and XPS*"; Appl. Surf. Sci. **159/160** (2000) 588.
  32. **A.B.M.O. Islam**, Y. Nishiyama, T. Tambo, C. Tatsuyama and T. Ito; "*Interface formation between GaS and CVD diamond films*"; Surf. Sci. **448** (2000) 1.
  33. **A.B.M.O. Islam**, T. Tambo and C. Tatsuyama; "*Growth temperature dependence of GaS thin films on GaAs(001) surface*" J. Appl. Phys. **85** (1999) 4003.
  34. **A.B.M.O. Islam**, K.K. Lim, Y. Dokai, T. Tambo, C. Tatsuyama, N. Jiang, A. Hatta, T. Ito and A. Hiraki; "*Surface modification of B-doped diamond films by GaS*"; Diamond Films and Technology **8** (1998) 271.
  35. **A.B.M.O. Islam**, K. Asai, K.K. Lim, T. Tambo and C. Tatsuyama; "*Interface formation between layered-compound GaS and GaAs(111)A surface*"; Surf. Sci. **416** (1998) 295.
  36. **A.B.M.O. Islam**, K. Asai, K.K. Lim, T. Tambo and C. Tatsuyama; "*Initial stage of the growth of GaS thin films on GaAs*"; Appl. Surf. Sci. **123/124** (1998) 508.
  37. **O. Islam**, A.H. Bhuiyan and S. Ahmed; "*IR and dielectric studies of plasma-polymerized m-xylene thin films*"; Thin Solid Films **238** (1994) 191.

#### Conference Papers (Selected):

1. K.A.M.H. Siddiquee, M.A.K. Pathan, S. Alam, **O. Islam** and M.R. Qadir; "*Characterization of CdS and CdTe Thin Films and Investigation of the Influence of CdCl<sub>2</sub> on CdTe/CdS Structure*"; Prog. Photov. Res. Appl. (submitted) and also Accepted for Presentation in 27<sup>th</sup> European Photovoltaic Solar Energy Conference and Exhibition, Frankfurt, Germany, 24 – 28 September, 2012.
2. M.R.I. Chowdhury, M.S. Hossain, M.S. Islam, F. Sabeth, G. Mustafa, S.F.U. Farhad, D.K. Saha, F.A. Chowdhury, S. Hussain and **A.B.M.O. Islam**; "*Characterization of electrodeposited cadmium selenide thin films*"; Proceedings of the 24<sup>th</sup> European Photovoltaic Solar Energy Conference and Exhibition, Hamburg, Germany, 21-25 September, 2009, pp 3077.

3. M.Z. Molla, R.I. Chowdhury, G. Mustafa, S. N. Rahman, T. Tambo and **A.B.M.O. Islam**: “*Characterization of silver sulfide thin films deposited by chemical bath deposition method*”; Extended Abstract of the 23<sup>rd</sup> European Photovoltaic Solar Energy Conference and Exhibition, Valencia, Spain, 5-8 September, 2008.
4. M. Mori, K. Tsukada, Y. Okino, **A.B.M.O. Islam**, T. Tambo and C. Tatsuyama; “*Interface formation between GaS and diamond*”; Proceedings of the Fifth Russia-Japan Seminar on Semiconductor Surface, Vladivostok, Russia, 15-20 September, 2002.

#### **References:**

1. Prof. Dr. Chiei Tatsuyama (Retired) (PhD Supervisor)  
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