

Resume of Dr. Mehnaz Sharmin

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GoogleScholar: <https://scholar.google.com/citations?hl=en&user=WHihhj0AAAAJ>



Education:

Name of Degree	Board/University	Year of Passing	Results
Ph. D.	Bangladesh University of Engineering and Technology	2019	CGPA: 3.67
M. Phil. (Physics)	Bangladesh University of Engineering and Technology	2015	CGPA: 3.67
M. S. (Physics)	University of Dhaka	2010	1 st Class 2 nd
B. Sc. (Hons.) in Physics	University of Dhaka	2009	1 st Class 8 th
H. S. C.	Rajshahi Board	2002	1 st Division
S. S. C.	Rajshahi Board	2000	1 st Division

Theses:

1. Ph. D Thesis: Synthesis and Characterization of Mg and Al Doped Fe₂O₃ Thin Films for Gas Sensing Application, December-2019
2. M. Phil. Thesis: Characterization of Boron Doped Zinc Oxide Thin Films Prepared By Spray Pyrolysis Deposition Technique, July-2015
3. M. S. Thesis: Study of Electrical and Optical Properties of Single Crystal p-Type Gallium Arsenide and p-Type Silicon, May-2010

Work Experience

- Apr 2016 – present* **Assistant Professor**
Department of Physics, Bangladesh University of Engineering and
Technology
Dhaka, Bangladesh
- Oct 2011 – Apr 2016* **Lecturer**
Department of Physics, Bangladesh University of Engineering and
Technology Dhaka, Bangladesh
- Feb 2011 – Oct 2011* **Lecturer**
Department of Basic Sciences, Primeasia University
Dhaka, Bangladesh

Awards & Grants

- March 2020* Best oral presentation award in Thin Film Session "International Conference on
Physics - 2020" organized by Bangladesh Physical Society
- Feb 2019* Award: Best Poster Award for 2 posters in the "National Conference on Physics,
2019" organized by Bangladesh Physical Society
- Mar 2018* Award: The best poster paper award at "4th International Conference on
Structure, Processing And Properties Of Materials 2018 organized by Bangladesh
University of Engineering and Technology
- October 2017* Bangabandhu Science and Technology Fellowship 2017-2018 for Ph. D. program
Awarded by Bangabandhu Science and Technology Fellowship Trust.
- Mar 2016* Award: 2 posters were selected among best 10 posters in the "International
conference on Physics-2016" organized by Bangladesh Physical Society

Skills & Activities

- Skills* Semiconductor materials, Metal oxide thin films, Spray pyrolysis
techniques, thin film characterization.
- Languages* Bengali; Bangla, English, Hindi
- Computer Literacy* Applications: MS Office, Basic and advanced Graphics Programs.
Operating systems: Windows 2000/XP/2007, Windows 8, Window
- Scientific Memberships* Bangladesh Physical Society
- Interests* Recitation, Music

Journal Publications:

1. M. H. Babu, J. Podder B. C. Dev and M. Sharmin, p to n-type transition with wide blue shift optical band gap of spray synthesized Cd doped CuO thin films for optoelectronic device applications, *Surfaces and Interfaces*, 2020, 19, 100459.
2. M. Sharmin and J. Podder, Band Gap Tuning, n-type to p-type Transition and Ferrimagnetic Properties of Mg Doped α -Fe₂O₃ Nanostructured Thin Films, *Journal of Alloys and Compounds*, 2020, 818, 152850.
3. M. Nesa, M. A. Momin, M. Sharmin and A.H. Bhuiyan, Structural, optical and electronic properties of CuO and Zn doped CuO: DFT based First-principles calculations, *Chemical Physics*, 2020, 528, 110536.
4. M. Sharmin and J. Podder, Influence of Al Doping on the Structure and Properties of Fe₂O₃ Thin Films: High Transparency, Wide Band Gap, Ferromagnetic Behavior, *Semiconductor Science and Technology*, 2019, 34, 075033.
5. M. Sharmin and A. H. Bhuiyan, Modifications in structure, surface morphology, optical and electrical properties of ZnO thin films with low boron doping, *Journal of Materials Science: Materials in Electronics*, 2019, 30 (5), 4867 - 4879.
6. M. Sharmin and A. H. Bhuiyan, Influence of Substrate Temperature on the Properties of Spray Deposited Nanofibrous Zinc Oxide Thin Films, *Applied Physics A*, 2018,124, 57.
7. M. Nesa, M. Sharmin, K. S. Hossain and A. H. Bhuiyan, Structural, Morphological, Optical and Electrical Properties of Spray Deposited Zinc Doped Copper Oxide Thin Films, *Journal of Materials Science: Materials in Electronics*, 2017, 28, 12523-12534.
8. M. S. Islam, C. Das, M. Sharmin, K. M. A. Hussain And S. Choudhury, Effect of Doping Concentration on The Optical Properties of Indium-Doped Gallium Arsenide Thin Films, *Journal of Bangladesh Academy of Sciences*, 2016, 40(2), 179-186.
9. M. M. Rahaman, K. M. A. Hussain, M. Sharmin, C. Das and S. Choudhury, Structure, Morphology and Opto-Electrical Properties of Nanostructured Indium Doped SnO₂ Thin Films Deposited by Thermal Evaporation, *European Scientific Journal*, 2016, 12(27), 263-274.
10. M. Biswas, M. Sharmin, C. Das, S. Choudhury and J. Poddar, Structural and Optical Characterization of Magnesium Doped Zinc Oxide Thin Films Deposited by Spray Pyrolysis, *Dhaka University Journal of Science*, 2016, 64(1), 37-42.
11. M. Sharmin, S. Choudhury and T. Begum, Electrical, Optical and Structural Properties Of p-Type Silicon, *Dhaka University Journal of Science*, 2015, 63(1), 37-41.

12. A. Islam, C. Das, S. Choudhury, M. Sharmin and T. Begum, Structural and Optical Characterization of Vacuum Evaporated Zinc Selenide Thin Films, *European Scientific Journal*, 10 (15), 2014, 241-253.
13. M. Sharmin, S. Choudhury, N. Akhtar and T. Begum, Optical and Transport Properties of p-Type GaAs, *Journal of Bangladesh Academy of Sciences*, 2012, 36(1), 97-107.

Conference presentations (Poster/Oral):

1. M. Sharmin, J. Podder and K. S. Hossain, Studies on the Topographical and Photoluminescence Properties of Mg Doped Fe_2O_3 Thin Films, International Conference on Physics-2020, 05-07 March, 2020, Atomic Energy Centre, Dhaka, Bangladesh.
2. M. Sharmin, J. Podder and K. S. Hossain, The Effect of Al on the Structural, Morphological, Topological, Optical, Transport and Magnetic Properties of Fe_2O_3 Thin Films, National Conference on Physics-2019, 07-09 February, 2019, University of Dhaka, Dhaka, Bangladesh.
3. W. B. Tarique, Mehnaz Sharmin and J. Podder, Structural, Morphological, Optical and Electrical Properties of ZnO/SnO₂ Thin Films Synthesized by Thermal Spray Pyrolysis Technique for Optoelectronic Applications, National Conference on Physics-2019, 07-09 February, 2019, University of Dhaka, Dhaka, Bangladesh.
4. M. Sharmin and J. Podder, Effect of Al Doping on Physical Properties of Sprayed $\alpha\text{-Fe}_2\text{O}_3$ Nanoparticle Thin Films Synthesized for Optoelectronic Applications, International Conference on Nanotechnology and Condensed Matter Physics (ICNCMP-2018), January 11-12, 2018, BUET, Dhaka, Bangladesh.
5. M. Sharmin, M. Zahan and J. Podder, Investigation of Structural, Morphological, Optical and Electrical Properties of Spray Synthesized Fe_2O_3 Thin Films for Optoelectronic Applications, 4th International Conference on structure, processing and properties of materials, 1 - 3 March 2018, BUET, Dhaka, Bangladesh.
6. M. Zahan, M. Sharmin and J. Podder, Effect of Cu Doping on Morphological, Structural, Optical and Electrical Properties of MnO_2 Thin Films Deposited by Spray Pyrolysis Method, 4th International Conference on structure, processing and properties of materials, 1 - 3 March 2018, BUET, Dhaka, Bangladesh.
7. M. Sharmin and J. Podder, The Influence of Al Doping on the Physical Properties of Fe_2O_3 Nanoparticle Synthesized by Chemical Spray Pyrolysis for Optoelectronic Applications, International Conference on Advances in Materials Science and Engineering for Societal Applications, 2 - 3, March 2018, Chennai, India.
8. M. Sharmin and J. Podder, Structural, Morphological, Optical and Electrical Properties of Al: Fe_2O_3 Nanoparticle Thin Films Synthesized for Gas Sensing Applications, International Conference on Physics, organized by Bangladesh Physical Society, 08-10 March, 2018, University of Dhaka, Dhaka, Bangladesh.
9. M.M. Rahaman, K.M.A. Hussain, Mehnaz Sharmin and S. Choudhury, Nanostructure and Opto-electrical Properties of Temperature Dependent Indium Doped Tin Oxide Thin Films,

- International Conference on Physics, organized by Bangladesh Physical Society, 08-10 March, 2018, University of Dhaka, Dhaka, Bangladesh.
10. N. Biswas, Mehnaz Sharmin and J. Podder, Sol-gel Spin Coating: A Promising Technique for Preparation of Multilayer Metal Oxide Thin Films for Optoelectronic Applications, International Conference on Physics, organized by Bangladesh Physical Society, 08-10 March, 2018, University of Dhaka, Dhaka, Bangladesh.
 11. W. B. Tarique, Mehnaz Sharmin and J. Podder Versatility of Spray Pyrolysis Technique for Synthesis of Multilayer Metal Oxide Thin Films, International Conference on Physics, organized by Bangladesh Physical Society, 08-10 March, 2018, University of Dhaka, Dhaka, Bangladesh.
 12. M. Sharmin and J. Podder, Wide Band Gap and High Optical Transparency in Mg Doped Fe₂O₃ Thin Films: A Suitable Candidate for Optoelectronic Devices, International Conference on Material Science and Semiconductor Devices, 07-08 September, 2018, University of Dhaka, Bangladesh.
 13. M. Sharmin and J. Podder, Effect of Mg Incorporation on the Structural, Morphological, Optical, Electrical and Magnetic Properties of Ferric Oxide Nanoparticle Thin Films, International Workshop on Recent Advances in Nanotechnology and Applications (RANA-2018), 7 - 8 September, 2018, AMET, Chennai, India.
 14. M. M. Rahaman, K. M. A. Hussain, M. Sharmin, C. Das and S.Choudhury, Role of Substrate Temperature on the Opto-electrical Properties of Indium Doped Tin Oxide Thin Films, National Conference on Physics-2017, 5-7 January, 2017, Atomic energy Center, Dhaka, Bangladesh.
 15. M. Nesa, M. Sharmin, K. S. Hossain and A. H. Bhuiyan, Characterization of Spray Pyrolyzed CuO Thin Films Deposited at Various Substrate Temperatures, National Conference on Physics-2017, 5-7 January, 2017, Atomic energy Center, Dhaka, Bangladesh.
 16. M. Sharmin and A. H. Bhuiyan, Investigation of Structure, Morphology, Optical and Electrical Properties of Sprayed ZnO Thin Films Deposited at Various Substrate Temperatures, National Conference on Physics-2017, 5-7 January, 2017, Atomic energy Center, Dhaka, Bangladesh.
 17. M. Nesa, M. Sharmin and A. H. Bhuiyan, Effect of Zinc Doping on Structure and Properties of CuO Thin Films Synthesized by Spray Pyrolysis Technique, International Conference on Physics-2016, 10 - 12 March, 2016, Atomic energy Center, Dhaka, Bangladesh.
 18. Md. Mahafuzur Rahaman, K. M. A. Hussain, Mehnaz Sharmin & Shamima Choudhury, Effect of Substrate Temperature on Structural, Optical and Electrical Properties of Vacuum Evaporated Indium Doped Tin Oxide Thin Films, International Conference on Physics-2016, 10 - 12 March, 2016, Atomic energy Center, Dhaka, Bangladesh.
 19. M. M. Rahaman, K. M. A. Hussain, M. Sharmin, C. Das and S.Choudhury, Opto-Electrical Properties of Nanostructured Indium Doped Tin Oxide Vacuum Evaporated Thin Films, Young Scientists Congress and Women Scientists: Mentee Program 2016, October, 2016.
 20. M. Nesa, M. Sharmin, K. S. Hossain and A. H. Bhuiyan, Structural and Surface Morphological Properties of Spray Deposited CuO and Zinc Doped CuO Thin Films, 3rd

Conference of Bangladesh Crystallographic Association-2016, 1-2 December 2016, University of Dhaka, Dhaka, Bangladesh.

21. M. Sharmin, A. H. Bhuiyan, Influence of Boron Doping on The Structural Properties of ZnO Thin Films Deposited by Spray Pyrolysis Technique, National Conference on Physics Research and Education in Bangladesh, 2015, Atomic energy Center, Dhaka, Bangladesh.
22. M. Sharmin, S. Choudhury and T. Begum, Electrical, Optical and Structural Properties of p-Type Silicon, International Conference on Physics for Energy and Environment, Dhaka, 2014.
23. A. Islam, S. Choudhury, M. Sharmin, J. Begum and T. Begum, Substrate Temperature Dependent Structural Properties of Thermal Evaporated ZnSe Thin Films, First National Conference of Bangladesh Crystallographic Association, Dhaka, 2013.
24. M. Sharmin, T. Begum, N. Akhtar and S. K. Choudhury, Electrical and Optical Properties of p-Type GaAs, Conference on Electronics and Telecommunication (Bangladesh Electronics Society), 2010, 175-179.

Research Projects:

1. Title of the project: Synthesis of Nanostructured Metal Oxide Thin Films and Construction of a Cost Effective Gas Sensitivity Testing Unit for Environmental Applications

Amount: 6,84,000/- (Six Lac Eighty Four Thousand Taka Only)

Project duration: One and a half year.

Funding organization: Committee for Advanced Studies and Research (CASR), Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

Training Programs:

1. Training Workshop on Learning Management System: Moodle organized by IQAC, BUET from 14-15 July, 2020.
2. A Half Day Workshop on Scientific Paper Writing for High Impact Journals organized by IQAC, BUET from 16 April, 2019.
3. Introductory Training Course in Nanofabrication Technologies organized by Centre for Nano Science and Engineering, IISc, Bengaluru, India from 10-28 September, 2018
4. Training Workshop on Writing Learning Outcomes organized by IQAC, BUET from 23 December, 2016.
5. Teachers' Appreciation Workshop organized by Directorate of Continuing Education (DCE), BUET from 27-29 January, 2015.
6. Workshop on Modular Origami Learning organized by BUET and Japan Embassy, 25 September 2013.
7. Workshop on Initiative in Science Education, Research and Capacity building organized by Bangladesh Academy of Sciences and TWAS, 14-15 September 2013.

8. Workshop on Modular Origami Learning organized by BUET and Japan Embassy, 25 September 2013.
9. BAS Young Women Scientists' Workshop organized by Bangladesh Academy of Sciences, 24-25 March 2012, Dhaka, Bangladesh.

Reviewer at the following Journals:

1. Applied Physics A
2. AIP Advances
3. Materials Technology: Advanced Performance Materials
4. JOAM-Journal of Optoelectronics and Advanced Materials

Name and Address of Referees:

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