



Department of Textile Engineering
Khulna University of Engineering & Technology
Khulna - 9203, Tel: 041-769471 (191); Fax : 041-774403



Dr. Md. Shakhawat Hossain

Assistant Professor

Research Area Textile Engineering, Frontier
Fiber Technology and Science

Biography

Welcome to my personal webpage. I am Dr. Md. Shakhawat Hossain, currently serving as an Assistant Professor at the Department of Textile Engineering (TE) at Khulna University of Engineering and Technology (KUET). I hold a PhD in Frontier Fiber Technology and Science from the University of Fukui, Japan, completed in March 2024. I earned my Bachelor of Science in Textile Engineering from Bangladesh University of Textiles (BUTex) and am pursuing my M.Sc. from the same institution. Additionally, I completed an Master of Business Administration (MBA) from Jahangirnagar University, Bangladesh. I bring over 7 years of industrial experience in various managerial roles in a 100% export-oriented knit dyeing industry and nearly 10 years of teaching experience in undergraduate engineering education. I have supervised 21 undergraduate projects to completion. I am a member of the Institution of Textile Engineers & Technologists (ITET) and The Institution of Engineers, Bangladesh (IEB). My research interests include nanofiber synthesis, applications, heat-dissipation materials, organic-inorganic hybrid materials, nanofiber engineering, functional fiber, polymer composites, polymer processing, knitting technology, development of knit fabric structures, and knit fabric finishing, with 15 publications in international journals, 7 in international conferences, and 2 in national conferences.

Education

Doctor of Engineering

University of Fukui, Japan()

Thesis Title: [Development of high-performance heat-dissipation sheets with ceramic nanofibers](#)

Master of Science in Textile Engineering

Bangladesh University of Textiles (BUTex), Bangladesh() Merit Position: 1st,

Thesis Title: [Improvement of the Physico-Mechanical Properties of Circular Weft Knitted CVC Fleece Fabrics](#)

MBA

Jahangirnagar University, Bangladesh, Bangladesh()

Bachelor of Science in Textile Engineering

Bangladesh University of Textiles (BUTex), Bangladesh() Merit Position: First Class,

HSC

Govt. Sundarban Adarsha College, Khulna, Bangladesh() Group: Science, Merit Position: First Division with Star Marks,

SSC

Model Secondary School, Khulna, Bangladesh() Group: Science, Merit Position: First Division with Star Marks,

Service Records

- **Production Engineer**
Mondol Group of Industries Ltd. From 04-04-2008 to 15-03-2009
- **Senior Executive**
Square Knit Fabrics Ltd. From 20-03-2009 to 01-12-2010
- **Manager**
Impress Newtex Composite Textiles Ltd From 05-12-2010 to 01-04-2015

Research Interest

Textile Engineering, Frontier Fiber Technology and Science

Organic-inorganic Hybrid Materials, Nanofiber Engineering, Functional Fiber, Polymer Composites, Polymer Processing, Knitting Technology, Development of Knit Fabric Structures and Knit Fabric Finishing

Publication

Books

Journals

15. M. S. Hossain and K. Nakane, "Enhancing heat dissipation in polyurethane sheets through the incorporation of freeze-dried aluminum nitride nanofiber," **International Journal of Applied Ceramic Technology**, Wiley, 2024.
14. M. Zakaria, M. A. R. Bhuiyan, M. S. Hossain, N. M. U. Khan, M. A. Salam and K. Nakane, "Advances of polyolefins from fiber to nanofiber: fabrication and recent applications," **Discover Nano**, Springer Nature, 2024.
13. M. S. Hossain, K. Takahashi and A. O. a. K. Nakane, "Formation of aluminum nitride nanofibers using electrospinning and their application to thermal conductive sheets," **Journal of Materials Science**, Springer Nature, 2023.
12. D. Jahangir and M. S. Hossain, "Analysis of the effect of sizing add-on% and sizing process parameters on the average warp breakage rate for 30ne 100% cotton warp yarn," **Journal of Engineering Science (JES)**, KUET, 2022.
11. M. S. Hossain, M. M. Islam, S. A. Smriti, S. C. Dey and M. A. Islam, "An approach to improve the elasticity of rib fabric through mechanical and chemical finishing," **Textile & Leather Review**, 2022.
10. M. S. Hossain and K. Nakane, "Thermal conductivity of polyurethane sheets containing beryllium oxide nanofibers," **RSC Advances**, Royal Society of Chemistry, 2022.

9. M. S. Hossain and K. Nakane, "Formation of beryllium oxide nanofibers by polyvinyl alcohol/beryllium sulfate/poly ethyleneimine composite precursors," **SN Applied Sciences** , Springer Nature, 2022 .
8. M. S. Hossain and K. Nakane, "Development of a high-performance heat dissipation sheet with three-dimensional alumina fibrous structure fabricated by freeze-drying," **Results in Materials** , Elsevier, 2022 .
7. S. M. M. Alam, M. S. Hossain and A. N. Nayab-UI-Hossain, "Novel polyimide in presence of benzoxazole: Synthesis and characterization," **Materials Today: Proceedings** , Elsevier, 2022 .
6. M. S. Hossain, M. M. Islam, S. C. Dey and N. Hasan, "An approach to improve the pilling resistance properties of three thread polyester cotton blended fleece fabric," **Heliyon** , Elsevier, 2021 .
5. M. S. Hossain, M. M. Islam and N. Hasan, "Selection of suitable knitting parameters for 1 x 1 rib collar manufacturing in V-bed knitting machine," **Heliyon** , Elsevier, 2021 .
4. M. S. Hossain, S. Alimuzzaman, A. Naser and M. A. Haque, "Improvement of Elastic Property of Circular Weft Knit Three-Thread Fleece Fabric by Changing Stitch Length," **AATCC Journal of Research** , Sage, vol. 8, no.1, 2021 .
3. M. S. Hossain, A. Siddika and T. Islam, "Investigation of different cationic softener effects on shade appearance, colour fastness and hand feel properties of 100% cotton circular weft knitted single jersey fabric," **Journal of Engineering Science** , vol. 10, no.01, 2019 .
2. , "Effect of Singeing and Heat Setting on Pilling Properties of CVC Single Jersey Knit Fabric," **International Journal of Current Engineering and Technology** , vol. 7, no.1, 2017 .
1. M. Zakaria, M. S. Hossain and S. S.M, "Modification of weaving process by integrated sizing-weaving loom," **International Journal of Chemical Studies** , 2015 .

Conference

9. M. S. Hossain and K. Nakane, "Improving thermal conductivity in polyurethane sheets by incorporating three dimensional AlN nanofiber network through freeze-drying," **The Society of Fiber Science and Technology Autumn Research Presentation Application, F04**, Kyoto, Japan, 2023 .
8. M. S. Hossain, K. Takahashi, A. Ohgoshi and K. Nakane, "Tailoring thermal conductivity with electrospun aluminum nitride nanofibers," **The 10th International Academic Symposium between XUT and UF**, Xi'an, China, 2023 .
7. M. S. Hossain and K. Nakane, "Thermally conductive beryllium oxide nanofibers fabricated by electrospinning method," **Third round of notification "The 4th International Forum on Textiles for Graduate Students (IFTGS-4)**, Tiangong University, China, 2022 .
6. M. S. Hossain and K. Nakane, "Thermally conductive Al₂O₃ nanofiber/polymer composites," **3rd International Congress of Innovative Textiles (ICONTEX)**, Tekirdağ Namık Kemal Üniversitesi Turkey, 2022 .
5. M. S. Hossain and K. Nakane, "Development of a high-performance heat dissipation sheet with beryllium oxide nanofibers," **XUT Annual Graduate Conference and International Academic Symposium**, Xi'an University of Technology, China, 2022 .
4. M. S. Hossain and K. Nakane, "Thermal conductivity of polyurethane sheets containing beryllium oxide nanofibers," **The 49th textile research symposium (TRS49)**, Kyoto Institute of Technology & online, Japan, 2022 .
3. M. S. Hossain and K. Nakane, "3D Al₂O₃ nanofiber used as high-performance heat dissipation sheet," **The 16th XUT Annual Graduate Conference and International Academic Symposium**, Xi'an University of Technology, China, 2021 .
2. M. M. Hasan, M. S. Parvej and M. S. Hossain, "A Study on the Effect of Nanocellulose Coating for Effective Deposition of Metallic Nanoparticles on Textile Substrate," **International Conference on Mechanical, Industrial and Energy Engineering**, KUET, 2020 .
1. T. Islam, M. Hossain and M. Hasan, "Investigation of Mechanical Properties of Jute-Betelnut Husk Fiber (BHF) Reinforced Epoxy Composite," **International Conference on Mechanical, Industrial and Energy Engineering**, KUET, 2018 .