

# MD MAZBAH UDDIN

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## EDUCATION

- Ph.D. May 2026 Materials Science  
Major in Polymer, Fiber, and Textile Sciences  
University of Georgia (UGA), USA
- MS Jul 2021 Textiles, Merchandising, and Interiors (TMI)  
Major in Polymer, Fiber, and Textile Sciences  
UGA, USA
- BS Apr 2018 Textile Engineering  
Bangladesh University of Textiles (BUTEX)  
Dhaka, Bangladesh

## RESEARCH INTERESTS

Textile sciences, polymeric materials, nanostructures, biomaterials, bio-composites /bioplastics, and functional/responsive textiles

## RESEARCH EXPERIENCES

- Jan 2022– **Graduate Research Assistant**, Ph.D., TMI, UGA, USA
- Nanocellulosic hydrogel synthesis and its applications
    - Developing biobased coating materials for flexible packaging applications, **NSF Sponsored**
  - Fibrous scaffolds for cell culture studies
    - PHB polymer-based fibrous scaffolds
    - PVDF polymer-based fibrous scaffolds
- Aug 2019– **Graduate Fellow Research Assistant**, MS, TMI, UGA, USA  
July 2021
- Developing piezoelectric textiles for harvesting electrical energy, **TenCate Sponsored**
    - Nanofiber and thin film coating techniques and their application in developing energy-generating piezoelectric yarns
    - Melt extrusion coating based electrical energy generating triboelectric yarns

## TEACHING EXPERIENCES

- Aug 2021– **Graduate Teaching Assistant**, TMI, UGA, USA  
Dec 2021
- TXMI 3520 (Textile Testing), Lab Instructor, Fall 2021
  - FYO 1001 (3D Printing and Design), Lab Instructor, Fall 2020 & 2021, SP 2022

## INDUSTRIAL EXPERIENCES

- 2020-2021 **TenCate**, Developing piezoelectric textiles for harvesting electrical energy  
2021 **MISSION**, Thermal analysis of prototype materials

- 2021 **Buhler Yarns**, Analysis of fiber properties
- 2020 **Voith Group**, XRD analysis of polymeric materials
- Feb 2018– **Trainee Merchandiser**, Ha-meem Group, Dhaka, Bangladesh
- Jun 2019
  - Woven shirt merchandising- materials sourcing, product development, supply chain, resource management, and product shipment
- Jun 2017– **Internship**, Square Textiles Limited, Gazipur, Bangladesh
- Aug 2017
  - Yarn spinning- inventory management, resource management, R&D, quality control, production, and utility maintenance

## SKILLS

- Synthesis of polymeric films and fibers (spin coating, film applicator, film casting, nanofiber spinning, melt spinning, etc.)
- Nanocellulosic materials synthesis (NFC hydrogels)
- Synthesis of polymeric emulsion
- Functional polymeric coatings
- Textile testing and quality controls
- Performance evaluation of paper and packaging materials (mechanical & barrier)
- Characterization of polymeric materials (Universal Tester, DMA, XRD, FTIR, DSC, TGA, SEM, AFM, ellipsometry, confocal microscopy, optical microscopy, etc.)
- Particle size and size distribution analysis (DLS)
- Instrumentation of lab-scale machineries (3D printing, Autodesk AutoCAD, 3dsMax)
- Data analysis: OriginLab, Microsoft office, JMP, ImageJ

## AWARDS/HONORS

- Jones Anderson Family Scholarship, 2022 The College of Family and Consumer Sciences (UGA)
- The Graduate School Doctoral Fellow Award, 2021 The Graduate School of the University of Georgia (UGA)
- Travel Grant from Bangladesh-Sweden Trust Fund, 2021 Bangladesh-Sweden Trust Fund
- Georgia Impact Now Master's Fellows Program (GAIN), 2019 The Graduate School of the University of Georgia (UGA)

## RESEARCH FUNDS

- \$500, AATCC Foundation Student Research Support Grant, 2019 American Association of Textile Chemists and Colorists (AATCC)

## MEDIA EXPOSURE

- Sep 2020 Study finds neck gaiters can reduce droplet spread
  - <https://www.textileworld.com/textile-world/2020/09/university-of-georgia-study-finds-neck-gaiters-as-good-as-masks-in-reducing-droplet-spread/>
  - <https://ohsonline.com/articles/2020/12/21/neck-gaiters-are-effective-face-coverings-says-cdc-and-niosh-report.aspx>

## PUBLICATIONS

- **Google Scholar Citations: 21,**  
<https://scholar.google.com/citations?user=eChqq80AAAAJ&hl=en>
- **Research Articles**
  - **M. M. Uddin**, N. S. Yadavalli, T. D. Nguyen, S. Minko, and S. Sharma, "Melt coated flexible stainless-steel thread based co-axial triboelectric yarn nanogenerators," **Mater. Technol.**, pp. **1–15, Feb. 2022**, DOI: 10.1080/10667857.2022.2038769.
  - **Uddin, M. M.** et al. Highly Flexible and Conductive Stainless-Steel Thread Based Piezoelectric Coaxial Yarn Nanogenerators via Solution Coating and Touch-spun Nanofibers Coating Methods. **Smart Mater. Struct. (2022)**
- **Review Articles**
  - Sikdar, P., **Uddin, M. M.**, Dip, T. M., Islam, S., Hoque, M. S., Dhar, A. K., & Wu, S. (2021). Recent advances in the synthesis of smart hydrogels. **Mater. Adv**, 2(14), 4532-4573.
- **Book Chapters**
  - **Uddin, M. M.**, Dip, T. M., & Sharma, S. "Wearable Nanogenerators". Nanogenerators: Basics, Design Strategies, and Applications. 2022,  
<http://dx.doi.org/10.1201/9781003187615-10>

## CONFERENCE ATTENDANCE

- May 2022    Poster Presentation, "Co-axial Yarn Based Electrical Nanogenerators of Flexible Metal Threads", TECHTEXTIL NORTH AMERICA, 2022, Georgia World Congress Center, Atlanta, GA, USA
- Oct 2019    Poster Presentation, "Application of Core-Sheath Nanofibrous Yarn as Implantable Medical Textiles", 4th International Symposium on Materials from Renewables (ISMR), 2019, University of Georgia, USA

## PATENTS

None

## REVIEWS

None

## CERTIFICATIONS

- Masters in Textile, Merchandising, and Interiors (Polymer, Fiber, and Textile Sciences)
- Basic Introduction to Materials Testing: Static, Instron
- Bachelor of Science in Textile Engineering

## SOCIETY MEMBERSHIPS

- Student Member            Technical Association of the Pulp and Paper Industry (TAPPI), 2022  
Student Member            The American Association of Textile Chemists and Colorists (AATCC), 2020

## **VOLUNTARY SERVICE**

- Q & A Panelist 46th Georgia Junior Science & Humanities Symposium, UGA, USA, 2021
- Paper Reader 47th Georgia Junior Science & Humanities Symposium, UGA, USA, 2022

## **COMMUNITY INVOLVEMENT**

- **Chair of Social Programming**, TMI, UGA, USA, 2019-2021
  - Initiate, plan and execute all social events by communicating with the graduate committee, graduate students, and the department head
- **Treasurer** at Bangladeshi Student Association (BASA) for International Student Life (ISL) at UGA, USA, 2019-2020
  - Correspondence with ISL regarding fund allocation and budgeting for BASA-organized programs at UGA
  - Fund collection from ISL, student members, alumni, local community, etc. for BASA
  - Budgeting funds for organizing different cultural and international programs at UGA
- **General Secretary** at BASA for ISL at UGA, USA, 2021-2022
  - Establishing communication among students, community, and ISL with BASA's executive committee
  - Organize social gatherings and meetings

## **WEB LINKS**

- Google Scholar: <https://scholar.google.com/citations?user=eChqq80AAAAJ&hl=en>
- LINKEDIN: <https://www.linkedin.com/in/md-mazbah-uddin-58067b119/>
- Orchid ID: <https://orcid.org/0000-0002-5740-1046>

## **REFERENCE**

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