Md Mazbah Uddin

Position	PhD Student in Polymer, Fiber, and Textile Sciences, Textiles Merchandising, and Interiors (TXMI), University of Georgia (UGA), Athens, USA
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Research Statement

I am working as a Research Assistant focusing on the study of polymer, fiber, & textile sciences. I have a keen interest in biomaterials, cell-biomaterials interactions, nano-polymeric structures/nano-science, composites and plastics, sustainable polymeric materials, and functional/responsive textiles. I want to conduct collaborative research and use diverse sciences of polymer, nano-technology, and textiles in developing functional materials for biomedical, industrial, and advanced textiles applications.

Research/Scholarly Interests/Expertise

- Polymeric materials,
- Nano-polymeric structures/nano-science,
- Biomaterials,
- Cell-biomaterials interactions,
- Composites and plastics,
- Functional/responsive textiles, and
- Sustainability

Teaching Summary

- Lab instructor: TXMI 3520 Textile Testing, Fall 2021, UGA, USA
- Lab instructor: FYO 1001 First-Year Odyssey Seminar 3D Printing and Design, 2020-2021, UGA, USA

Professional Experience

Jan 2022–Present	Graduate Research Assistant, TXMI, UGA, USA
Aug 2021-Dec 2021	Graduate Teaching Assistant, TXMI, UGA, USA
Aug 2019–Jun 2021	Graduate Fellow Research Assistant, TXMI, UGA, USA
Feb 2018–Jun 2019	Trainee Merchandiser, Ha-meem Group, Dhaka, Bangladesh
Jun 2017–Aug 2017	Internship, Square Textiles Limited, Gazipur, Bangladesh

Education/Degrees

PhD	Aug 2021- Present	Materials Science (Major in Polymer, Fiber, and Textile Sciences), UGA, USA

- Development of biobased functional coating of kraft paper for flexible packaging applications, CB^2 (Center for Bio-composites and Bioplastics), funded project, (Jan 2022-)
- Non-invasive in-situ electrical stimulation of cells for regeneration of bone, unfunded project (Aug 2021-)

MS	Aug 2019- Jul 2021	Textiles, Merchandising, and Interiors (Major in Polymer, Fiber, and Textile Sciences), UGA, USA • Development of electrical energy generating yarns for smart textiles applications, Funded by TenCate for energy generating geotextiles, (Aug 2019 – Jan 2022)
BS	Apr 2013-Apr 2018	Textile Engineering (Major in Yarn Manufacturing, and Engineering), Bangladesh University of Textiles (BUTEX), Dhaka, Bangladesh

Education/Certifications

- Masters in Textile, Merchandising, and Interiors, UGA, USA
- Basic Introduction to Materials Testing: Static, Instron
- Bachelor of Science in Textile Engineering, BUTEX, Bangladesh

Instrumental/Analytical Skills

- DMA, Instron, XRD, FTIR, DSC, TGA, AFM, DLS, SEM, Spin Coating, Corona Treater, Plasma Treater, Rheometer, Spinning (Electrospinning, Touchspinning, Melt Spinning), WVTR, Textiles Performance Tests, etc.
- OriginLab, Microsoft office, JMP, ImageJ

Research/Industrial/Other Work Experiences

- Voith Group, XRD and DSC analysis of PET specimens, 2020
- MISSION, Thermal profiling of prototype materials, 2021
- Buhler Yarns, Analysis of fiber fineness (count), 2021
- TenCate, Development of piezo/triboelectric yarn for geotextiles applications, 2021

Awards/Honors

- Semester GPA-Based Internal Term Scholarship, BUTEX 2013-2018
- Georgia Impact Now Master's Fellows Program (GAIN), The Graduate School, UGA 2019
- The Graduate School Doctoral Fellow Award, The Graduate School, UGA 2021
- Travel Grant from Bangladesh-Sweden Trust Fund, Sweden-Bangladesh Trust Fund 2021

Research Grant/Funds

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

Conferences/Presentations/Media Exposure/ Miscellaneous

09-10 Oct 2019	Poster presentation, **Application of Core-Sheath Nanofibrous Yarn as Implantable Medical Textiles**, 4th International Symposium on Materials from Renewables (ISMR), UGA, USA
11 Sept 2020	**Study finds neck gaiters can reduce droplet spread**, https://www.prnewswire.com/news-releases/university-of-georgia-study-finds-neck-gaiters-as-good-as-masks-in-reducing-droplet-spread-301139850.html

Publications (Articles/Book Chapters etc.)

- 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.
- 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)
- 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., Dip, T. M., & Sharma, S. (2022). **Wearable Nanogenerators**. In Nanogenerators: Basics, Design Strategies and Applications. (in process to publish in CRC Press and Taylor & Francis Group)

Other Activities/Voluntary/Community Services

Chair of Social Programming	TXMI, UGA, USA	2019- 2021
Treasurer	Bangladeshi Student Association, International Student Life, UGA, USA	2019-2020
General Secretary	Bangladeshi Student Association, International Student Life, UGA, USA	2020-2021
Voluntary Service	Fabrication of Face Shields for Faculty and Stuff at FACS, UGA, USA	2020
Q & A Panelist	46th Georgia Junior Science & Humanities Symposium, UGA, USA	2021
Paper Reader	47th Georgia Junior Science & Humanities Symposium, UGA, USA	2022

Memberships

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

Research Profile

- https://scholar.google.com/citations?user=eChqq80AAAAJ&hl=en
- https://www.researchgate.net/profile/Md-Mazbah-Uddin

Social Links

- https://www.linkedin.com/in/md-mazbah-uddin-58067b119/