

Umme Kulsum

PhD Candidate (2027)

Geospatial Information Sciences
School of Economic, Political and Policy Sciences
The University of Texas at Dallas

Education

Master of Science (2018): Dept. of Geography and Environment, Jagannath University, Bangladesh

Bachelor of Science (2017): Dept. of Geography and Environment, Jagannath University, Bangladesh

Experience

Instructor (May 2024-Aug. 2024): Geospatial Information Sciences, The University of Texas at Dallas

Course

- GEOG 2303 World Regional Geography

Teaching Assistant (Aug. 2022-Present): Geospatial Information Sciences, The University of Texas at Dallas

Courses

- GISC 6381 Geographic Information Systems Fundamentals; Supervisor: Dr. Yongwan Chun (Fall-2022 and Fall-2023)
- GISC 4382 Applied Geographic Information Systems; Supervisor: Dr. Yongwan Chun (Spring-2023 and Spring-2024)

Research Officer (Mar. 2021- Feb. 2022): Unnayan Shamannay (Non-profit research organization), Dhaka, Bangladesh

Intern (Jul. 2018- Sep. 2018): Ark Foundation (Non-profit research organization), Dhaka, Bangladesh

Journal Publications

1. Kulsum, U., Moniruzzaman, M. Exploring the relationship of climate change and land-use dynamics with satellite-derived surface indices and temperature in greater Dhaka, Bangladesh. *J Earth Syst Sci* 131, 117 (2022). <https://doi.org/10.1007/s12040-022-01841-0>

2. Kulsum, U., Moniruzzman, M. (2021). Quantifying the Relationship of Vegetation Cover and Air Pollution: A Spatiotemporal Analysis of NDVI and PM2.5 in Greater Dhaka, Bangladesh. *Jagannath University Journal of Science*,7(2), 54-63.

Conferences

1. Umme Kulsum, Haitao Lyu, Fang Qiu (2024, April 16-20), *Exploring Human-Rhino Conflict Using UAV Thermal Imagery* [Poster session]. 2024 AAG Annual Meeting, Honolulu, HI, USA.
<https://www.aag.org/events/aag2024/>
2. Umme Kulsum, Md. Moniruzzaman (2020, January 25-27), *Air Quality and Land Use Nexus in Greater Dhaka* [Conference session], International Conference on Earth and Environmental Sciences & Technology for Sustainable Development, ICEEST, Dhaka, Bangladesh.

Thesis

Title: Analysis of Urban Heat Island and Associating Air Quality in Greater Dhaka Using GIS and Remote Sensing Techniques
Department of Geography and Environment, Jagannath University
Supervisor: Dr. Md. Moniruzzaman

Dissertation

Title: Spatial Expansion of Urban Heat Island: A Case Study of Dhaka Metropolitan Region
Department of Geography and Environment, Jagannath University
Supervisor: Dr. Riffat Mahmood

Educational Certificates

1. **Graduate Certificate on Geospatial Intelligence** (Tentative graduation: Fall 2024)
Geospatial Information Sciences Program
School of Economic, Political and Policy Sciences
The University of Texas at Dallas
2. **Graduate Certificate on Remote Sensing** (Tentative graduation: Spring 2025)
Geospatial Information Sciences Program
School of Economic, Political and Policy Sciences
The University of Texas at Dallas
3. **Graduate Certificate on Spatial Data Science** (Tentative graduation: Fall 2025)
Geospatial Information Sciences Program
School of Economic, Political and Policy Sciences
The University of Texas at Dallas

Professional Certificates

1. **Graduate Teaching Certificate** (2024)
Center for Teaching and Learning
The University of Texas at Dallas

Award and Fellowship

1. Pioneer Student Research Grant Award (2024-2025)

School of Economics, Political and Policy Science

The University of Texas at Dallas

2. Bangladesh-Sweden Trust Fund Travel Scholarship (2022-2023)

Ministry of Finance

Government of People's Republic of Bangladesh

3. UTD Graduate Studies Scholarship (Aug. 2022-Present)

The University of Texas at Dallas

4. ICT Fellowship (Mar. 2019 –Feb 2020)

ICT Division

Government of People's Republic of Bangladesh

5. Duke of Edinburgh's International Award (Bronze, Sep. 2018)

Duke of Edinburgh's International Award, Bangladesh

Volunteer Work

SPUR Judge (8/2/2024): University of Texas at Dallas, USA

Responsibilities: Acted as a graduate student judge for the undergraduate poster competition, held on August 2nd, 2024, by Summer Platform for Undergraduate Research (SPUR).

ARK Foundation (Jun. 2018-Jul. 2018), Dhaka, Bangladesh

Responsibilities: Collecting qualitative data for projects called Urban Anchal and MDRTB based on early childhood development of slum dwellers and mental health of MDR-TB patients respectively.

Membership

American Association of Geographers (Nov. 2023 – Present)

Extra-Curricular

Member of Bangladeshi Student Organization (BSO) in The University of Texas at Dallas

Reference

References can be provided upon request.