# CURRICULUM VITAE

## Md Shahinoor Rahman, Ph.D.

**Date:** January 25, 2025
**School:** School of Public Health
**Department/Program:** Environmental Health Climate and Sustainability

**Current Title:** Assistant Professor
**Business Address:** 2020 Gravier St, LSUHSC Lions Eye Center Room 318, New Orleans, LA 02115
**Business Telephone:** 504-568-5650
**Business email Address:** mrahm8@lsuhsc.edu

**Initial Appointment at LSUHSC Date:** July 1, 2024
**Current Academic Rank:** Assistant Professor
**Date of Appointment to Current Rank:** July 1, 2024

**Education:**

**BURP, Bachelor of Urban and Regional Planning**
Bangladesh University of Engineering and Technology, Dhaka Bangladesh
Date of attendance: April 2002-June 2007
Degree awarded: June 2007

**MSc in Regional Development Planning and Management**
Technical University of Dortmund, Germany &
Universidad Austral de Chile, Chile
Date of attendance: October 2009-July 2011
Degree awarded: December 2011

**Ph.D. in Earth Systems and Geoinformation Sciences**
George Mason University, Fairfax, VA, USA
Date of attendance: August 2015-December 2019
Degree awarded: December 2009

**Certification:**

**Short Course on Geographical Information Systems and its Applications**
Bangladesh Institute of Planners (BIP), Dhaka, Bangladesh.
Certificate awarded: March 2012

**Disaster Response Exercise and Exchange**
Jointly organized by the Bangladesh Armed Forces Division and U.S. Army Pacific
Certificate awarded: March 2013

**Graduate Certificate, Remote Sensing and GIS for Natural Hazard**
**Short Course on Risk Sensitive Land Use Planning**
Jointly Organized by the Earthquake and Megacity Initiative and the World Bank.
Certificate awarded: March 2013

**Assessment**
Faculty of Geo-information Science and Earth Observation (ITC),
The University of Twente, The Netherlands
Certificate awarded: March 2014

**Short Course on InSAR Processing and Theory with GMTSAR**
Scripps Institute of Oceanography, University of California San Diego, CA
Certificate awarded: March 2017

## Academic, Professional, and Research Appointments:

**GIS Analyst**
Golden Harvest Scankort GIS, Dhaka, Bangladesh
June 2007 – April 2008

**Assistant Urban Planner**
Xenovalley Model Town (Pvt.) Ltd. Dhaka, Bangladesh
April 2008 - August 2009

**Assistant Professor**
BUET-Japan Institute of Disaster Prevention and Urban Safety, Bangladesh
University of Engineering and Technology, Dhaka, Bangladesh
October 2011 - August 2015

**Graduate Research Assistant**
Center for Spatial Information Science and Systems,
George Mason University
Sep 2015 – August 2020

**Assistant Professor**
Department of Earth and Environmental Sciences
New Jersey City University
Sep 2020 – June 2023

**Postdoctoral Research Associate**
Department of Oral Health Policy and Epidemiology
Harvard School of Dental Medicine
June 2023 – May 2024

**Assistant Professor**
Environmental Health, Climate, and Sustainability, School of Public Health
Louisiana State University Health Sciences Center New Orleans
July 2024 – Present

**Awards and Honors:**

**Best End of Course Project Award 2013**
Blended Training Course on Risk Sensitive Land Use Planning, Jointly Organized by Earthquake and Megacity Initiative and the World Bank

**ICT for Mountain Development Award 2015**
The International Centre for Integrated Mountain Development (ICIMOD); for Developing Dynamic Web-GIS based Early Warning System for the Communities at Landslide Risks in Chittagong Metropolitan Area, Bangladesh.

**Best Young Scientist Paper Award, 2017**
The Sixth International Conference on Agro-Geoinformatics, Fairfax VA, USA

**Best Poster Award, 2018**
GIS Day Poster Competition 2018, Department of Geography and Geoinformation Science, George Mason University, Fairfax VA, USA

**Outstanding Ph.D. Student Award, 2020**
Department of Geography and Geoinformation Science, George Mason University, Fairfax VA, USA

## TEACHING EXPERIENCE AND RESPONSIBILITIES

### Curriculum Development/Implementation

As an Assistant Professor at New Jersey City University (NJCU), I actively contributed to the departmental curriculum committee, playing a key role in revising the GIS minor and GIS certificate programs. I was responsible for defining required and elective courses and refining learning outcomes to enhance the curriculum's effectiveness.

During my tenure at NJCU, I developed two new courses, EESC 206 and EESC 202, from the ground up, including course proposals and content creation. Additionally, I designed and structured all course materials for EESC 237, transforming it from an empty framework into a fully developed offering.

### New Jersey City University, Jersey City, NJ, USA

**GIS Minor and Certificate Programs**

- Developed the curriculum for the Geographic Information Science (GIS) Minor (18 credits) and certificate (12 credits) program at New Jersey City University.
- Played a key role in selecting relevant courses, defining learning outcomes, and establishing program objectives.
- Ensured alignment with industry standards and best practices in GIS education.
- Oversaw the approval process for the GIS Minor program by university committees.

**Developed New Courses**

- EESC 206: Digital Earth: Fundamentals of Geospatial Science
- EESC 202: Remote Sensing for a Changing World
- EESC 237: Environmental Issues and Policy

**Creation of Enduring Teaching Materials**

I have created video lectures and exercise content for two online asynchronous courses at NJCU. These lectures are hosted on the Panopto video platform. These contents are reusable for these two courses one focusing on a basic introduction to environmental science and another on the application of Geographic Information Systems in an urban context.

**New Jersey City University, Jersey City, NJ, USA**

Teaching Materials for Online Asynchronous courses below

- EESC 201: Environmental Science for All
- EESC 325 GIS for the Urban Community

**Formal Course Responsibilities**

My diverse academic background and research interests have equipped me with a strong foundation to teach a broad range of undergraduate and graduate courses across five universities. As an Assistant Professor at Bangladesh University of Engineering and Technology, I developed and taught three graduate certificate courses, each comprising 42 hours of instruction. Two of these courses focused on the application of GIS and satellite remote sensing technologies for assessing natural hazard risks, while the third emphasized learning and utilizing Python programming for GIS applications.

In addition, as an adjunct faculty member, I taught undergraduate courses in Introduction to GIS, Remote Sensing, and Cartography for Urban Planning, as well as a graduate-level course on GIS applications in public health at two universities in Bangladesh.

Over four years at NJCU, I taught seven different courses, offered multiple times across various semesters, covering topics such as GIS and remote sensing applications, environmental science fundamentals, and environmental policies.

Currently, I am teaching a course on GIS applications in environment and health at LSUHSC.

**LSU Health Sciences Center New Orleans, LA, USA**

- ENHS 6253: Geospatial Health and Environment (3 credit hours, 1 year)

**New Jersey City University, Jersey City, NJ, USA**

- EESC 121: Mapping the City (3 credit hours, 3 years)
- EESC 201: Environmental Science for All (6 credit hours, 5 years)
- EESC 202: Remote Sensing for a Changing World (3 credit hours, 1 year)
- EESC 206: Digital Earth: Fundamentals of Geospatial Science (3 credit hours, 3 years)
- EESC 252: Contemporary Applications of GIS (3 credit hours, 3 years)
- EESC 237 Environmental Issues and Policy (3 credit hours, 4 years)
- EESC 325 GIS for the Urban Community (3 credit hours, 2 years)

**Bangladesh University of Engineering and Technology, Dhaka, Bangladesh**

- Introduction to Remote Sensing and its Application in Natural Hazards (3 credit hours, 1 year)

- Introduction to GIS Programming and Algorithm (3 credit hours, 1 year)
- Remote Sensing and GIS for Natural Hazard Assessment (3 credit hours, 1 year)

**Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh**

- Surveying and Cartography (3 credit hours, 1 year)
- Surveying and Cartography Workshop (3 credit hours, 1 year)
- GIS and Remote Sensing (3 credit hours, 1 year)
- GIS and Remote Sensing Studio (3 credit hours, 1 year)

**ASA University Bangladesh, Dhaka, Bangladesh**

- Introduction to GIS and Its Application in Public Health (3 credit hours, 1 year)

**Formal Mentoring and Advisor:**

**On PACE to STEM Success grant**

At NJCU, I had the privilege of mentoring multiple students through the ON-PACE mentoring program and the STEM Summer Research Internship. As a mentor in the ON-PACE program, my role was to provide guidance and support to students struggling academically, helping them improve their performance and develop long-term career and academic plans. Additionally, I supervised the summer research of three students, assisting them in field-based data collection and analysis for small research projects, which they later presented at various conferences and forums.

**New Jersey City University**

NJCU STEM ON-PACE mentoring program

- Kritza Portillo
- Roland Gonzalez
- Telewoyan Flomo
- Samuel Ogunsakin

NJCU STEM Summer Research Internship

- Jonathan Rodriguez
- Katha Patel
- Telewoyan Flomo

## RESEARCH AND SCHOLARSHIP

**Grants and Contracts:**

**Funded**

**Developing Dynamic Web-GIS-based Early Warning System for the Communities at Landslide Risks in Chittagong Metropolitan Area, Bangladesh**

ICIMOD/ SERVIR-Himalaya Small Grants Program funded by the United States Agency for International Development (USAID) in partnership with NASA

Role: Co-PI; Implementation Period: July 2014 – June 2015;

Budget: $25,000; Effort: 40%

**Development of Post-Graduate Research and Degree Programs in Disaster Risk Reduction at a New Institute on Disaster Prevention and Urban Safety**
Higher Education Quality Enhancement Project (HEQEP), Academic Innovation Fund, University Grants Commission of Bangladesh
Role: Co-I; Implementation Period: July 2014 – June 2017;
Budget: $230,000; Effort: 5%

**From Green to GrEEEn: Utilizing an environmental justice lens and Earth science data to enhance greenspace Equity, Exposure, and Experience**
NASA Earth Science Applications: Equity and Environmental Justice # 80NSSC22K1471;
Role: Co-I/Institutional PI; *Implementation Period: October 2022 – December 2023;* Budget: $100,000; Effort: 25%

***Efficiency and Employment Nexus: Advanced Technology based Urban and Peri-urban Horticulture in Bangladesh and Nepal***
*USAID Feed the Future Program;*
*Role: Advisor; Implementation Period: March 2023 – August 2026;*
Budget: *$320,210;* Effort: 0%

**Unearthing the Urban Agriculture–Environment Connection: Implications for Practice and Policies**
NASA Research Initiative Award (RIA) #80NSSC24K0836;
Role: Co-I/Institutional PI; Implementation Period: June 2024 – May 2026;
Budget: $300,000; Effort: 9%

**Characterizing Hazards, Exposures, Disease Mechanisms, and Health Disparities Associated with Traffic-Related Air Pollutants Along New Orleans' Claiborne Avenue Interstate Expressway**
LSUHSC-Wide Intramural Research Program (WIRP)
Role: Investigator; Implementation Period: July 2024 – February 2026;
Effort: 25%

**Pending funding**

**Environmental Justice Analysis of NO2 Exposure: The Nexus of Concentration, Emissions, and Built Environment Efficiency in the Contiguous USA**
NASA Earth Action: Health and Air Quality.
Role: Co-I/Institutional PI Implementation Period: Jan 2025 – Dec 2028;
Budget: ~$586,589; Effort: 15%

**Unveiling Air Quality and Environmental Justice: Integrating Concentration and Source-Specific Emission with Exposure Inequalities in the U.S.**
NASA Earth Action: Health and Air Quality.
Role: Co-I/Institutional PI Implementation Period: Feb 2025 – Jan 2028;
Budget: ~$921,640; Effort: 17%

**Rising Waters, Rising Risks: Assessing Climate Change Impacts on Flooding Patterns in the Lower Missouri River Basin**
NASA Research Initiative Award (RIA).
Role: Co-I/Institutional PI; Implementation Period: Jan 2025 – Dec 2026; Budget: ~$300,000; Effort: 7%

**CD-AFTER: Crop Damage Assessment and Forecasting for Climate Resilience in Central America's Dry Corridor**
NASA SEVIR;
Role: PI; Implementation Period: Jan 2026 – Dec 2028; Budget: Step 1

**Recent non-funded applications**

**Assessing Urban-Rural Health Resilience in Bangladesh during Catastrophic Floods**
Natural Hazard Center
Role: Co-I/Institutional PI; Budget: $50,000

**A Web-GIS Planning Support Tool to Understand the Public Health Impact of Heat Stress, Air Pollution, and Green Deficit in Communities Seeking Equity & Environmental Justice**
NASA Earth Action: Community Action for Equity and Environmental Justice
Role: Co-I/Institutional PI; Budget: $644,738

**Monitoring and Understanding Land Use Adaptations to Climate Change in Coastal Bangladesh**
NASA Land Cover Land Use Program
Role: Principal Investigator (PI); Budget: $774,989

**Washington-Baltimore Metropolitan Integrated Field Laboratory (WIFL)**
Biological and Environmental Research (BER), DOE/SC
Role: Co-I/Institutional PI; Budget: $20M (approx.)

**Determinants of Time Lag in Receiving Public Health Emergency Supports During Hurricane Fiona in Puerto Rico**
Natural Hazard Center Colorado Boulder
Role: Principal Investigator (PI); Budget: $50,000

**Major Agricultural Policy Interventions in Tanzania: Understanding Land Cover and Land Use Change and its Impacts on Ecosystem Services and Smallholder Livelihoods**
Submitted to NASA Land Cover Land Use Program
Role: Principal Investigator (PI); Budget: $447,000

**“DamRec Mangroves”: A web-based decision-support tool for cyclone damage and recovery assessments in the Sundarbans mangrove forest**
Submitted to The Coalition for Disaster Resilient Infrastructure (CDRI)
Role: Principal Investigator (Co-I); Budget: $15,000

**Major Area of Research Interest:**

I am interested in a wide range of topics in the application of geospatial technologies including climate change, environment, natural hazards, urban studies, agriculture, and health. In this era, researchers must contend with data flood from sensors and networks, the Internet of Things, web applications, and the advancement of big data technologies. To take advantage of these opportunities, I utilize data mining, machine learning, and spatial analytics approaches, and I like to integrate both qualitative and quantitative approaches in my research work. I received several grants from NASA, USAID, and World Bank initiatives for multi-disciplinary collaborative research projects. My current and past research projects are listed below.

**Journal Publications:**

**Refereed**

**Published:**

[1] **Rahman, M.S.** and Kausel, T. (2013). Disaster as an Opportunity to Enhance Community Resilience: Lesson Learnt from Chilean Coast, Journal of Bangladesh Institute of Planners, Vol 5. pp1-11

[2] Ahmed, Bayes, Kamruzzaman, Md., Zhu, Xuan, **Rahman, M. S.**, Choi, Keechoo. ( 2013). "Simulating Land Cover Changes and Their Impacts on Land Surface Temperature in Dhaka, Bangladesh." Remote Sens. 5, no. 11: 5969-5998. [IF: 4.2]

[3] **Rahman, M. S.**, & Di, L. (2017). The state of the art of spaceborne remote sensing in flood management. Natural Hazards, 85(2), 1223-1248. [IF: 3.3]

[4] **Rahman, M. S.,** Ahmed, B., & Di, L. (2017). Landslide initiation and runout susceptibility modeling in the context of hill cutting and rapid urbanization: a combined approach of weights of evidence and spatial multi-criteria. Journal of Mountain Science, 14(10), 1919-1937. [IF: 2.3]

[5] **Rahman, M. S.**, Yang, R., & Di, L. (2018). Clustering Indian Ocean Tropical Cyclone Tracks by the Standard Deviational Ellipse. *Climate*, *6*(2), 39. [IF: 3.0]

[6] Ahmed, B., **Rahman, M.S.**, Islam, R., Sammonds, P., Zhou, C., Uddin, K., & Al-Hussaini, T. (2018). Developing a Dynamic Web-GIS Based Landslide Early Warning System for the Chittagong Metropolitan Area, Bangladesh. *ISPRS International Journal of Geo-Information*, *7*(12), 485. [IF: 2.8]

[7] **Rahman, M. S.**, Mohiuddin, H., Kafy, A. A., Sheel, P. K., & Di, L. (2018). Classification of cities in Bangladesh based on remote sensing derived spatial characteristics. *Journal of Urban Management*, 8(2), 206-224. [IF: 3.9]

[8] **Rahman, M.S.**, Di, L., Yu, E., Zhang, C., Mohiuddin, H. (2019) In-Season Major Crop-Type Identification for US Cropland from Landsat Images Using Crop-Rotation Pattern and Progressive Data Classification. *Agriculture*, *9*, 17. [IF: 3.3]

[9] Lin, L., Di, L., Tang, J., Yu, E., Zhang, C., **Rahman, M.S.,** ... & Kang, L. (2019). Improvement and Validation of NASA/MODIS NRT Global Flood Mapping. *Remote Sensing*, *11*(2), 205. [IF: 4.2]

[10] **Rahman, M.S.**, Di, L., Yu, E., Lin, L., Zhang, C., & Tang, J. (2019). Rapid Flood Progress Monitoring in Cropland with NASA SMAP. *Remote Sensing*, *11*(2), 191.[IF: 4.2]

[11] Tang, J., Di, L., **Rahman, M. S.**, & Yu, Z. (2019). Spatial-temporal landscape pattern change under rapid urbanization. Journal of Applied Remote Sensing, 13(2), 024503. [IF: 1.4]

[12] Qian, Y.; Yang, Z.; Di, L.; **Rahman, M.S.;** Tan, Z.; Xue, L.; Gao, F.; Yu, E.G.; Zhang, X. Crop Growth Condition Assessment at County Scale Based on Heat-Aligned Growth Stages. *Remote Sens.* **2019**, *11*, 2439. [IF: 4.2]

[13] Ahmed, B., **Rahman, M. S.,** Sammonds, P., Islam, R., & Uddin, K. (2020). Application of geospatial technologies in developing a dynamic landslide early warning system in a humanitarian context: the Rohingya refugee crisis in Cox's Bazar, Bangladesh. Geomatics, Natural Hazards and Risk, 11(1), 446-468. [IF: 4.5]

[14] **Rahman, M. S.,** & Di, L. (2020). A Systematic Review on Case Studies of Remote-Sensing-Based Flood Crop Loss Assessment. Agriculture, 10(4), 131. [IF: 3.3]

[15] Kafy, A. A., **Rahman, M. S.**, Faisal, A.A. Hasan, M. M., & Islam, M. (2020). Modelling future land use land cover changes and their impacts on land surface temperatures in Rajshahi, Bangladesh. Remote Sensing Applications: Society and Environment, 18, 100314. [IF: 3.8]

[16] Rabby, Y. W., Ishtiaque, A., & **Rahman, M.S.** (2020). Evaluating the Effects of Digital Elevation Models in Landslide Susceptibility Mapping in Rangamati District, Bangladesh. Remote Sensing, 12(17), 2718. [IF: 4.2]

[17] Yu, Z., Di, L., **Rahman, M.S.,** & Tang, J. (2020). Fishpond Mapping by Spectral and Spatial-Based Filtering on Google Earth Engine: A Case Study in Singra Upazila of Bangladesh. Remote Sensing, 12(17), 2692. [IF: 4.2]

[18] Kafy, A.A., Faisal, A.A., **Rahman, M.S.**, Islam, M., Al Rakib, A., Islam, M.A., Khan, M.H.H., Sikdar, M.S., Sarker, M.H.S., Mawa, J. and Sattar, G.S., 2020. Prediction of seasonal urban thermal field variance index using machine learning algorithms in Cumilla, Bangladesh. Sustainable Cities and Society, p.102542. [IF: 10.5]

[19] **Rahman, M. S.**, Di, L., Yu, E., Lin, L., & Yu, Z. (2021). Remote Sensing Based Rapid Assessment of Flood Crop Damage Using Novel Disaster Vegetation Damage Index (DVDI). International Journal of Disaster Risk Science, 1-21. [IF: 2.9]

[20] Rahman, M. M., Paul, K. C., Hossain, M. A., Ali, G. M. N., **Rahman, M. S.**, & Thill, J. C. (2021). Machine Learning on the COVID-19 Pandemic, Human Mobility and Air Quality: A Review. IEEE Access. [IF: 3.4]

[21] Ali, G.G.M.N., Rahman, M.M., Hossain, M.A., **Rahman, M.S.**, Paul, K.C.; Thill, J.-C., Samuel, J. (2021). Public Perceptions of COVID-19 Vaccines: Policy Implications from US Spatiotemporal Sentiment Analytics. Healthcare, 9, 1110. [IF: 2.4]

[22] Shekhar, H., Rautela, M., Khan, M., Paris, R., de León, R. M. F., Romero-Aguirre, M. F., ... & **Rahman, M. S.** (2022). Are leading urban centers

predisposed to a global risks-A review of the global south from a COVID-19 perspective? Habitat International, 102517. [IF: 6.5]

[23]* **Rahman, M.S.,** Paul, K.C., Rahman, M.M., Samuel, J., Thill, J.-C., Hossain, M.A., Ali, G.G.M.N. (2023). Pandemic Vulnerability Index of US Cities: A Hybrid Knowledge-based and Data-driven Approach. Sustainable Cities and Society, 95, 104570. [IF: 10.5]

[24] Roy, R., Monju, M. H., Tan, M. L., **Rahman, M. S.**, Kundu, S., Rahman, M. S., ... & Bhuyan, M. S. (2023). Determining synergies and trade-offs between adaptation, mitigation and development in coastal socio-ecological systems in Bangladesh. Environmental Development, 48, 100936. [IF: 4.7]

[25] Meenar, M., **Rahman, M. S.**, Russack, J., Bauer, S., & Kapri, K. (2023). The Urban Poor and Vulnerable Are Hit Hardest by the Heat: A Heat Equity Lens to Understand Community Perceptions of Climate Change, Urban Heat Islands, and Green Infrastructure. Land, 12(12), 2174. [IF: 3.2]

[26] Ishtiaque, A., Krupnik, T. J., Krishna, V., Uddin, M. N., Aryal, J. P., Srivastava, A. K., ..Rahman, M.S… & Jain, M. (2024). Overcoming barriers to climate-smart agriculture in South Asia. Nature Climate Change, 1-3. [IF: 30.3]

[27] Rahman, M. S., Meenar, M., Labib, S. M., Howell, T., Adlakha, D., & Woodward, B. (2024). Unveiling environmental justice in two US cities through greenspace accessibility and visible greenness exposure. Urban Forestry & Urban Greening, 101, 128493. [IF: 6.0]

[28] Elani, H. W., **Rahman, M. S.**, Wallace, J., Rosenthal, M. B., & Sommers, B. D. (2024). Availability Of Adult Dental Plans In The Affordable Care Act Marketplaces, 2016–23. Health Affairs, 43(11), 1587-1596. [IF: 9.7]

[29] **Rahman, M. S**., Blossom, J. C., Kawachi, I., Tipirneni, R., & Elani, H. W. (2024). Dental Clinic Deserts in the US: Spatial Accessibility Analysis. *JAMA Network Open*, *7*(12), e2451625-e2451625. [IF: 10.5]

**Submitted:**

[1] **Rahman, M. S**., Kawachi, I., Sommers,B.D., Tipirneni, R., Blossom, J. C., & Elani, H. W. (2025). Geographic Disparities in Access to Dental Care: Driving Times and Public Transit Barriers. *Journal of Transportation and Health*

***H-Index/indices:***

1. Google Scholar: h-index 26, January 31, 2025
2. Scopus: h-index= 21, January 31, 2025
3. Web of science: h-index= 18, January 31, 2025

**Books:**

**Book Chapters:**

[1] Shrestha, R. M., **Rahman, M. S.** (2021). Flood Monitoring and Crop Damage Assessment. In Di, L; and Üstündağ, B. (Eds.), Agro-geoinformatics: Theory and Practice, (1st ed., pp. 321–350). Springer.

[2] Rahman, S., Huq, F. F., Ahmed, B., **Rahman, M.S.,** & Al-Hussaini, T. M. (2022). Assessing Social Vulnerability to Landslide Disasters in Chittagong City, Bangladesh. In *Impact of Climate Change, Land Use and Land Cover, and Socio-economic Dynamics on Landslides* (pp. 301-318). Springer, Singapore.

[3] Faisal, A. A., **Rahman, M.S.**, Kafy, A. A., Roy, S., Khan, A., & Rahman, M. (2022). Impact on land surface temperature and urban heat island, due to land use/land cover change e in Dhaka metropolitan area, using remote sensing and GIS techniques. *Re-envisioning Advances in Remote Sensing, Taylor & Francis group*, 34.

**Scientific Presentations/Published Abstracts/Oral Sessions and Posters:**

**Published Abstracts/Proceedings**

***International***

[1] **Rahman, M. S.**, Di, L., Shrestha, R., Eugene, G. Y., Lin, L., Kang, L., & Deng, M. (2016, July). Comparison of selected noise reduction techniques for MODIS daily NDVI: An empirical analysis of corn and soybean. In the Fifth International Conference on Agro-Geoinformatics (pp. 1-5). IEEE.

[2] Eugene, G. Y., Di, L., Kang, L., Shrestha, R., **Rahman, M. S.**, Lin, L., ... & Yang, Z. (2016). Online parameterization for WOFOST for the United States using open geospatial standards. In the Fifth International Conference on Agro-Geoinformatics (pp. 1-6). IEEE.

[3] Zhang, C., Di, L., Sun, Z., Eugene, G. Y., Hu, L., Lin, L., ... & **Rahman, M. S.** (2017). Integrating OGC Web Processing Service with cloud computing environment for Earth Observation data. In the 6th International Conference on Agro-Geoinformatics, (pp. 1-4). IEEE.

[4] Shrestha, R., Di, L., Eugene, G. Y., **Rahman, M. S.**, Lin, L., Hu, L., & Tang, J. (2017). Crop Fraction Layer (CFL) datasets derived through MODIS and Landsat for the continental US from the year 2000–2016. In the 6th International Conference on Agro-Geoinformatics (pp. 1-7). IEEE.

[5] **Rahman, M. S.**, Di, L., Shrestha, R., Eugene, G. Y., Lin, L., Zhang, C., ... & Yang, Z. (2017). Agriculture flood mapping with Soil Moisture Active Passive (SMAP) data: A case of 2016 Louisiana flood. In the 6th International Conference on Agro-Geoinformatics (pp. 1-6). IEEE.

[6] Eugene, G. Y., Di, L., **Rahman, M. S.**, Lin, L., Zhang, C., Hu, L., ... & Yang, G. (2017). Performance improvement on a Web Geospatial service for the remote sensing flood-induced crop loss assessment web application using vector tiling, the 6th International Conference on Agro-Geoinformatics, (pp. 1-6). IEEE.

[7] **Rahman, M.S.**, Di, L., Esraz-Ul-Zannat, M. (2017). The role of big data in disaster management, In the International Conference on Disaster Risk Mitigation (ICDRM 2017), Dhaka, Bangladesh.

[8] Lin, L., Di, L., Yang, R., Zhang, C., Yu, E., **Rahman, M. S.**, ... & Tang, J. (2018). Using Machine Learning Approach to Evaluate the PM2. 5 Concentrations in China from 1998 to 2016. In the 7th International Conference on Agro-geoinformatics (pp. 1-5). IEEE.

[9] **Rahman, M. S.,** Di, L., Eugene, G. Y., Tang, J., Lin, L., Zhang, C., ... & Gaigalas, J. (2018). Impact of Climate Change on Soil Salinity: A remote sensing-based investigation in Coastal Bangladesh. In the 7th International Conference on Agro-geoinformatics (pp. 1-5). IEEE.

[10] **Rahman, M. S.,** Di, L., Yu, Z., Eugene, G. Y., Tang, J., Lin, L., ... & Gaigalas, J. (2019, July). Crop Field Boundary Delineation using Historical Crop Rotation Pattern. In 2019 8th International Conference on Agro-Geoinformatics (Agro-Geoinformatics) (pp. 1-5). IEEE.

[11] Patel, N., Cancel, D., Chatterjee, M., & **Rahman, M. S.** (2021, December). Covid-19 digital Contact-tracing: a doorway to well-being or a backdoor to security vulnerabilities? In 2021 IEEE International Conference on Big Data (Big Data) (pp. 4297-4302). IEEE.

[12] Elani, H. W., **Rahman, M. S.,** Wallace, J., Rosenthal, M. B., & Sommers, B. D. Adult Dental Plan Availability in the ACA Health Insurance Marketplaces, Academy Health Annual Research Meeting 2024, Baltimore, MD, USA

[13] **Rahman, M. S.,** Blossom, J. C., Kawachi, I., Tipirneni, R., & Elani, H. W. Mapping Dental Deserts: Assessing Geographic Access to Dental Facilities in the United States, Academy Health Annual Research Meeting 2024, Baltimore, MD, USA

**Scientific Presentations**

***Oral Sessions***

[3] Prediction of Field Level Crop Types Using Markov Chain Modeling on Crop Rotation Pattern, AGU Fall Meeting 2019 held on 09 – 13 December in San Francisco, USA

[2] In-Season Major Crop-Type Identification for US Cropland from Landsat Images, AAG Conference 2019 Washington DC, USA

[1] Agriculture flood mapping with Soil Moisture Active Passive (SMAP) data: A case of 2016 Louisiana flood, The Sixth International Conference on Agro-Geoinformatics held on 03 –07 in Fairfax VA, USA

***Poster***

[1] Classification of cities in Bangladesh based on remote sensing derived spatial characteristics, Regional Development Planning and the Sustainable Development Goals (SDGs) at a local level in Latin America and the Caribbean (LAC) held on 08 – 12 July 2019 in Valdivia, Chile

[2] Fine Resolution Mapping of Air Quality in Jersey City, AAG Conference 2023 Denver, CO, USA

**Invited Presentations:**

[1] Tropical Cyclone Hazard to Remote Home for the Rohingya at Bhasan Char in Bangladesh, *International Conference on the Rohingya Crisis in Comparative Perspective* held at University College London (UCL), the UK on 4-5 July 2019

[2] The role of geospatial technologies for building flood resilient communities, *Webinar on Flood Resilience: Opportunities and Challenges organized by Resilient Bangladesh* on 4-5 July 2019

[3] Remote Sensing Based Rapid Assessment of Flood Crop Damage, IEEE Geoscience & Remote Sensing Society (GRSS) Washington, DC & Northern VA Chapter virtual seminar, December 17, 2021

[4] Unveiling Environmental Justice in Two Cities through Greenspace Accessibility and Visible Greenness Exposure, Planners's Talk, Bangladesh Institute of Planners (BIP), August 25, 2024

[5] Unveiling Environmental Justice in Two Cities in New Jersey through Greenspace Accessibility and Visible Greenness Exposure, GIS Day, College of Staten Island, The City University of New York, November 15, 2024

**Grant Reviewer:**

- Reviewed seven grant proposals for Seed Grant program to Stimulate Collaborative Research (GISCOR) proposals, Taylor Geospatial Institute, MO, USA

**Editorial Posts and Activities:**

**Journal Editor or Associate Editor:**

- Executive Editor, Journal of Bangladesh Institute of Planners (JBIP) Volume 7, 2014
  Bangladesh Institute of Planners (BIP), Dhaka, Bangladesh
- Special Issue Editor and Topic Editor
  Geospatial Techniques in Advancing Land-Change Science and Management, Land, 2021-2022

**Reviewer:**

- Remote Sensing
- Geosciences
- Natural Hazards
- Scientific Reports
- Progress in Physical Geography
- IEEE Access
- International Journal of Disaster Resilience in the Built Environment
- Journal of Arid Environments
- Spatial Information Research Sustainability
- Water
- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing

- ISPRS International Journal of Geo-Information
- Landslides
- PeerJ Computer Science
- International Journal of Digital Earth

## SERVICE AND ADMINISTRATION

**University/Institutional Service:**

**Departmental committees**

- **Member of the Curriculum Committee**
  Department of Earth and Environmental Sciences, New Jersey City University, Jersey City, NJ, USA, 2020-2023

**National Service:**

**Leadership role**

- **Director, The Board of Directors (BAAI)**
  Bangladesh Association of America Inc, 2019-2020

**International Service:**

**Professional society committees**

- **Member of Technical Working Group**
  Enhanced Land-use Planning in Bangladesh, A joint project of Urban Development Directorate (UDD) and Asian Disaster Preparedness Center (ADPC), Dhaka Bangladesh

- **Focus Group Member**
  Bangladesh Urban Earthquake Resilience Project, The World Bank

**Leadership role**

- **Board Member (National and International Liaison)**
  10th Executive Board, Bangladesh Institute of Planners (BIP), 2012-2013
- **Board Member (Research and Publications)**
  11th Executive Board, Bangladesh Institute of Planners (BIP), 2014-2015

**Membership in Professional Organizations:**

- Member: American Geophysical Union (AGU), 2 years
- Member: Association of American Geographers (AAG), 3 years
- Fellow: Bangladesh Institute of Planners (BIP), ID # F 565, since 2008
- Life Member: Association of BUET Alumni (ABUETA), since 2007
- Member: BUETPlanners, Association of BUET Graduate Planners, since 2007
- Life Member, Alumni Association of German Universities in Bangladesh, since 2011
- Member, SPRING International Association of Development Planners (SIADP), since 2010
- Member, ITC Student Alumni, since 2014