

## SAMIHA NUZHAT

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## EDUCATION

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- 2023 – Present Masters in Geography | Track: Geospatial Science  
*Department of Geography, Geology and Planning, Missouri State University (MSU), MO, USA*
- 2020 – 2022 Masters in Public Health (MPH) | Major: Epidemiology | CGPA 3.91 / 4.00  
*School of Pharmacy & Public Health, Independent University Bangladesh (IUB), Dhaka, Bangladesh*  
*Thesis: Effectiveness of drinking water interventions on health outcomes in global humanitarian crisis: Meta-analysis and systematic review*
- 2016 – 2022 Bachelor of Science (BSc) | Major: Environmental Sciences & Bioinformatics | CGPA 3.83/4.00  
*Science and Math Program, Asian University for Women (AUW), Chattogram, Bangladesh*  
*Thesis: A spatiotemporal analysis on the land use and land coverage change (LULCC) led by the expansion of urban built-up area in the coastal Chattogram City Corporation (CCC) from 2000 to 2019 using GIS and Remote Sensing technology*

## WORK EXPERIENCE

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- 2023 – Present Graduate Research Assistant  
*ResAdapt Lab, Department of Geography, Geology and Planning, Missouri State University, MO, USA*
- Tasks:
- Designing research tools, facilitating data collection and synthesizing research findings in write-ups
  - Data analysis and data processing
- 2022 – 2023 Associate Program Officer  
*Climate Resilience (CR) Program, WaterAid, Dhaka, Bangladesh*
- Tasks:
- Project activities planning & designing at climate-stressed urban slums and hard-to-reach rural areas
  - Project implementation (i. e. workplan preparation, budget management, project progress analysis, need / impact assessment, capacity building, innovative execution of activities, priority to the disadvantaged people)
  - Knowledge document preparation and dissemination (i. e. maps, reports, process guidelines, concept notes, articles etc.)
  - Communication with donors and partners at a regular basis
- 2020 – 2022 Senior Research & GIS Officer  
*Monitoring & Evaluation Department, Water & Life, Dhaka, Bangladesh*
- Tasks:
- Research and GIS initiatives implementation (i. e. tool designing, quantitative surveys, interviews, focus group discussions, workshops, data management, data analysis, reporting, mapping etc.)
  - Surveyor management, data quality assurance and data management
  - Narrative, geospatial and quantitative information management in Wamasys, Sphinx & ArcGIS
  - Service evaluation, need-assessment, impact analysis, reporting
- 2018 – 2020 Teaching Assistant (TA)  
*Science & Math Program, Asian University for Women (AUW), Chattogram, Bangladesh*
- Tasks:
- Worked under 3 different supervisors with courses on calculus, statistics, physics and chemistry
  - Offered face-to-face or virtual sessions to accelerate over 250 students' learning process
  - Assisted supervisors to prepare course materials, lesson plan and grade sheets
- 2019 – 2020 Research Intern (RI); *Project Title: HEAL (Humanitarian Empowerment through Active Learning) in WASH (Water, Sanitation & Hygiene), Oxfam GB, Cox's Bazar, Bangladesh*
- Tasks:
- Supported project team for proposal preparation, data collection, data analysis and reporting
  - Facilitated 10 key informant interviews (KIIs) and 1 workshop with NGO professionals working in Rohingya refugee crisis to identify organizational skills, gaps and needs

- 2018 (02 months) Project Intern; *Project Title: Promoting Safe Water & Sanitation, East Bakalia, YPSA, Chattogram, Bangladesh*  
 Tasks:
  - Inspected 8 safe water & sanitation points installed in heavily populated slums
  - Conducted 3 awareness sessions with 20-25 slum dwellers on menstrual and personal hygiene
- 2017 (01 month) Project Intern  
*Project Title - 'Momota', Caritas, Chattogram, Bangladesh*  
 Tasks:
  - Inspected 4 Day Care Centers established to assure the safety of children from low-income parents
  - Assessed project progress & suggested ways to improve services for the beneficiaries

## JOURNAL ARTICLES

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- 2022 Uddin, S. M. N., Gutberlet, J., Chowdhury, A. T., Parisa, T. A., **Nuzhat, S.**, & Chowdhury, S. N. (2022). Exploring waste and sanitation-borne hazards in Rohingya refugee camps in Bangladesh. *Journal of Water, Sanitation and Hygiene for Development*. IF:1.786
- Ahmed, S. F., Mofijur, M., Chowdhury, S. N., Nahrin, M., Rafa, N., Chowdhury, A. T., **Nuzhat, S.** & Ong, H. C. (2022). Pathways of lignocellulosic biomass deconstruction for biofuel and value-added products production. *Fuel*, 318, 123618. IF: 8.035
- Ahmed, S. F., Mofijur, M., **Nuzhat, S.**, Rafa, N., Musharrat, A., Lam, S. S., & Boretti, A. (2022). Sustainable hydrogen production: technological advancements and economic analysis. *International Journal of Hydrogen Energy*. IF: 7.139
- 2021 Ahmed, S. F., Kumar, P. S., Rozbu, M. R., Chowdhury, A. T., **Nuzhat, S.**, Rafa, N., & Mahlia, T. M. I., Ong, H. C. & Mofijur, M. (2021). Heavy metal toxicity, sources, and remediation techniques for contaminated water and soil. *Environmental Technology & Innovation*, 102114. IF: 7.758
- Rafa, N., **Nuzhat, S.**, Uddin, S. M. N., Gupta, M., & Rakshit, R. (2021). Ecotourism as a Forest Conservation Tool: An NDVI Analysis of the Sitakunda Botanical Garden and Ecopark in Chattogram, Bangladesh. *Sustainability*, 13(21), 12190. IF: 3.9
- Ahmed, S. F., Mofijur, M., Nahrin, M., Chowdhury, S. N., **Nuzhat, S.**, Alherek, M., Rafa, N., Ong, H. C., Nghiem, L. D. & Mahlia, T. M. I. (2021). Biohydrogen production from wastewater-based microalgae: Progresses and challenges. *International Journal of Hydrogen Energy*. IF: 7.139
- Ahmed, S. F., Mofijur, M., Tarannum, K., Chowdhury, A. T., Rafa, N., **Nuzhat, S.**, Ponnusamy, S. K., Vo, D. V. N. & Mahlia, T. M. I. (2021). Biogas Upgrading. Economy and Utilization: A Review. *Environmental Chemistry Letters*. Springer. IF: 13.615
- Muthiah, I., Dhanaraj, P., Rozbu, M. R., **Nuzhat, S.** & Selvakumar, P. M. (2020). Computational studies on T2Rs agonist—based anti Covid-19 drug design. *Frontiers Molecular Bioscience*. IF: 6.113
- Ahmed, S. F., Mofijur, M., **Nuzhat, S.**, Chowdhury, A. T., Rafa, N., Uddin, M. A., Inayat, A., Mahlia, T. M. I., & Ong, H. C. (2021) . Recent developments in physical, biological, chemical, and hybrid treatment techniques for removing emerging contaminants from wastewater. *Journal of Hazardous Materials*. 416(125912), Elsevier. IF: 14.224
- 2020 Sowmya, S., Jose, V., Kumar, G. R., **Nuzhat, S.**, Kabir, A., & Selvakumar, P. M. (2020). Anthracene conjugated carboxylic acids for luminescent materials: Design, synthesis and photophysical studies. *Materials Today: Proceedings*. Elsevier. IF: 2.59

## BOOK

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- 2021 Hussain, C. M., Selvakumar, P. M. & **Nuzhat, S.** (2021). Source Reduction & Waste Minimization, 2nd Volume, *Series of Handbook on Advanced Zero Waste Tools*, Elsevier.

## BOOK CHAPTERS

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- 2022 Selvakumar, P.M., **Nuzhat, S.**, Quadrey, M.M., Monichan, S., Samdavid Thanapaul, R.J.R., Muthukumar Nadar, M.S.A. (2021). Green Nanomaterials: Design, Synthesis, Properties, and Industrial Applications. Hussain, C.M., Di Sia, P. (eds) *Handbook of Smart Materials, Technologies, and Devices*. Springer, Cham.
- Rozbu, M. R., **Nuzhat, S.**, & Selvakumar, P. M. (2022). Role of Nanotechnology in Cosmeceuticals. *Handbook of Consumer Nanoproducts* (pp. 985-1003). Singapore: Springer Nature Singapore.

## BRIEFS & TECHNICAL REPORTS

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- 2022 **Nuzhat, S.**, Iyer, R., Qader, A. I. A., & Manzoor-Al-Islam, S. (2023). A Participatory Assessment for Climate Induced WASH Vulnerabilities in Bangladesh. *SLH Learning Brief 16*, Sanitation Learning Hub, IDS, University of Sussex, Sussex, UK.

## CONFERENCES

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- 2023 Riou, F., **Nuzhat, S.** & Manzoor-Al-Islam, S. (2023). Assessing drinking water situation at rural Bagerhat district in Bangladesh. *1<sup>st</sup> National Workshop on Community Resilience to Climate Change in the Bay of Bengal*, Dhaka, Bangladesh. (Oral presentation)
- 2023 **Nuzhat, S.**, Iyer, R., Qader, A. I. A., & Manzoor-Al-Islam, S. (2023). WaterAid, Institute of Development Study: How locally-led actions can ensure sanitation facilities in the face of changing climate. *Gobeshona Conference 3, Water & WASH Futures and UNC Conference (Virtually presented)*
- 2020 **Nuzhat, S.**, Das, R., Kabir, A., Mollah, A. K. M. M. & Selvakumar, P. M. (2020). Assessing the teaching-learning approach of an Undergraduate Organic Chemistry course based on the perceptions, performances and suggestions of Non-major Chemistry students of Asia: A phenomenographic study, *IISER Kolkata*, Kolkata, India. (Poster presentation)
- Nuzhat, S.** (2020). A Review on the prospects of on-grid electricity supply using renewable resources in Bangladesh, *Proceedings of 2nd International Conference on Research and Innovation in Civil Engineering (ICRICE 2020)*, Southern University: Chattogram. ISBN: 978-984- 3-8047-7. (Oral presentation)
- 2019 Ibnat, Z., **Nuzhat, S.**, Arefeen, S., Sama, A. A., Humaira, K. & Kabir, A. (2019). Water quality assessment in the Karnaphuli river near the industrial area of Patenga, Chattogram, *BUP Environment Fest*, Bangladesh University of Professionals: Dhaka. (Poster presentation)
- 2018 **Nuzhat, S.**, Islam, N. & Arefeen, S. (2018). A qualitative analysis on the causes & consequences of indoor air pollution (IAP) in the slum areas of Chattogram, *Proceedings of 4th International Conference on Advances in Civil Engineering (ICACE 2018)*, Chattogram University of Engineering & Technology: Chattogram. (Oral presentation)

## PRESENTATIONS

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- 2023 Climate-induced sanitation challenges in Bangladesh. Virtually presented on behalf of WaterAid with Sanitation Learning Hub (SLH), University of Sussex at *UNICEF's All Country Program Sanitation Workshop*
- 2022 Book Launching Event: Source Reduction and Waste Minimization; organized by AUW Library. Asian University for Women (AUW), Chattogram, Bangladesh
- 2021 Applications of Chemistry on Biological Research, Webinar on connecting disciplines through chemistry education and research. Asian University for Women (AUW), Chattogram, Bangladesh.

## STANDARDIZED TEST SCORE

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IELTS Overall 8.0 (Listening 9.0 | Reading 8.5 | Writing 7.5 | Speaking 7.0)

## SCHOLARSHIPS

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- 2016 – 2020 AUW Merit Scholarship (Received fees waiver)
- 2009 – 2016 Government Scholarship in Talent-pool Grade (Awarded with scholarship for three times along with yearly stipend)

## TRAINING

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2023 (04 days)	Short Course on “Locally Led Adaptation (LLA) and Local Loss and Damage: A nexus Approach” <i>International Centre for Climate Change and Development (ICCCAD)</i>
2022 (02 weeks)	An Introduction to Climate Change: Science, Politics and Impacts <i>Centre for Science and Environment India</i>
2022 (01 month)	Measuring Unpaid Care Work and Volunteering in Labor Force Surveys <i>International training Center of ILO</i>
2020 (02 months)	Online Course on “General Course on Intellectual Property” <i>WIPO Academy</i>
2019 (06 weeks)	Training Course on “Fundamentals on Remote Sensing” <i>Department of Geography &amp; Environment, University of Dhaka, Dhaka</i> Achievement: Obtained 1st position in the final assessment
2019 (06 weeks)	Training Course on “Fundamentals on GIS” <i>Department of Geography &amp; Environment, University of Dhaka, Dhaka</i> Achievement: Obtained 2nd position in the final assessment
2011 (02 weeks)	Kazi Motaher Hossain Camp: An intensive training on Mathematical Olympiad-related problem solving <i>Bangladesh Mathematical Olympiad, Dhaka</i>

## HONORS AND AWARDS

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2023	Best Team Award, WaterAid Bangladesh, Dhaka, Bangladesh
2020	Magna cum Laude, Academic Distinction (Undergraduate Honors), AUW, Chattogram, Bangladesh
2017	First Runner Up, Math Olympiad, 3rd AUW ICT Fest, AUW, Chattogram, Bangladesh
2014	15th Position, Divisional Physics Olympiad 2014, Chattogram, Bangladesh
2011	First Runner Up, Regional Round, Bangladesh Mathematical Olympiad, Chattogram, Bangladesh

## SKILLS

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Language	Bangla ( <i>1<sup>st</sup> Language</i> ) English ( <i>Professional Expertise</i> ) German ( <i>Intermediate Expertise – B2</i> )
Computer	<i>Microsoft Package:</i> Word, Powerpoint, Excel and Publisher <i>Programming:</i> R Programming (Intermediate skill) and Basics of C+, SQL, Python and basic website designing using HTML, Java Script & CSS
Specialized Software & Tools	<i>GIS Software:</i> QGIS, ArcGIS, ERDAS IMAGINE, Google Earth Pro <i>Bioinformatics Software:</i> MEGA, Mercury, ArgusLab <i>Data Analytical Software:</i> SPSS, Sphinx, R, NVivo basics of SASS <i>Information Management Software:</i> Mendeley, Endnote, mWater, Kobo toolbox, Wamasys <i>Others:</i> LEAP, Windows Movie Maker and so on.