

# Sadia Tamanna Khan, E.I.T

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## SUMMARY

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Researcher with expertise and knowledge in stormwater nutrient management and remote sensing. Self-motivated individual with the ability to work in a team environment on multi-disciplinary projects and inspired to explore new research directions and pursue new topics.

## EDUCATION

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**Ph.D., Northeastern University** Expected (May 2022)  
Department of Civil & Environmental Engineering.  
CGPA: **3.98** in scale of **4.00**

**B.Sc., Bangladesh University of Engineering and Technology (BUET)** 2016  
Department of Civil Engineering.  
CGPA: **3.84** in scale of **4.00**; Major: **Environmental Engineering.**

## EXPERIENCE

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**Graduate Research Assistant** **September 2018 - Present**  
*Northeastern University, Department of Civil & Environmental Engineering Boston, MA*

**Stormwater Nutrient Management Project (June 2018- May 2021)**

- Conducting stormwater sampling to understand the variability in phosphorus export from different urban landscapes in collaboration with Stantec Inc. and City of Cambridge, MA
- Developing an optimized diversion and treatment strategy that will help to meet the Total Maximum Daily Load (TMDL) allocations of a dense urban watershed like Cambridge, MA
- Conducting data-driven solutions for managing stormwater nutrient export from a dense urban watershed
- Understanding the variability in phosphorus export from different urban landscapes.
- Characterization of total Phosphorus and total solids associated with different particle size fractions in event stormwater runoff
- Modeling Phosphorous Fluxes from Urban Stormwater to Evaluate Potential Strategies for Reducing Phosphorous Export

**High Temporal Resolution Stormwater Quality Monitoring in Boston (July 2020- March 2022)**

- Conducting stormwater sampling to understand the variability in nutrient export from different urban landscapes in collaboration with Boston Water and Sewer Commission and Kleinfelder
- Conducting data-driven solutions for managing stormwater nutrient export from a dense urban watershed
- Understanding the variability in phosphorus and nitrogen export from different urban landscapes.

**Graduate Teaching Assistant** **Spring 2020**

*Northeastern University, Department of Civil & Environmental Engineering Boston, MA*

**Course Name:** Hydrologic & Hydraulic Design (CIVE 5536) [[Website](#)]

**Course Instructor:** Prof. Daniel Dulaski

**Responsibilities:** Assessment of assignments

**Graduate Teaching Assistant** **Fall 2018**

*Northeastern University, Department of Civil & Environmental Engineering Boston, MA*

**Course Name:** Environmental Engineering I (CIVE2334) [[Website](#)]

**Course Instructor:** Prof. Ameet J. Pinto

**Responsibilities:** Lecture on “Environmental Chemistry: The problem of Acid Rain”

**Lecturer****August 2016 – August 2017***University of Asia Pacific, Department of Civil Engineering, Dhaka, Bangladesh***Courses taught:** Fluid Mechanics, Hydraulic Engineering Lab, Environmental Engineering Part II and lab**Moderator:** Transportation Engineering Club**Research Associate****June 2016 - July 2016***Institute of Water and Flood Management (IWFm), Bangladesh University of Engineering &**Technology (BUET), Dhaka***Responsibilities:** Water Quality Modelling of rivers around Dhaka under the project **REACH- water security for poor** led by Oxford University with international consortium of partners and funded with UK aid from the UK Government.**SUPERVISION AND MENTORSHIP EXPERIENCE**

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*At Northeastern University, Department of Civil & Environmental Engineering Boston, MA***Project: Stormwater Nutrient Management in Cambridge, Massachusetts**

- **Alina Dess** (Spring 2020)  
Undergraduate student  
Northeastern University
- **Domenic Privitera** (Fall 2019)  
Undergraduate student  
Northeastern University

**Project: High Temporal Resolution Stormwater Quality Monitoring in Boston**

- **Morgan Connelly** (Fall 2021- Present)  
Masters Student  
Northeastern University
- **Jaclyn Helliwell** (Summer 2021-Present)  
Undergraduate student  
Northeastern University
- **Lauren MacDonald** (Fall 2020-Present)  
Undergraduate student  
Northeastern University
- **Shannon Butler** (Fall 2020-Spring 2021)  
Undergraduate student  
Northeastern University

**SKILLS**

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**Engineering Software:** ArcGIS, HEC-RAS, HEC-HMS, SWMM, AutoCAD**Programming Languages:** R, C, C++**Applications:** Microsoft Word, LaTeX, Excel, PowerPoint**Laboratory Skills:** Nutrient analysis (Phosphorus and Nitrogen Species), Biochemical and Chemical Oxygen Demand.**Analytical:** Remote Sensing, Hydrological Modeling**PUBLICATIONS**

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**Journal Paper:**

**Khan, S.T.,** Edward Beighley, R., VanHoven, D., Watkins, K. “ Dynamic stormwater management to mitigate phosphorous export” in *Science of the Total Environment*, vol.787(147506), 2021.  
Doi:<https://doi.org/10.1016/j.scitotenv.2021.147506>

**Khan, S.T.**, Baksh, A. A., Papon, M. T. I. and Ali, A. “*Rainwater Harvesting System: An Approach for Optimum Tank Size Design and Assessment of Reliability*” in **Journal of Environmental Science and Development (IJESD, ISSN:2010-0264)** in 7th International Conference on Environmental Engineering and Applications – ICEEA July,2016.

### **Conference Paper:**

**Khan, S. T.**, Baksh, A. A., Papon, M. T. I. and Ali, A. “*Determination of Optimum Rainwater Harvesting Tank for Salinity Affected Coastal Areas of Bangladesh*” in the 3<sup>rd</sup> International Conference on Advances in Civil Engineering 2016 (ICACE 2016)

## **CONFERENCES & POSTER PRESENTATIONS**

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- **Khan, S. T.**, Beighley, E., VanHoven, D., Watkins, K. (2022, June). “*Dynamic treatment strategies to reduce phosphorus export from urban stormwater*”- Association of Engineering and Science Professionals Conference -2022. (Scheduled)
- **Khan, S. T.**, Beighley, E., Mueller, A., VanHoven, D., Watkins, K. (2021, December). “*Monitoring and Modeling Phosphorous Fluxes from Urban Stormwater to Evaluate Potential Strategies for Reducing Phosphorous Export*” - American Geophysical Union Fall meeting-2021, New Orleans, LA. (Scheduled)
- Mueller, A., Beighley, E., **Khan, S.T.**, Jacques, J., Liu, D., Schofield, A., Jewell, C. (2021, December). “*Super high resolution multi-parameter stormwater monitoring: recommendations for affordable approaches to phosphorus monitoring*”. American Geophysical Union Fall meeting-2021, New Orleans, LA. (Scheduled)
- **Khan, S. T.**, Mueller, A., Beighley, E. (2022, January). “*High temporal resolution stormwater quality monitoring in Boston, MA*”. New England Water Environment Association Annual Conference 2022. (Pending)
- **Khan, S. T.**, Beighley, E., VanHoven, D., Watkins, K. (2019, December). *Characterizing the variability of phosphorus export from urban stormwater for potential treatment strategies*, - Poster session presented at the American Geophysical Union Fall meeting-2019, San Francisco, CA.
- **Khan, S. T.**, Beighley, E., VanHoven, D., Watkins, K. (2019, December). “*Phosphorus export variability characterization from urban stormwater for potential treatment strategies*”- Poster session presented at The Northeast Graduate Student Water Symposium, Amherst, MA.

## **HONORS AND AWARDS**

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**Dean’s Fellowship**, Ph.D., Department of Civil and Environmental Engineering, Northeastern University (Fall 2017- Spring 2018)

**Dean’s Fellowship**, Undergraduate study, Department of Civil Engineering, Bangladesh University of Engineering and Technology (2011-2015)

**University Merit List**, Undergraduate study, Department of Civil Engineering, Bangladesh University of Engineering and Technology (2011-2015)

## **EXAMS AND LICENSE**

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**Fundamental Examination (F.E.) in Environmental** (Passed in 2020), North Carolina Board. [\[Link\]](#)