**Pushpita Kumkum, EIT** US Permanent Resident

[pushpitakumkum04@gmail.com](mailto:pushpitakumkum04@gmail.com) 807 Sutton Pl., Virginia Beach, VA-23464

h[ttps://www.linkedin.com/in/pushpita-kumkum/](http://www.linkedin.com/in/pushpita-kumkum/) \. +1-330-329-0757

Key Qualifications

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Extensive research experience (4+ years) in environmental engineering, water and waste water treatment principle and water quality management

* Experience in supervising and mentoring approximately 130 undergraduate and high school students.
* Registered ”Engineer Intern” by Ohio Professional Engineers and Surveyors Board since June 2013.

Affiliation with Water Environment Federation (WEF), ODU Environmental Engineering Student Association (EESA), ASCE Student Chapter.

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**Analytical equipment tools:** Atomic Absoprtion Spectrophotometer (AAS), Ion Chromatograph (IC), GC/MS, Total Organic Halogen Analayzer (TOX), UV/Vis Spectrophotometer, Centrifuge.

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* **Characterization tools:** Elemental Analyzer, BET Surface Area Analyzer, FTIR.
* **Software:** SigmaPlot, AutoCAD, Matlab, ArcGIS, ETABS, Microsoft office.

# Education

**Ph.D. Candidate** in Civil and Environmental Engineering **GPA: 3.66/4.0**

* *Old Dominion University, Norfolk, VA, USA Expected graduation: Spring 2020*

**MS** in Civil Engineering (Environmental Focus) **GPA: 3.81/4.0**

* *The University of Akron, Akron, OH, USA May 2013*

**BS** in Civil Engineering **GPA: 3.12/4.0**

* *Bangladesh University of Engineering and Technology, Dhaka, Bangladesh Oct 2009*

# Relevant Graduate Courses

* Physical/Chemical Treatment Processes *•* Biological Wastewater Treatment *•* Environmental Organic Chemistry *•* Integrated Watershed Management *•* Hazardous Waste Treatment *•* Water Quality Manage- ment *•* Water Treatment Plant Design *•* Solid Waste Management

Experience

**Water and Wastewater Treatment** Aug 2017 – Present

* *Research Assistant - Biomass Research Laboratory at Old Dominion University Norfolk, VA*

Designing and developing a novel, sustainable technology that includes reactor design and efficiency test to remove lead (Pb) from drinking water (funded by USEPA)

*◦*

Evaluating the application of biochar as an engineered solution to remove heavy metals, ammonia, chloride and other contaminants for treating landfdill leachate and stormwater

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Modification and characterization of functionalized biochar to increase the chromium (Cr) removal efficiency from industrial wastewater.

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* + Analyzing data and drafting project report containing plans, design specification, timeline and schedules.

**Instructor and Mentoring** Aug 2017 – Present

* *Old Dominion University Norfolk, VA*

Instructing Hydraulics Lab experiments, conducting problem solving sessions and grading scripts for Hy- draulics and Water Resources, Air Quality, Environmental Pollution and Control and Civil Engineering Materials.

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Mentored a team of 6 undergraduate students to prepare and submit a design proposal for participating at a competition organized by USEPA known as ”P3 : People, Prosperity and Planet” and won the award.

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**Water Quality Monitoring** May 2011 – May 2013

* *Research Assistant at The University of Akron Akron, OH*
  + Analyzed fate and transport of pharmaceuticals during drinking water treatment (funded by NSF).
  + Evaluated transformation of anthropogenic contaminants into organic DBPs.
  + Monitored drinking water source quality in terms of excess nutrient or other contaminants.

**Bill of Quantity Engineer** Sep 2010 – Nov 2010

* *Mobiserve Dhaka, Bangladesh*

Performed engineering, design and material estimation tasks under the direct supervision of senior engineers for telecommunication network infrastructures.

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Performed occasional field surveys to obtain information and data required for an in-depth evaluation of field related activities.

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**Other Academic Projects** 2004 - Present

* *During Ph.D, Masters and Bachelor study USA and Bangladesh*

Organizing high school summer apprenticeship program named ”B-RAP” sponsored by National Science Foundation (NSF).

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* + Managing university website ”Energy Cluster” and ”ODUBiofuels”.

# Honors and Awards

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Graduate Enhancement Award Fall 2019, Civil and Environmental Engineering Visiting Council, Old Dominion University, USA

* Graduate School Summer Scholarship - 2018, Old Dominion University, USA
* P3 Phase I Award - 2017, Unites States Environmental Protection Agency, USA
* Sweden-Bangladesh Trust Fund Travel Award, Bangladesh, 2013
* High School Creative Writing Award, Bangladesh, 2001

# Journal Publications (selected)

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Pushpita Kumkum, David R. Bridenstine, Nana Osei B. Ackerson, Thomas A. Ternes, Michael J. Plewa, Susan D. Richardson , Stephen E. Duirk.“Iodinated Pharmaceuticals as Precursors to Total Organic Halogen Formation in the Presence of Chlorinated Oxidants and Natural Organic Matter” — Poster Presentation in 245th ACS National Meeting and Exposition, April 2013, New Orleans, LA.

Nana Osei B Ackerson, Edward J Machek, Alexis H Killinger, Elizabeth A Crafton, Pushpita Kumkum, Hannah K Liberatore, Michael J Plewa, Susan D Richardson, Thomas A Ternes, Stephen E. Duirk. “Formation of DBPs and Halogen-Specific TOX in the Presence of Iopamidol and Chlorinated Oxidants” — Received 26 October 2017, Revised 7 March 2018, Accepted 15 March 2018, Available online 16 March 2018 in “Chemosphere”

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