

**SHAMIM ARA BEGUM, Ph.D., P.E., Assistant Professor, Chemical Engineering
Publications and Presentations (2008-2017)**

BOOK CHAPTER:

1. Cellulose and Cellulose Derivatives: Synthesis, Modification, Nanostructure and Applications: Mohammad K. Hossain, **Shamim A. Begum**. Nanophased Cellulose-Based Structural Composite. Nova Publishers, 2015, In Press.

REFEREED JOURNALS PUBLICATIONS:

PAPERS PUBLISHED/IN PRINT

1. **Shamim A. Begum**, A.H.M. Golam Hyder, Nader Vahdat. Adsorption Isotherm and Kinetic Studies of As(V) Removal from Aqueous Solution Using Cattle Bone Char. *Journal of Water Supply: Research and Technology - AQUA*. Available online on January 7, 2016.
DOI: 10.2166/aqua.2016.089.
2. Renaldo Walters, **Shamim A. Begum**, Elham H. Fini, Taher M. Abu-Lebdeh. Investigating Bio-Char as Flow Modifier and Water Treatment Agent for Sustainable Pavement Design. *American Journal of Engineering and Applied Sciences*, 8(1): 138-146, **2015**.
3. Tamara Floyd-Smith, **Shamim A. Begum**, Nader Vahdat, Qinghua Peter He, Kyung Kwon, Jonathan Mbah, Allen Smith. Chemical Engineering at Tuskegee University. *Chemical Engineering Education*, 49(1): 2-8, Winter **2015**.
4. A.H.M. Golam Hyder, **Shamim A. Begum**, Nosa O. Egiebor. Adsorption Isotherm and Kinetics Studies of Hexavalent Chromium Removal from Aqueous Solution onto Bone Char. *Journal of Environmental Chemical Engineering*, 3(2):1329-1336, **2015**.
5. **Shamim A. Begum**. Jacimaria R. Batista. Impact of Butyrate on Microbial Selection in Enhanced Biological Phosphorus Removal. *Environmental Technology*, 35(23): 2961-72, **2014**.
6. AHM Golam Hyder, **Shamim A. Begum**, Nosa O. Egiebor. Sorption Studies of Cr (VI) from Aqueous Solution Using Bio-char as an Adsorbent. *Water Science and Technology*, 69 (11): 2265-2271, **2014**.
7. Abdoul-Raimi Bouari, **Shamim A. Begum**, Ynoussa Maiga, Nosa O. Egiebor. Biodegradation of Cyanide Complex Compounds in Aqueous Media by *Pseudomonas Resinovorans*. *Environmental Engineering Science*, 30(12): 757-764, **2013**.

8. Abdoul-Raimi Bouari, **Shamim A. Begum**, Nosa O. Egiebor. Bioremediation of Complex Cyanide Contaminated Wastewater using *Pseudomonas Fluorescens* Pf-5. *International Journal of Engineering Research and Technology*, 2(9):1485-1493, **2013**. ISSN: 2278-0181.
9. **Shamim A. Begum**, Jacimaria R. Batista. Impacts of Carbon Source Addition on Denitrification and Phosphorus Uptake in Enhanced Biological Phosphorus Removal Systems. *Journal of Environmental Science and Health: Part A*, 48(4): 464-473, **2013**.
10. **Shamim A. Begum**, Jacimaria R. Batista. Microbial Selection on Enhanced Biological Phosphorus Removal Systems Fed Exclusively with Glucose. *World Journal of Microbiology and Biotechnology*, 28(5): 2181-2193, **2012**.

PAPERS UNDER REVIEW/IN PREPARATION:

1. **Shamim A. Begum**, Nosa O. Egiebor. Kinetics of Ferrous Iron Oxidation by *Acidithiobacillus (Thiobacillus) Ferrooxidans*. *International Journal of Mineral Processing*. Manuscript no. # MP-15-236 (Under review).
2. Vanisree Mulabagal, David A. Baah, Andrew Knight, Kayla Rhynes, Joshua Keith, **Shamim A. Begum**, Jonathan C. Mbah, Nosa O. Egiebor. Comparison of Hopane Biomarker Characteristics and Total Organic Carbon (TOC) Content in Crude Oils of Various Origin. (In preparation)
3. Karyn Moses, Vanisree Mulabagal, **Shamim A. Begum**, Nader Vahdat. Optimization of Fenton's Oxidation Conditions for Removal of Chrysene in Aqueous Solutions. (In preparation)

PUBLICATIONS IN CONFERENCE PROCEEDINGS:

1. A.H.M.G. Hyder, **Shamim A. Begum**, N.O. Egiebor. Removal of Cr(VI) from Aqueous Solution using Bone Char as a Low Cost Adsorbent. Paper ID# E1421. *Proceedings of the 2nd International Conference on Civil Engineering for Sustainable Development*, Khulna, Bangladesh, February 14-16, **2014**.
2. A.H.M.G. Hyder, **Shamim A. Begum**, N.O. Egiebor. Evaluation of Cr(VI) Removal Efficiency from Wastewater using Bio-Char. Paper ID# E1422. *Proceedings of the 2nd International Conference on Civil Engineering for Sustainable Development*, Khulna, Bangladesh, February 14-16, **2014**.
3. **Shamim A. Begum**, Jacimaria R. Batista, William Shepherd. Impacts of Denitrification on Biological Phosphorus Removal using Several Carbon Source Types. *Proceedings of the 82nd*

annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), Orlando, Florida, October 10-14, 2009.

4. Branislav Petrusovski, Saroj Sharma, Ekramul Hossain, **Shamim A. Begum**, Jan C. Schippers. Field Testing of IHE Arsenic Removal Filter in Bangladesh. *Proceedings of the International Water Association (IWA) Asia-Pacific Regional Conference*, Bangkok, Thailand, October 20-22, 2003.
5. **Shamim A. Begum**, Mohammad A. Ali. Estimation of Arsenic Affected Population in Bangladesh. *Proceedings of the First International Conference and Annual Paper Meet on Civil Engineering*, S. M. Seraj, M. A. Ali and B. Ahmed eds., Institution of Engineers, Bangladesh (IEB) and FEISCA, IEB Chittagong Centre, 2-3 November, 2001.

PRESENTATIONS IN THE CONFERENCE/MEETINGS/SEMINARS/WORKSHOPS:

1. Karyn Moses, Phillip Stringer, Kendra Green, Vanisree Mulabagal, **Shamim A. Begum**, Nader Vahdat. Optimization of Fenton's oxidation conditions for removal of chrysene in aqueous solutions. AICHE Annual Meeting, Salt Lake City, Utah, November 8-13, **2015**.
2. **Shamim A. Begum**, AHM Golam Hyder, Nader Vahdat. Adsorption Characteristics of Arsenic (V) from Water using Cattle Bone Char. SETAC North America 36th Annual Meeting, Salt Lake City, Utah, November 1-5, **2015**.
3. **Shamim A. Begum**. Arsenic Removal from Aqueous Solution using Nano-Sized Bio-based Materials. Meeting of NSF HBCU-UP Grants and Proposals, Kenney Hall, Tuskegee University (TU), October 26, **2015**.
4. Chelsea Azore, Daundray Adams, Kayla Rhynes, Karyn Moses, Vanisree Mulabagal, **Shamim A. Begum**. The Degradation of Chrysene in Aqueous Solution using Fenton's Reagent. Tuskegee University DOE Project Scholars' Presentation of Summer 2015 Research, College of Engineering Building Auditorium, TU, September 3, **2015**.
5. Phillip Stringer, Kendra Green, **Shamim A. Begum**, Jonathan C. Mbah, Nosa O. Egiebor. Removal of Phenanthrene from Aqueous Solution using Fenton's Reagent as an Oxidant and Bio-Char as an Adsorbent. AICHE Annual Meeting, Atlanta, November 16-21, **2014**.
6. Bianca Davis, Kiara Moorer, Nader Vahdat, **Shamim A. Begum**, Samuel Hernandez-Rivera, Jonathan Mbah. New Silver/Carbon Material for 2,4-Dinitrotoluene Detection. AICHE Annual Meeting, Atlanta, November 16-21, **2014**.

7. Priscilla Lang, **Shamim A. Begum**, Kyung C. Kwon, Jonathan Mbah, Nader Vahdat. Fatty Acid Methyl Ester Biodiesel Fuels Produced from Soybean Oil with Honey Comb Monolithic Catalysts. AIChE Annual Meeting, Atlanta, November 16-21, **2014**.
8. **Shamim A. Begum**, Nader Vahdat and Nosa O. Egiebor. Generation and Characterization of Nano-sized Bone char and Its Application for Water Treatment. International Institute for Water and Environmental Engineering (2iE)-Tuskegee summer school, Burkina Faso, West Africa, June 11-21, **2012**.
9. **Shamim A. Begum**, Nader Vahdat, Nosa O. Egiebor. Arsenic Removal from Aqueous Solution using Nano-Sized Bone Char. Prairie View A & M University/Texas A & M University Professional Development Workshop, Houston, TX, May 17-20, **2012**.
10. Ynoussa Maiga, **Shamim A. Begum**, Raymon Shange, Ramble Ankumah, Nosa O. Egiebor. Biodegradation of Cyanide Compounds in Aqueous Solution by *Pseudomonas* Strains. The NOBCCHE (National Organization of Black Chemist and Chemical Engineers) Southeast Regional Meeting, Auburn, AL, November 11-12, **2011**.

ABSTRACT SUBMISSION IN THE CONFERENCE PROCEEDINGS:

1. Abdoul-Raimi Bouari, **Shamim A. Begum**, Ynoussa Maiga, Nosa O. Egiebor. Bioremediation of Cyanide Contaminated Wastewater using Novel *Pseudomonas Species*. The 88th Annual Water Environment Federation Technical Exhibition and Conference, McCormick Place, Chicago, IL, USA, September 26-30, **2015**.
2. **Shamim A. Begum**, Nosa O. Egiebor. Generation and Characterization of Nano-sized Particles from Bone Char. The International Conference on Nanomaterials for Industry 2014 - Energy, Environment, Products, San Diego, California, April 6-9, **2014**.
3. A. H. M. G. Hyder, **Shamim A. Begum**, Nosa O. Egiebor. Sorption studies of Cr(VI) from aqueous solution using bio-char as an adsorbent. The SETAC North America 34th Annual Meeting, Nashville, TN, November 17-20, **2013**.
4. **Shamim A. Begum**, Nader Vahdat, Nosa O. Egiebor. Arsenic Removal from Water Using Bone Char. The American Water Works Association's (AWWA) Water Quality Technology Conference, Toronto, Ontario, November 4-8, **2012**.