RESUME

Mohammad Enayet Hossain

Graduate Teaching Assistant/Graduate Research Assistant
Civil and Environmental Engineering Department (enrolled in Environmental and Conservation Sciences Program)
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EDUCATION:

PhD student
Environmental and Conservation Science
North Dakota State University

M.S. (2006) Soil, Water and Environment
University of Dhaka
First Class 1st

B. Sc. (Hons.) (2004) Soil, Water and Environment
University of Dhaka
First Class 1st

H.S.C. (1997) Science
Govt. Bangla College, Dhaka
First Division

S.S.C. (1995) Science
Bashir Uddin Adarsha High School, Dhaka
First Division

PROFESSIONAL EXPERIENCE:

02/2015 to present (on study leave) **Assistant Professor**, Department of Soil, Water and Environment, University of Dhaka, Bangladesh

02/2012 to 02/2015 **Lecturer**, Department of Soil, Water and Environment, University of Dhaka, Bangladesh

08/2008 to 02/2012 **Lecturer**, Department of Soil Science, University of Chittagong, Bangladesh

Taught Soil Mechanics (316) as a TA in Fall 2012 in Civil Engineering department at North Dakota State University

Taught Environmental Engineering Lab (371) as a TA in Spring 2012, Spring 2013 and Spring 2014 in Civil Engineering department at North Dakota State University

RESEARCH:

Research Interests:

Phosphate chemistry, Phosphate adsorption and desorption, Phosphate adsorbents, Interactions between nanomaterials and plants at molecular levels

Peer Reviewed Journal Paper

1. **Mohammad E. Hossain**, Sirajul Hoque & Khan T. Osman (2012): Phosphate sorption in some representative soils of Bangladesh, *Archives of Agronomy and Soil Science*, 58:9, 959-966.
2. Mohammad Z. Afsar and **Mohammad Enayet Hossain**, 2012. Characterization of Some Representative Calcareous Soils of Bangladesh with Respect to Soil Phosphorus Requirements. *International Journal of Agricultural Research*, 7: 388-397.

Patent

1. Bezbaruah A.N., Almeelbi T., Quamme M., **Hossain, M.E.** Aqueous Phosphate Removal using Iron Cross-lined Alginate, Patent Filed, PCT/US2014/028524, 2014.

Peer Reviewed Conference Publications

1. **Mohammad Enayet Hossain**, Talal Almeelbi, Harjyoti Kalita, Cody Ritt, and Achintya N. Bezbaruah (2014) Phosphate Removal by Metal Cross-Linked Biopolymers. World Environmental and Water Resources Congress 2014: pp. 222-226. doi: 10.1061/9780784413548.024

2. Bezbaruah, A.N., Pillai, R.G., Hood, H., Erickson, H., Dobervich, E., Laux, J., Varholdt, J., Gehlhar, A., Weber, M., Kalita, H., Almeelbi, T., Pate, M., Quamme, M., **Hossain, M.E.**, Cisse, S., Grosz, A., Leelaruban, N. Promoting Nanotechnology among Middle School Students: Development and Implementation of Lesson Plans. Proc. ASEE North Midwest Section Conference, pp. 418-424, ASEE Midwest Section, Fargo, ND, USA.

Conference/Seminar Presentations

1. **Hossain, M.E.,** Ritt, C., Bezbaruah, A. Development of biopolymer-based slow-release phosphate and iron fertilizers, World Environmental & Water Resources Congress, Austin, TX, May 2015. (Oral presentation)
2. **Hossain, M.E.,** Ritt, C., Bezbaruah, A. Iron Cross-linked Biopolymer Beads for Aqueous Phosphate Removal, ND EPSCoR State Conference, Fargo, ND, April 2015. (Poster presentation)

3. **Hossain, M.E.,** Ritt, C., Bezbaruah, A. Iron Cross-linked Biopolymer for Aqueous Phosphate Removal. Poster Competition held in the 10th Anniversary of Environmental and Conservation Sciences Program at NDSU, Fargo, ND, October 28, 2014. (Poster presentation). (This poster won the second prize)
4. **Hossain, M.E.,** Ritt, C., Bezbaruah, A. Iron Cross-linked Biopolymer for Aqueous Phosphate Removal. Young Professionals Poster Competition at the North Dakota Water and Pollution Control Conference (NDWPCC). American Water Works Association North Dakota Section, North Dakota Water Environment Association, Fargo, ND, October 14, 2014. (Poster presentation). (This poster won overall best poster award and best poster award in wastewater category)
5. **Hossain, M.E.,** Ritt, C., Bezbaruah, A. Development of Biopolymer-based Slow-release Phosphate and Iron Fertilizers. International Prairie Student Conference 2014, Student Chapter of American Water Works Association/Water Environment Federation (NDSU AWWA/WEF), Fargo, ND, August 7, 2014. (Oral presentation)
6. **Hossain, M.E.**, Almeelbi, T., Kalita. H., Ritt, C., Bezbaruah, A. Phosphate Removal by Metal Cross-Linked Biopolymers, World Environmental and Water Resources Congress 2014: Water without Borders Conference, Portland, OR, June 4, 2014. (Oral presentation)
7. **Hossain, M.E.**, Ritt, C., Bezbaruah, A.N. Iron Cross-linked Biopolymer for Aqueous Phosphate Removal, Surface Water Treatment Workshop, Fargo, ND, April 29, 2014. (Poster presentation)
8. **Hossain, M.E.**, Ritt, C., Bezbaruah, A.N. Iron Cross-linked Biopolymer for Aqueous Phosphate Removal, North Dakota Water Quality Monitoring Conference, Bismarck, ND, March 4-6, 2014. (Poster presentation)
9. **Hossain, M.E.**, Bezbaruah, A.N. Cross-linked Biopolymer Beads for Aqueous Phosphate Removal: Possible Application in Eutrophic Lakes, Eastern South Dakota Water Conference, Brookings, SD, Oct 30, 2013. (Oral presentation)
10. Bezbaruah, A.N., Erickson,H., Dobervich, E., Laux, J., Varholdt, J., Gehlhar, A., Weber, M., Kalita, H., Almeelbi, T., Quamme, M., Pate, M., **Hossain, M.E.**, Grosz, A., Pergande, M. Sustainability and Nanotechnology Education in K-12: Hands-on Teaching Modules for Middle School Students and Summer Research Experience for High School Students, World Environmental & Water Resources Congress, Cincinnati, OH, May 2013. (Oral presentation)
11. **Hossain, M.E.**, Grosz, A., Sharma, A., Katti, K., Katti, D., Gonzalez, J., Bezbaruah, A.N. Plant-Nanoparticle Interactions: Exploratory Research with Fresh Crop, World Environmental & Water Resources Congress, Cincinnati, OH, May 2013. (Oral presentation)
12. Presented a poster entitled "Plant-Nanomaterial Interactions at Molecular level: NDSU-SDSU Engineering-Plant Science Collaboration" in 2013 North Dakota/South Dakota Engineering Research Summit

Papers and Dissertation:

As a student of B. Sc. (Hons), I presented a seminar paper entitled "Agricultural uses of acid sulfate soils".

As a part of the M.S. degree, I presented a seminar paper entitled "Sorption of chemical species by soil constituents with special reference to phosphorus" and a dissertation entitled "An investigation on the phosphate sorption potential of some soils of Bangladesh".

Training:

1. Participated in the "Science: Becoming the Messenger Workshop" held on June 26, 2013 in Fargo, North Dakota, organized by National Science Foundation.
2. Participated in a workshop on "Human Subjects Protection Education" held on June 10, 2013, organized by North Dakota State University

Specific Experience:

- Skilled in providing farmers with information on techniques to improve soil fertility and training them in methods of sampling to evaluate the nutrient content
- Experienced in writing reports and scientific papers for journals

Experience in Environmental Lab: Equipments handled and operated: pH, EC, ORP Meters, Flame Photometer, Spectrophotometer, Atomic Absorption Spectrophotometer, Autoclave, Incubator, Shaker, Peristaltic Pump, Vacuum Oven

Experience in Biology Lab: PCR, q-PCR

Computer Literacy: MS Word, Excel, PowerPoint, Minitab, Modflow

Personal Characteristics: Hardworking, dedicated and sincere, reliable, flexible, able to work extra hours, ability to work independently but also as a cooperative team member

AWARDS AND ACHIEVEMENTS:

NDWRRI Fellowship 2014, 2015 from the North Dakota Water Resources Research Institute

SWED-DU Trust Gold Medal from the SWED-DU Trust, University of Dhaka

Pre-graduate scholarship for the sessions 1999-2000, 2000-2001 and 2001-2002 from the Department of Soil, Water and Environment, University of Dhaka

Outstanding Academic Performance Award for the year 2000 from the Department of Soil, Water and Environment, University of Dhaka

Imamul Huq Stipend for the year 2000

SWED-DU Trust stipend for the sessions 1999-2000, 2000-2001 and 2001-2002

Dr. S.A. Momen Memorial Scholarship for the year 2002-2003

Abul Kashem Haider Education Development Scholarship for the year 2002-2003

Post-graduate Government Scholarship for the outstanding performance in Bachelors program from the Education Board, the Government of Bangladesh