

**Hafiz Ahmad, Ph.D., P.E.**  
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## EDUCATION

**Ph.D., Civil Engineering**, Florida State University, December 2004  
**M.S., Civil Engineering**, State University of New York at Buffalo, June 2001  
**M.S., Civil Engineering**, Bangladesh University of Engineering & Technology (BUET), February 1998  
**B.S., Civil Engineering**, Bangladesh University of Engineering & Technology (BUET), November 1993

## TEACHING

### **Florida State University (FSU)-Panama City**

December 2008- Present

Faculty:

Courses Teaching

- ❖ EES 3040 - Introduction to Environmental Engineering Science
- ❖ ENV 4001 - Environmental Engineering
- ❖ CWR 3201 - Hydraulics
- ❖ CWR 3201L - Hydraulics Lab
- ❖ CWR 4202 - Hydraulic Engineering I
- ❖ CWR 4101 - Engineering Hydrology
- ❖ CGN 4802 - Senior Design Project
- ❖ CGN 4800 - Pre Senior Design and Professional Issues

### **Florida State University (FSU)-Tallahassee**

August 2008- December 2008 & January 2005-May 2005

Adjunct Faculty:

- ❖ EES 3040L - Introduction to Environmental Engineering Lab
- ❖ EES 2205L - Environmental Engineering Chemistry Lab

## RESEARCH

### **Fields of Research Interest:**

- ❖ Pyrolysis process, production of bio-char, bio-oil, bio-energy.
- ❖ Water and wastewater treatment, wastewater reuse and sludge management
- ❖ Remediation of soil and groundwater
- ❖ Water and wastewater conveyance analysis
- ❖ Hydraulic and hydrologic modeling
- ❖ Stormwater management

### **Recent Projects:**

- ❖ Evaluation of pyrolysis conditions for bio-char and distillate oils yield from tropical invasive plants. [Phase 1]
- ❖ Production of bio-char, activated carbon and energy from pelleted tropical invasive plants. [Phase 2]

- ❖ Evaluation of hardwood and pine as feed-stocks for activated-carbon production [Phase 3]

#### **Projects during Graduate Studies:**

- ❖ Remediation of Chromium Copper Arsenic (CCA) contaminated soil.
- ❖ Evaluation of urban storm-water treatment by 'Delaware Sand Filter' in Tallahassee, Florida.
- ❖ Soil stabilization by electro-kinetic grouting method.
- ❖ A study of copper contamination in the stormwater retention ponds/lakes.

## **PUBLICATIONS**

### **Papers in Refereed Journals**

1. Li, R., Wang, B., Owete, O., Dertien, J., Lin, C., Ahmad H., Chen, G. (2017) Landfill leachate treatment by electrocoagulation and fibre filtration. *Water Environment Research*, 89, 2015-2020.
2. Chen, G., Grasel P., Millington, G., Hallas, J., Ahmad, H., Tawfiq, K. (2017) Chloride Removal from Landfill Leachate by the Ultra-high Lime with Aluminum Process. *Journal of Urban and Environmental Engineering*, 11(1), 3-8. doi: 10.4090/juee.2017.v11n1.003008
3. Wang, B., Grasel, P., Owete, O., Hallas, J., Ahmad, H., Chen, G. (2016) Advanced Oxidation and Suspended Fiber Biofiltration for the Treatment of Landfill Leachate. *International Journal of Water Wastewater Treatment*, 2(5), doi: <http://dx.doi.org/10.16966/2381-5299.132> (Open Access)
4. Xue, H., Xie, W., Ahmad, H., Tawfiq, K., Chen, G. (2016) Arsenic Adsorption and Reduction in Iron-Rich Soils Nearby Landfills in Northwest Florida. *Journal of Urban and Environmental Engineering*, 10(1), 98-105. doi: 10.4090/juee.2016.v10n2.098105
5. Wang, B., Grasel, P., Millington, G., Hallas, J., Ahmad, H., Chen, G. (2015) Landfill Leachate Treatment by Aerated Recirculation and Pressurized Suspended Fiber Biofiltration. *Frontiers in Environmental Engineering*, 4(1), 7-18. doi: 10.12783/fiee.2015.0401.02.
6. Ahmad, H., Miller, J.W., George, R.D. (2014) Minimizing Pond Size Using an Offsite Pond in a Closed Basin: A Storm Flow Mitigation Design and Evaluation, *International Journal of Sustainable Development and Planning*, 9(2), 211-224.
7. Leszczynska, D., Ahmad, H. (2006) Toxic Elements in Soil and Groundwater: Short-Time Study on Electrokinetic Removal of Arsenic in the Presence of other Ions, *International Journal of Environmental Research and Public Health*, 3 (2), 67-73.
8. Leszczynska, D., Dzurik, A., Ahmad, H. (2006) Policy, Management and in situ Treatment of Stormwater Runoff, *Environmental Management*, 137-143.
9. Ahmad, H., and Badruzzaman, A. B. M. (2000) Copper Speciation in the Ramna Lake of Dhaka City, *Pollution Research, ISSN 0257-8050*, 19 (1).
10. Badruzzaman, A. B. M., Ahmad, H., and Ali, M. A. (1999) A Comparative Study of Copper Contamination in the Sediment Column of the Dhanmondi and Ramna Lakes, *Pollution Research, ISSN 0257-8050*, 18 (4), 347-351.

### **Papers in Conference Proceedings**

1. Ahmad, H., Adalier, K., Madden, B., Brown, D., Rodrigues A. (2018) A Comparative Study of COD Removal from wastewater using Biochar and Activated Carbon from Hardwood and Pine Tree. *Environmental Science and Technology*, George Sorial and Jihua Hong, Eds. American Science Press, Houston, USA, 169-176, ISBN 978-1-5323-2264-8
2. Ahmad, H., Adalier, K., Madden, B., Brown, D. (2016) Phenol Removal from Water using Biochar and Activated Carbon from Albizia: An Invasive Plant Evaluation. *Environmental Science and Technology*, George Sorial and Jihua Hong, Eds. American Science Press, Houston, USA, 179-184 (1), ISBN 978-1-5323-2259-4.

3. Ahmad, H., Madden, B., Mayers, J. (2016) A Comparative Study on Production of Activated Carbon from Hardwood Chips and Pellets, Environmental Science and Technology, George Sorial and Jihua Hong, Eds. American Science Press, Houston, USA, 167-172 (1), ISBN 978-1-5323-2259-4.
4. Ahmad, H., Adalier, K., Leszczynska, D. (2014) Electrokinetic Migration of Chromium and Copper: A Comparative Behavior Analysis During a Quick Remediation Process. Seventh International Conference on Environmental Science and Technology 2014, Houston, TX, USA.
5. Ahmad, H., Adalier, K., Leszczynska, D., Oyanader, M. (2012) Migration behavior of arsenic and copper during quick electrokinetic remediation process, Environmental Science and Technology, George Sorial and Jihua Hong, Eds. American Science Press, Houston, USA, 325-330 (2), ISBN: 9780976885344.
6. Ahmad, H., Miller, J.W. (2011) Evaluation of a storm flow management design to contain runoff within the watershed using ponds in series, Proceedings of the Water Resources Management 2011 Conference, Riverside, CA, USA.
7. Gunes, K., Tuncsiper, B., Masi, B., Ayaz, S., Leszczynska, D., Hecan, N.F., and Ahmad, H. (2010) Construction and maintenance cost analyzing of constructed wetland systems, Proceedings of the 12<sup>th</sup> International Conference on Wetland System for Water Pollution Control, October 4-8, 2010, Venice, Italy.
8. Gunes, K., Leszczynska, D., Ayaz, S., Ahmad H. (2006) Determination of Decentralized Wastewater Treatment Systems for Egirdir Lake basin and Preparation of the Preliminary Projects (Case Study), Proceeding of the International Conference MEDAWATER, Marrakech, Morocco.
11. Ahmad, H., Leszczynska, D. (2006) Arsenic in Soil: Mechanisms of Treatment and *in situ* Removal by Electrokinetic Technique, The Southern Association of Agricultural Scientists (SAAS) 103<sup>rd</sup> Annual Meeting and Conference, Orlando, Biotechnology section, Florida.

### **Presentations**

1. Ahmad, H., & Madden, B. (2019) Application and Quick Removal of Powdered Activated Carbon by A Cloth Media Filtration System: A Feasibility Study. Annual Water Resources Conference 2019, (June 13-15), Snowbird, Utah, USA.
2. Ahmad, H., Mayers, J., Madden, B. (2018) Maximizing Biochar and Biooil Yield from Pyrolysis of Albizia: An Invasive Plant Evaluation. Ninth International Conference on Environmental Science and Technology 2018, Houston, TX, USA.
3. Ahmad, H., Miller, J.W. (2017) Development of Low-Cost Water Reuse System by Minor Modification of the Wastewater Treatment Plant: Engineering Evaluation. UCOWR/NIWR Annual Conference: Water in a Changing Environment 2017 (June 13-15), Fort Collins, Colorado.
4. Ahmad, H., Miller, J.W., George R.D. (2015) Hydraulic simulation of reclaimed water transmission line: Analysis of a water reuse system design. ASCE EWRI World Environmental and Water Resources Congress 2015 (May 17-21), Austin, Texas.
5. Ahmad, H., Sprouse, J., Wilkins, I., Mayers, J. (2013) Systematic Flow Distribution and Routing through Shallow Depressions for Runoff Mitigation: A Design Analysis, ASCE EWRI World Environmental and Water Resources Congress 2013 (May 19-23), Cincinnati, Ohio.
6. Ahmad, H., Miller, J.W., George, R.D., Mayers, J. (2013) Effect of flow routing through a wet pond and a dry pond connected in series: A runoff mitigation plan evaluation, 2nd International Conference on Hydrology & Ground Water Expo (August 26-27), Raleigh, North Carolina.
7. Leszczynska, D., Ahmad, H. (2008) Environmental study of arsenic mobility under electrical current: Toxicity of chromated copper arsenate, 10<sup>th</sup> International Symposium on Metal Ions in Biology and Medicine, Bastia, Corsica, France.
8. Leszczynska, D., Ahmad, H. (2007) Legacy from 70-ties: Arsenic in Soil and Groundwater. Methods in situ Decontamination, 11<sup>th</sup> EuCheMS-DCE, International Conference on Chemistry and Environment, Torun, Poland.

9. Leszczynska, D., Ahmad, H. (2006) Emerging Techniques for in situ Decontamination of Soil: Study on Pesticide CCA Removal from Clayey Soil, RCMI Conference, San Juan, Puerto Rico.
10. Ahmad, H., Leszczynska, D. (2005) Evaluation and Enhancement of Electro-kinetic Technology for Remediation of Chromium, Copper, Arsenic from Clayey Soil, 2005 Florida Section A&WMA Annual Conference, St. Pete Beach, Florida.
11. Leszczynska, D., Ahmad, H. (2005) Toxic Elements in Soil and Groundwater: Study on Electrokinetic Removal of Arsenic and other Ions, Second International Symposium on Recent Advances in Environmental Health Research, Jackson, Mississippi.
12. Ahmad, H., Leszczynska, D., Oyanader, M. (2004) Study of copper fate and transport in a clayey soil bed under electrokinetic and bouyancy driven forces: Theoretical modeling and experimental validation approaches, AIChE Annual Meeting 2004, Austin, Texas.
13. Ahmad, H., Leszczynska, D. (2004) A Study of Copper Migration in clayey soil by electro-kinetic method, 64<sup>th</sup> Annual Meeting & Conference of Soil & Crop Science Society of Florida, Tallahassee, Florida.
14. Ahmad, H., Leszczynska, D., Thevanayagam, S. (2001) Waste containment by soil stabilization using electro-kinetic grouting method, International Containment Remediation Technology Conference, Orlando, Florida.

## **INDUSTRIAL EXPERIENCE**

### **George & Associates Consulting Engineers Inc., Tallahassee, Florida.**

January 2005-December 2008

**Industrial Projects:** Involved in the area of  
*Wastewater*

- ❖ Enhance treatment performance of activated sludge wastewater treatment plant.
- ❖ Evaluation of physical units/aspects of activated sludge wastewater treatment plant.
- ❖ Design wastewater reuse/application system (for irrigation, spray-field).
- ❖ Develop hydraulic model for design of conveyance system to pump water to/from wastewater treatment plant.
- ❖ Design sewage lift station.
- ❖ Sludge management: Preparation of 'Agriculture-Use-Plan' for (sludge) land-application.
- ❖ Design gravity flow sewer system.
- ❖ Design septic tank and drain-field.
- ❖ System Development Charge determination for sewer and water services for cities.

### *Stormwater*

- ❖ Hydrologic and hydraulic model development for stormwater management for land/site development.
- ❖ Design of underground stormwater storage/treatment system for site development.

### *Potable water*

- ❖ Hydraulic model development to analyze and design of city water supply system.
- ❖ Conduct onsite fire-flow (hydrant) test for model calibration.

### **Florida Department of Environmental Protection (FDEP)**

September 2001-December 2004 (Internship)

Involved In:

- ❖ Review of ground water test-result data of different (industrial) contaminated sites.
- ❖ Drafting/drawing project-site maps.

- ❖ Correction & management of data-base (Oracle) for Hazardous Waste Section, FDEP.

### **Khalid & Partners Ltd. (KPL), Dhaka, Bangladesh**

January 1994-June 1995

Involved In:

- ❖ Design & estimate of Reinforced Concrete (RC) bridges, RC and pre-stressed concrete culverts.
- ❖ Design & estimate of high-rise and multi-storied buildings.

## **HONORS AND AWARDS**

- ❖ Outstanding Paper Award (First Place), Ninth International Conference on Environmental Science and Technology 2018, Houston, TX, USA.
- ❖ Keynote Speaker, Ninth International Conference on Environmental Science and Technology 2018, Houston, TX, USA.
- ❖ Session Chair (Three Sessions), Ninth International Conference on Environmental Science and Technology 2018, Houston, TX, USA.
- ❖ Outstanding Paper Award (Second Place), Eight International Conference on Environmental Science and Technology 2016, Houston, TX, USA.
- ❖ Technical Session Chair, Eight International Conference on Environmental Science and Technology 2016, Houston, TX, USA.
- ❖ The 2013-2014 Professor of the Year Award by Student Government Council.
- ❖ Young Scientist Paper Award (Second Place), Sixth International Conference on Environmental Science and Technology 2012, Houston, TX, USA.
- ❖ Merit Pay, Performance Award, 2010, 2011, 2012, 2013, 2014, 2015, 2016 (FSU-PC)
- ❖ Provost's 90% list (90% or more of the students in the class ranked the instructor in the top category "Excellent" for one or more courses) for
  - Fall 2009 term, Spring 2010 term, Spring 2011 term, Fall 2011 term, Spring 2012 term (All 4 courses taught in this semester), Summer 2012 term (All 2 courses taught in this semester), Fall 2012 term, Spring 2013 term, Fall 2013 term, Spring 2014 term, Summer 2014 term, Fall 2014 term, Spring 2015 term, Summer 2015 term, Fall 2015 term, Spring 2016 term, Summer 2016 term, Fall 2016 term, Spring 2017 term, Summer 2017 term, Fall 2017 term.
- ❖ Nominated for the University Undergraduate Teaching Award (via SPOT /SUSSAI scores) 2018
- ❖ Nominated for the University Undergraduate Teaching Award (via SPOT /SUSSAI scores) 2015
- ❖ Nominated for the University Undergraduate Teaching Award (via SPOT /SUSSAI scores) 2014
- ❖ Nominated for the University Undergraduate Teaching Award (via SPOT /SUSSAI scores) 2012

## **CERTIFICATES**

- ❖ Registered Professional Civil Engineer (Florida # 67417)
- ❖ Engineering Intern (Florida # 1100011660)