

Mohd.Elmuntasir Ibrahim Ahmed

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Profile

Over 30 years' experience in the fields of Environmental Engineering and Environmental Management, Water Resources Management, and climate change policy.

Core Specialization	<ul style="list-style-type: none">• Environmental engineering, environmental assessment and management.
Related Skills	<ul style="list-style-type: none">• Water resources development assessment and management, IWRM, Transboundary environmental analysis, Environmental systems, climate change strategies, water diplomacy.
Activities	<ul style="list-style-type: none">• Program and project development, coordination and management, feasibility studies, project appraisal, capacity building, and policy development.

Personal Summary

D.O.B	April 20 th 1968
Place of birth	Khartoum North, Sudan
Nationality	Sudanese
Languages	Arabic, English, Level III French
Marital Status	Married-with children

Education

12/2000	Ph.D. in Environmental Engineering, Illinois Institute of Technology (IIT), Chicago, IL, USA.
05/1996	M. Sc. in Civil Engineering, Bradley University, Peoria, IL, USA.
04/1992	B.Sc. (Honors) in Civil Engineering, University of Khartoum, Khartoum, Sudan.

Career Summary

2013-date	Senior Research Scientist, Kuwait Institute for Scientific Research.
2003/2013	Associate Professor of Civil engineering (advancement into rank April 2007)
2008/2013	Environment Management Specialist, UNOPS/NBI .
2003/2008	Assistant professor, Civil Engineering, University of Khartoum (UofK).
2003/2008	Environmental Engineering Consultant, UofK Consulting Corp.
2003/2008	Cooperating Research and Teaching Staff, UCWR, Khartoum, Sudan.
2001/2003	Head of technical studies, Innovators Co., Khartoum, Sudan.
1997/2001	Teaching assistant and then research assistant, IIT, USA.
1995/1996	IEPA Intern, IL, USA.
1994/1995	Teaching Assistant and then research assistant, Bradley University, USA.
1992/1993	Site Engineer, Dar Alamara, Khartoum, Sudan.

Details of Careers Experience

- 2013-date **Research Scientist**
Kuwait Institute for Scientific Research, Water Resources Centre, Wastewater treatment and Reclamation Program.
- Team Leader and principal investigator for research projects.
Trainer of KISR and other staff on wastewater treatment and management, water resources management, and others.
Project Evaluation Committee member, Water Research Centre and Environment and Life Science Research Centre.
Grievance Committee member.
Promotion Committee member.
Donor liaison and International representation committee member.
Kuwait Investment Strategy review team member.
- 01/13-10/13 **Associate Professor of Civil engineering (advancement into rank 2007)**
University of Khartoum, Faculty of Engineering and Architecture, Civil Engineering Department, Khartoum, Sudan. Responsible for teaching and developing water resources and environmental engineering curricula at both undergraduate and graduate levels, conduct of research in the field of environmental engineering and management, and administrative duties.
- Cordinator of Water Supply and Sanitation Unit in the Water Resources Research Center.**
Coordinator MSCE program in Water Resources and Environmental Engineering
- 04/08-01/13 **Environment Management Specialist**
UNOPS, United Nations Office for Project Services, Nile Basin Initiative (NBI)-Nile Transboundary Environmental Action Project (NTEAP) seconded to the Eastern Nile Technical Regional Office ENTRO, NBI, Addis Ababa, Ethiopia. Responsible for environmental management of regional multipurpose large scale infrastructure projects in the Eastern Nile region, development of environmental policy, development of Environmental assessment and management guidelines for large river engineering infrastructure projects (multi-sector and multi-country) shared by the Eastern Nile region (Egypt, Ethiopia, and Sudan), and Capacity building in the field of environment in the EN region. Developing strategy to climate proof project activity, and include as part of strategic environment program to mobilize funds for the program. Develop TOR plan and directly engage in strategic social and environmental assessment (SSEA) as well as environmental and social impact assessment (ESIA) as part of project dedicated input.
- Technical input into various sectoral studies such as prefeasibility and feasibility studies on environmental issues pertaining to hydropower dams, transmission lines, watershed interventions and other non-technical interventions was provided.
- Have organized and participated in over fifty (50) events including meetings with high level officials from the Eastern Nile countries and Water Resources Ministers and panels of experts and reviewers both internationally, regionally and

nationally. Also conducted over 12 capacity building events at the regional and national level. Other regional outputs include:

1. Has structured the environment management process within the institution and initiated and executed a capacity building and training program on environmental management
2. Contributed to NBI wide Environment and Social Policy development
3. Developed guidance for environment management within the Nile Basin Sustainability Framework (NBSF)
4. Developed strategy to address climate change
5. Operationalized the climate change strategy and produced a climate proofing consolidated plan
6. International interaction with financiers and development partners, and consultant's supervision
7. Fund raising and resource mobilization
8. Created partnerships, linkages and networks with international institutions for capacity building in water resources development environmental management
9. Initiated and executed climate proofing program for water resources development.

Also, in addition to my current duties as an environment management specialist I have acted as:

1. Delegated Regional Coordinator for the Eastern Nile Planning model
2. Coordinator for the Climate Change Program (partially financed and partially under fund raising) and
3. Regional Coordinator for the Baro-Akobo-Sobat Multi-Purpose Water Resources Development project (Under final Stages of Funding). We use the results based management system in most of our projects and programs.

Consultancies

Over 25 consultancies in water resources management and environmental engineering, training and design and planning.

Publications and Presentations

Refereed Journal Publications

1. Ahmed M., A. Al-haddad, A. Bu Al-Albanat. Possible Impacts of COVID-19 Pandemic on Wastewater Characteristics in Kuwait Accepted Journal of Environmental Engineering and Landscape Management 2022
2. Ahmed M., A. Mydlarczyk, and A. Al-Haddad. Efficiency Limiting Factors of Petrochemical Wastewater Treatment Using Hybrid Biological Reactor, Accepted Journal of Environmental Engineering and Landscape Management 2022.

3. Ahmed M., A. Al-Matouq, M. Khajah, H. Abdullah, F. Al-Ajeel. Multi-criteria assessment of onsite packaged wastewater treatment systems. Accepted International Journal of Environmental Science and Development, 2022.
4. A. Al-Haddad, M.E. Ahmed, A. Abusam, A. Al-Matouq, M. Khajah, R. Al-Yaseen. Database for total petroleum hydrocarbon in industrial wastewater generated at Sabhan area in Kuwait. *Desalination and water treatment* 263 (2022) 70–77.
5. Ahmed M., Al-Yaseen, R., Mydlarczyk, A. et al. Assessment of integration options of hybrid biological reactor in a petrochemical wastewater treatment plant. *Int. J. Environ. Sci. Technol.* 19, 6141–6150 (2022). <https://doi.org/10.1007/s13762-021-03550-5>.
6. Ahmed M., A. Al-Haddad, S. Al-Dufaileej. Characterization and Profiling of Industrial Wastewater Toxicity in Kuwait International Journal of Environmental Science and Development 2022 Vol.13(2): 35-41 ISSN: 2010-0264, doi: 10.18178/ijesd.2022.13.2.1369.
7. Al-Haddad A., Ahmed M., Abdullah H., and Al-Yaseen R. 2021. Anomalies in industrial wastewater quality data in Kuwait. *Data in brief.* 35 (2021) 106945.
8. Ahmed M., R. Al-Yaseen, A. Mydlarczyk, A. Al-Haddad. Potential use scenarios of hybrid biological reactor for petrochemical industry wastewater treatment. *International Journal of Environmental Science and Development*, 2019, 10(8):231-235, DOI:10.18178/ijesd.2019.10.8.1178
9. Ahmed M., Al-Haddad A., Mydlarczyk A., and Aba A. 2019. The Presence and Distribution of Radionuclides in Kuwait Wastewater Treatment Plants. Accepted A. Journal of Science and Engineering.
10. Ahmed M., Al-Dhafeeri A., and Mydlarczyk A. 2019. Predominance of attached vs. suspended growth in a mixed-growth, continuous-flow biological reactor treating primary-treated petrochemical wastewater. Accepted A. Journal of Science and Engineering.
11. Ahmed M., Mydlarczyk A., and Abusam A. 2019. Laboratory assessment of GAC-packed IFAS for the treatment of primary treated petrochemical industry wastewater. Accepted Journal of environmental microbiology.
12. Ahmed M., Mydlarczyk A., and Abusam A. 2017. Kinetic modeling of GAC - IFAS chemostat for petrochemical wastewater treatment. *Journal of Water Resources and Hydraulic Engineering* 6(2): 27-33.
13. Abusam, A & Mydlarczyk, Andrzej & Al-Salameen, F & Ahmed, M. (2017). Identification of the most probable causes for filamentous bacteria over-proliferation in Riqqa wastewater treatment plant, Kuwait. *Desalination and Water Treatment.* 72. 78-84.
14. Abusam, Ahmed, M., and Mydlarczyk, A. (2016). Comparison of Irrigation Qualities of Septic Tank Effluents Reclaimed Using Aerobic- versus Anaerobic-Based Treatment Systems, *International Journal of Environmental and Sustainability* 5 1): 64-70.
15. Abusam, A., Al-Salameen, F., Mydlarczyk, A. and Ahmed, M. (2016). Filamentous bacteria identification by VIT method, *International Journal of Environmental Science and Development* 7(3): 177-180.

16. Ahmed, M. 'Selective Adsorption of Cadmium Species onto Organic Clay Using Experimental and Geochemical Speciation Modeling Data'. *International Journal of Engineering and Technology* 2016.
17. Abusam, A.B. Shahalam, M. Ahmed and A. Mydlarczyk (2015). Treatment of Septic Tank Effluent for Reuse as Irrigation Water, *International Journal of Environmental Engineering* 2(1): 166 – 173.
18. Ahmed, M.I. and Elturabi, L. D., Sectoral Evaluation of EIA Practice in the Sudan,' *International J. Environmental Research*, 5(1):189-204, Winter 2011.
19. Ahmed, M.I., and Ali, Z.O., Role of Hydropower in Offsetting Electricity Consumer Behavior Contribution to GHG Emissions, *Nile Water Science and engineering Journal*, Vol.3, No 1, pp28-38, 2010.
20. Ahmed, M. I., Kuo Lin Huang, Holsen, T. M., Nafion-117 Behavior during Cation Separation from Spent Chromium Plating Solutions, *Ind. Eng. Chem. Res.* 48, 6805–6810, 2009.
21. Ahmed, M. I., 'Cadmium Adsorption on HDTMA Modified Montmorillonite', *Journal of Engineering Research*, Vol. 6, No. 1, pp 8-14, 2009.
22. Ahmed, M.I. 'A comparative Study of International EIA Guidelines and the Sudan EIA Experience', *Nile Water Science and engineering Journal*, Vol.1-1, pp1-12, 2008.
23. Ahmed, M.I. and Digna, R.F. 'Stormwater Quality and Pollutant Accumulation Rates in the Surfaces of Khartoum State,' *Journal of the Sudanese Engineering Society*, Vol. 53, No 49, pp 33-45, 2007.
24. Ahmed, M. I., 'Nafion-117 Stability during Electrodialysis in Concentrated Chromic Acid', *Journal of the Sudanese Engineering Society*, Vol. 52, no 47 (2006) 45-55.
25. Chang, H.T, Parulekar, S.J., and Ahmed, M., 'A Dual-growth Kinetic Model for Biological Wastewater Reactors,' *Biotechnology progress.* 21(2):423-31, (2005).
26. Ahmed, M. I., Chang, H. T., and Selman, J. R., 'Electrochemical Chromic Acid Regeneration Process: Fitting of Membrane Transport Properties' *J. Membr. Sci.* 197 (2002) 63-74.
27. Ahmed, M. I., Holsen, T. M., and Selman, J. R., "Chromic Acid Regeneration Process with Fuel-Cell Electrode Assistance. Part I: Removal of Contaminants", *J. App. Electrochem.* 31 (2001), 1381-1387.
28. M. I. Ahmed, T. M. Holsen, and J. R. Selman, "Chromic Acid Regeneration Process with Fuel-Cell Electrode Assistance. Part II: Electrochemical Characterization, Material Compatibility and Energy Consumption", *J. App. Electrochem.* 31 (2001), 1389-1394.

Refereed Conference Publications

29. M. Ahmed and R. Al-Yaseen. Improved Hybrid Biological Reactor Design Under Mixed-growth Conditions ACSEE, 2018, Kobe, Japan.
30. M. Ahmed. Rethinking "Wastewater": Enhancing the Value of Treated Wastewater. 3rd Arab Water Conference, 2-3 May 2018, Kuwait.
31. M. Ahmed and A. Abusam. "Performance Efficiency and Design Criteria of a Peat System for Treating Septic Tank Effluents," conference proceedings, 2016

- 2nd International Conference on Water Technology (ICWT 2016), Bali, Indonesia, June 25-27, 2016.
32. M. Ahmed, A. Abusam, and A. Mydlarczyk “Bench-scale studies for insitu nutrient removal from septic tank effluents,” conference proceedings, the 10th APCEEST, Seoul, S. Korea, 1-4 July 2015.
 33. Ahmed, M.I., ‘Possible Alternatives for Retrofitting Current Produced Water Treatment Processes’ EnviroArabia 2010, Manama, Bahrain.
 34. Ahmed, M.I. and Digna, R.F., 'Urban Runoff in Khartoum and its Effect on the Nile Water Quality,' V Middle East Regional Conference on Civil Engineering Technology and V International Symposium on Environmental Hydrology, ASCE-EG, ESIE, Cairo, Egypt, 3-5 Sep 2007.
 35. Ahmed, M.I., 'Development of a Process for Chromium Disposal Prevention from the Hard Chromium Plating Industry', International Water Technology Conference Proceedings, IWTC-2007, Sharm Elsheikh, Egypt 15-18 March 2007.
 36. Ahmed, M. I., and Abdella, L. D. 'Environmental Impact Assessment Legislation and Practice for the Environmental Management of Nile System with Special Reference to Sudan ', Proceedings of the Nile Development Forum Conference. International Conference on "The Role of the River Nile in Poverty Reduction and Economic Development," UN-CEA Conference Hall, Addis Ababa, Ethiopia, 30/11-2/12 2006.
 37. M. I. Ahmed, N. R. Khalili, V. S. Donepudi, T. M. Holsen, E. S. Smotkin, and J. R. Selman, *'In-Process Contaminant Removal from Hard Chromium Plating Baths Using a Fuel Cell Electrode Ion-Exchange Membrane Process (FCMP)'*, Proceedings of the 22nd Annual AESF/EPA Conference on Pollution Prevention and Control for the Surface Finishing Industry, Jan. 29-31, 2001 Rosen Centre, Orlando, FL, USA.
 38. Jamrah, M. Ahmed, *'Remediation of Metal Contaminated Soil by EDTA'*, presented at the 1995 Canadian Society for Civil Engineering Annual Conference, Ottawa, Canada, June 1995.
 39. Ahmed, M.I., Huang, K.L., and Holsen, T.M., 'Assessment of Nafion-117 Stability in a New Process for Cation Separation from Spent Chromium Plating Solution,' The First Conference on Environmental Management, Engineering, Planning and Economics, CEMEPE 2007, Skiathos Island, Greece, 24-28 June 2007.
 40. Ahmed, M.I. 'A comparative Study of International EIA Guidelines and the Sudan EIA Experience', Accepted, Proceedings of the ASST EIA workshop, Kuwait, 2007.
 41. Ahmed, M.I., Digna, R. F., and Abdella, E. S. Wet Deposition Contribution to Urban Runoff Quality in Khartoum-Sudan', the International Water Technology Conference, IWTC-2008, 2008.
 42. Ahmed, M.I., and Mustafa, N. E., 'The Economics of the Blue Nile Water Quality in Thermal Power Generation: AlFau Station', the International Water Technology Conference, IWTC-2008, 2008.
 43. Ahmed, M. I., and Abdella, L. D. 'General Assessment of Environmental Impact Assessment (EIA) Practice in the Sudan by Sectoral Projects', the Nile Development Forum Conference, Khartoum, Sudan 2007.
 44. Ahmed, M. I. 'Urbanization, Development and Water Quality in Khartoum', the Nile Development Forum Conference, Khartoum, Sudan 2007.

45. Ahmed, M. I. 'Anticipated Environmental Impacts of the Nanotechnology Revolution, Knowledge Based Industry and Nanotechnology Conference, Ritz Carlton, Doha, Qatar, 11-12 Feb. 2008.

Reviewed Conferences and Seminars

46. M. E. Ahmed, Laboratory assessment of GAC-packed IFAS for the treatment of primary treated petrochemical industry wastewater. UK and Gulf Countries Science Collaboration Symposium, Kuwait, 5 – 6 March, 2018
47. M. I. Ahmed, 'Possible Alternatives for Retrofitting Current Produced Water Treatment Processes,' First Seminar on Environmental and Safety Concerns and Management in Sudan Upstream Oil Industry. Feb 26-27 2008, MEM, Al Ingaz conference hall, Khartoum, Sudan.
48. M. I. Ahmed, H. T. Chang, T. M. Holsen, and J. R. Selman, '*In Process Contaminant Removal from Chromium Electroplating Baths*', Presented at the Illinois Water Environment Association 20th Annual Conference, Peoria, IL Mar 1999.
49. M. I. Ahmed, E. S. Smotkin, T. M. Holsen, and J. R. Selman, '*In Process Contaminant Removal from Chromium Electroplating Baths*', Poster presented at the AIChE, Chicago, IL 1998.
50. M. I. Ahmed, 'Municipal Water and Sanitation Services Management: Khartoum City,' UN Habitat 3rd World Urban Forum Preparatory Workshop, Sudanese Environment Conservation Society, Khartoum, Sudan, June 2006.
51. M. I. Ahmed, 'Air Quality Systems,' Air Pollution Seminar, Ministry of Science and Technology, Institute for Environmental Studies and Natural Resources, Khartoum, Sudan, 20th April 2006.
52. M. I. Ahmed 'Water Resources for Drinking Water Quality in the Sudan', Seminar organized by Giad Heavy Machinery and Equipment Co. and the Sudanese Water Association, May 2007.

Books

44. A.M. Shahlam, M. E. Ahmed and A. Al-Haddad. 2016. Wastewater Resources in Kuwait: Effluent Quantity and Reuse Demand (Book under press).
45. M. E. Ahmed and others. 2012. State of environment in the Nile basin. Editor.

Books-Arabic

46. النزوح و الهجرة في السودان بالعربية مع مجموعة من المؤلفين. 2007.

Thesis

47. M. I. Ahmed, '*Electrochemical Chromic Acid Regeneration Process: Feasibility Study and Mathematical Modeling*', Ph.D thesis, Illinois Institute of Technology, Chicago, IL, Dec 2000.
48. M. I. Ahmed, '*Modified Clays for the Removal of Cadmium from Aqueous Media, Modeling of Cadmium Transport in Groundwater*,' MSCE thesis, Bradley University, Peoria, IL, USA 1996.

Technical Reports

1. Over 25 technical reports on various aspects of water resources management and environmental engineering.

Service to Academic Institution and the Profession

- Member Editorial Board of the International Journal of Environmental Engineering Science and Technology Research (IJESTR) since 2011.
- Advisor for the UNESCO-IHE/WREM project to develop action plan for the Rusezi-lake Kivu system small hydro, including development of environment database to aid decision making in Burundi, Rwanda, and DRC.
- Member, Faculty of Engineering Self Assessment and Evaluation Committee, since 2008.
- Member, University Informatics Network Committee, since 2008.
- Member, the National UNESCO Committee, since 2007.
- Member Technical Committee to evaluate the Technical Diploma Program of the Technical College, Karrari Academy of Science, Engineering Council, MINISTRY OF CABINET, THE REPUBLIC OF THE SUDAN, 2007.
- Member Technical Committee to Study Migration and Displacement from Rural Areas to Urban Centers, SECRETARIAT GENERAL OF CONSULTANCY BOARD, MINISTRY OF CABINET, THE REPUBLIC OF THE SUDAN, 2007.
- Focal Person for NBI EIA Initiative, since 2006.
- Member Editorial Board, Journal of the Sudan Engineering Society. Since September 2006.
- Scientific Committee, Development and Environment Conference, Sudan Engineering Society, 2006.
- Steering Committee, Development and Environment Conference, Sudan Engineering Society, 2006.
- Committee on Restructuring the College of Water Science and Technology, the Sudan University of science and Technology. 2006.
- Committee on teaching load, credits, and course development for the College of Water Engineering and Technology, the Sudan University of science and Technology. 2006.
- Examinations and Results Committee, Civil Engineering Department, University of Khartoum.2003-2007.
- Library Committee, Faculty of Engineering and Architecture, University of Khartoum.2005-date.
- Computer Lab Supervisor, Civil Engineering Department, University of Khartoum. 2005-date.

- Department Library Supervisor, Civil Engineering Department, University of Khartoum. 2005-date.

Professional Registration and Certification

Fellow, Sudanese Engineering Society.
Civil Engineering Consultant, the Sudanese Engineering Council.

Awards and Recognitions

MIT-Tufts Water Diplomacy Program Grant to attend workshop, 2012.
Who's Who Among American Colleges and Universities, IIT 97/98.
Academic Excellence Scholarship, Bradley University, 94/95.
Civil Eng. Dept. Award for best performance in fourth year, 89/90.
Civil Eng. Dept. Award for best performance in final year, 90/91.
Sudan Eng. Society Award for best graduation project, 91.