Dr. Md. Abdullah-Al-Mamun

Associate Professor

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EDUCATION

Ph.D. Civil and Environmental Engineering, National University of Singapore, 2010

B.Sc. Civil Engg, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh, 2005

ACADEMIC EXPERIENCE

Department of Civil and Architectural Engineering, Sultan Qaboos University, Associate Professor, Jun2020 to Present, Full time Department of Civil and Architectural Engineering, Sultan Qaboos University, Assistant Professor, Oct2012 to Jun 2020, Full time Department of Civil and Architectural Engineering, Sultan Qaboos University, Visiting Consultant, Feb2012 to Sep2012, Full time Department of Environmental Science, Republic Polytechnic, Singapore, Academic Staff, Dec 2009 Jan 2012, Full time Centre for Water research, National University of Singapore, Research Engineer, Aug 2009 – Dec 2009, Full time Department of Civil and Environmental Engineering, National University of Singapore, Singapore, Graduate Research Associate, Jul 2005- Jul 2009, Full time

NON-ACADEMIC EXPERIENCE

Systech Design & Consultants, Dhaka, Bangladesh, Design Engineer, 2004-2005, Part-time

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- Member, Singapore Water Association (SWA)
- Member, International Water Association (IWA)
- Life Member, The Forum of Engineer and Architect, Bangladesh
- Life Member, Institute of Engineers Bangladesh (IEB)
- Life Member, Alumni association of NUS
- Life Member, Alumni association of BUET, Bangladesh

HONORS AND AWARDS

- Winning the first prize of "Salalah Water and Wastewater Award, 2020" for the innovation and development of "Smart microbial desalination for wastewater treatment and electricity recovery with real-time monitoring" organized by The Research Council, Oman.
- The National Research Award for the best scientific research article on environment and water research category I for the year 2020, The Research Council, Oman.
- **Distinguished Researcher Award** on 19th Sultan Qaboos University Day in recognition of outstanding performance in scientific research during year 2018-2019.
- **The National Research Award** for the best scientific research article on environment and biological resources category I for the year 2017, The Research Council, Oman.
- **Distinguished Lecture,** Forum of projects funded by His Majesty's Trust Fund for Strategic Research, March 12, 2019.
- SQU Vice Chancellor certificate of recognition for successful cooperation in ABET Accreditation, 2013.
- Project Leader, Implementing Green amber environmental project at Siem Reap, Cambodia, Sep 2011.
- Project Leader, Design and implementation of Biogas, Composting plant at Colombo, Srilanka, Sep 2010.

SERVICE ACTIVITIES (Within and outside of the institution)

Institutional Service

- -Organizer, The 1st National Conference on Civil and Architectural Engineering, March 26-28, 2018, Muscat, Oman.
- -Scientific committee, 5thInternational Conference on Estuaries and Coasts, Nov. 2-4, 2015.
- -Scientific committee, International Conference on Desalination, Environment and Marine Outfall Systems, SQU, Muscat, Oman, April 13-16, 2014.

Professional Service

- -Organizer, 3rd International Conf. on "Battery and Fuel Cell Technology" Sep, 10-11, 2018 London, UK.
- -Editorial board member, IORE Environmental Science, Current Alternative Energy, Feb 2017 Present.
- -ExternalExaminer of PhD Thesis for Bankole Arowobusoye, University of Calgary, Canada. Feb 2018

$\begin{picture}{ll} \textbf{PRINCIPLE PUBLICATIONS WITHIN LAST FIVE YEARS} (selected) \\ \end{picture}$

I. Books

1. **Bio-electrochemical Technology for Energy Harvest and Wastewater Treatment**, Abdullah Al-Mamun, Bipro Ranjan Dhar (Eds). CRC press, Taylor and Francis, Ongoing.

II. Patent Filled

- [P1] **Al-Mamun**, **A.**, Jafary, T., A novel quadruple microbial desalination cell integrated with real-time data monitoring system for remote desalination plant. Applied for Omani Patent Application 2020.
- [P2] Ng H.Y., O. Lefebvre, A. **Al-Mamun**. A Two-Chambered Microbial Fuel Cell Using Biocatalyst for the Cathodic Reaction. US Provisional Patent Application No 60/914,406, 2007.

III. Articles Published in International Referred Journals

No	Articles Published in International Referred Journals Journal articles on Environmental Engineering	JCR/IF
[J1]	Alwahaibi, B.M, Jafary, T., Stefanakis, A., Al-Mamun, A.* , Tabatabaei, M., (2021). Operational modifications of a full-scale experimental Vertical Flow Constructed Wetland with effluent recirculation to optimize total nitrogen removal. Journal of Cleaner Production, In Press.	Q1/7.5
[J2]	Al Mawli, B., Al Alawi, M., Elazouni, A., Al-Mamun A., (2021). Construction SMEs Safety Challenges in Water Sector in Oman. Safety Science, In Press	Q1 /4.1
[J3]	Al-Mamun, A.*, (2020). Effect of external resistance on microbial electrochemical desalination, sewage treatment, power and resource recovery. Sustainable Energy Technologies and Assessments, In Press.	Q1/ 3.4
[J4]	Rahman, S., Al-Mamun, A.* , Jafary T., Baawain, M.S., Choudhury, M.R., Alhaimali, H., Siddiqi, S., Dhar, B.R., Sana, A., Lam, S.S, Aghbashlo, M., Tabatabaei, M., (2021). Towards Upscaling Microbial Desalination Cell Technology: A Comprehensive Review on Current Challenges and Future Prospects. Journal of Cleaner Production, 125597.	Q1/ 7.5
[J5]	Al-Khalili, M., Al-Habsi, N., Al-Alawi, A., Al-Subhi, L., Myint, M.T.Z., Al-Abri, M., Waly, M.I., Al-Harthi, S., Al-Mamun, A., Rahman, M.S., (2020). Structural characteristics of alkaline treated fibers from date-pits: Residual and precipitated fibers at different pH. Bioactive Carbohydrates and Dietary Fibre, 25, 100251.	Q2/0.9
[J6]	Alwahaibi, B.M, Al-Mamun, A.*, Baawain, M.S., (2020). Biological Efficiency and Control of a Membrane Bioreactor and Conventional Activated Sludge Process for Treating Municipal Wastewater. Journal of Agricultural and Marine Sciences, 26, 1, In press.	Q4
[J 7]	Al-Mamun, A.* , Jafary, T., Baawain, M.S., Rahman, S., Choudhury, M.R., Tabatabaei, M., Lam, S.S., (2020). Energy recovery and carbon/nitrogen removal from sewage and contaminated groundwater in a coupled hydrolytic-acidogenic sequencing batch reactor and denitrifying biocathode microbial fuel cell. Environmental Research, 183, 109273.	Q1/ 5.3
[J8]	Jafary, T., Al-Mamun, A.*, Alhimali, H., Baawain, M.S., Rahman, M.S., Rahman, S., Dhar, B.R., Aghbashlo, M. and Tabatabaei, M., (2020). Enhanced power generation and desalination rate in a novel quadruple microbial desalination cell with a single desalination chamber. Renewable and Sustainable Energy Reviews, 127, 109855. [Received National Research Award, Oman, 2020]	Q1/ 11
[J9]	Jafary, T., Al-Mamun, A.*, Alhimali, H., Baawain, M.S., Rahman, S., Tarpeh, W.A., Dhar, B.R., Kim, B.H., (2020). Novel two-chamber tubular microbial desalination cell for bioelectricity production, wastewater treatment and desalination with a focus on self-generated pH control. Desalination, 481, 114358.	Q1/7.3
[J10]	Omidvarborna, H., Baawain, M.S., Al-Mamun , A., Siddiqi, S., (2020). Characterizing the unknown contribution of iron industries in atmospheric iron emissions using sensitivity analysis. Journal of Aerosol Science, 151,105630.	Q1/2.64
[J11]	Chung, T.H., Meshref, M., Hai, F.I., Al-Mamun , A. , Dhar, B.R., (2020). Microbial electrochemical systems for hydrogen peroxide synthesis: Critical review of process optimization, prospective environmental applications, and challenges. Bioresource Technology, 313, 123727.	Q1/6.7
[J12]		Q1/2.9
[J13]	Amoatey, P., Omidvarborna, H., Baawain, M.S., Al-Mamun , A. , (2020). Evaluation of vehicular pollution levels using line source model for hot spots in Muscat, Oman. Environmental Science and Pollution Research, 27, 31183-31201.	Q1/2.9
[J14]		Q1/5.6
[J15]	Amoatey, P., Omidvarborna, H., Baawain, M.S., Al-Mamun , A., Bari, A. (2020). Association between human health and indoor air pollution in the Gulf Cooperation Council (GCC) countries: a review. <i>Reviews on Environmental Health</i> , 1, In Press.	Q2/1.69
[J16]		Q1/3.8
[J17]	Al-Lawati, M. J., Jafary, T., Baawain, M. S., & Al-Mamun , A.* , (2019). A mini review on biofouling on air cathode of single chamber microbial fuel cell; prevention and mitigation strategies. Biocatalysis and Agricultural Biotechnology, 101370.	Q1/2.26

[J18]	Baawain, M.S., Al-Mamun , A. , Omidvarborna, H., Al-Mujaini, F., Choudri, B.S., (2019). Residents' Concerns and Attitudes towards a Municipal Solid Waste Management: Opportunities for Improved Management. International Journal of Environment and Waste Management, 24(1), 93-106.	Q3/0.8
[J19]	Ryue, J., Lin, L., Kakar, F.L., Elbeshbishy, E., Al-Mamun , A. , Dhar, B.R., (2019). A critical review of conventional and emerging methods for improving process stability in thermophilic anaerobic digestion. Energy for Sustainable Development, 54, 72-84.	Q1/3.3
[J20]	Barua, S., Zakaria, B. S., Chung, T., Hai, F. I., Haile, T., Al-Mamun , A. , Dhar, B. R., (2019). Microbial electrolysis followed by chemical precipitation for effective nutrients recovery from digested sludge centrate in WWTPs. Chemical Engineering Journal, 361, 256-265.	Q1/8.8
[J21]	Amoatey, P., Omidvarborna, H., Baawain, M. S., Al-Mamun , A. , (2019). Emissions and exposure assessments of SO _X , NO _X , PM _{10/2.5} and trace metals from oil industries: A review study (2000–2018). Process Safety and Environmental Protection, 123, 215-228.	Q1/4.4
[J22]	Al-Mamun A.* , Ahmad, W., Baawain, M. S., Khadem, M., & Dhar, B. R., (2018). A review of microbial desalination cell technology: Configurations, optimization and applications. Journal of Cleaner Production, 183, 458-480.	Q1/ 7.5
[J23]		Q2/0.93
[J24]		Q2/2.03
[J25]	Amoatey, P., Omidvarborna, H., Baawain, M.S., Al-Mamun , A., (2018). Indoor air pollution and exposure assessment of The Gulf Cooperation Council Countries: A critical review. Environment International, 121, 491-506.	Q1/7.95
[J26]	Omidvarborna, H., Baawain, M., Al-Mamun, A. , (2018). Assessment of Ambient Air Quality of the Gulf Cooperation Council Countries, A Critical Review. Science of the Total Environment, 636, 437-448.	Q1/5.6
[J27]	Omidvarborna, H., Baawain, M.S., Al-Mamun , A. , Al-Muhtaseb, A.H., (2018). Estimation of Iron Particle Dispersion and Deposition from an Iron Processing Plant on Nearby Communities via AERMOD. Environmental Monitoring and Assessment, 190:655.	Q2/ 2
[J28]	Barua, S., Zakaria, B. S., Al-Mamun , A. , Dhar, B. R., (2018). Anodic performance of microbial electrolysis cells in response to ammonia nitrogen. Journal of Environmental Engineering and Science, 14(1), 37-43.	Q3/0.3
[J29]		Q1/7.3
[J30]	Al-Mamun, A.* , Baawain, M.S., Al-Muhtase, A.H., Egger, F., Ng, H.Y., (2017). Optimization of a baffled-reactor microbial fuel cell using autotrophic denitrifying bio-cathode for removing nitrogen and recovering electrical energy. Biochemical Engineering Journal, 120, 93-102.	Q1/3.37
[J31]		Q1/3.37
[J32]	Rahman, M.S., Al-Mamun , A .* & Al-Amri, I.S., (2017). Characteristics of pores as measured by porosimetry and microscopy considering spaghetti as a model system. International Journal of Food Engineering, 13, 8, 2016366.	Q2/0.93
[J33]	Baawain, M.S., Al-Mamun, A. , Omidvarborna, H., Al-Jabri, A., (2017). Assessment of hydrogen sulfide emission from a sewage treatment plant using AERMOD. Environmental Monitoring and Assessment, 189, 6, 263-268.	Q2/ 2.0
[J34]	Baawain, M.S., Al-Mamun, A. , Omidvarborna, H., Al-Amri, W., (2017). Ultimate Composition Analysis of Municipal Solid Waste in Muscat. Journal of Cleaner Production, 148, 355-362. [Received National Research Award for the best scientific research in 2017]	Q1/7.5
[J35]		Q1/4.6
[J36]		Q2/2.03
[J37]	Al-Mamun, A.* , Baawain, M.S., (2015). Accumulation of intermediate denitrifying compounds inhibiting biological denitrification on cathode in Microbial Fuel Cell. Journal of Environmental Health Science & Engineering, 13:81-94.	Q1/2.77
	Journal articles on Water Resources Engineering	
[J38]	Siddiqi, S.A., Al-Mamun, A.* , Baawain, M.S., Sana, A., (2020). Assessment and Characterization of Groundwater Contaminations among the Gulf Cooperation Council Countries. Environmental Science and Pollution Research. In Press.	Q1/3.1
[J39]		Q3/0.3

	Assessment of the Coastal Water Quality. Journal of Environmental Engineering and Science, 15(3), 141-153.	
[J40]	Chitrakar, P., Baawain, M.S., Sana, A., Al-Mamun, A., (2020). Hydrodynamic measurements and modeling in the	Q1/1.1
	coastal regions of Northern Oman. Journal of Ocean Engineering and Marine Energy, 6(2), 99-119.	
[J41]	Chitrakar, P., Baawain, M. S., Sana, A., Al-Mamun, A.*, (2019). Current status of marine pollution and mitigation	Q3/0.52
	strategies in Arid Region: A detailed review. Ocean Science Journal, 54(3), 317-348.	
[J42]	Baawain, M.S., Al-Mamun, A., Omidvarborna, H., Al-Sabti, A., & Choudri, B.S., (2018). Public Perceptions of	Q2/1.68
	Reusing Treated Wastewater for Urban and Industrial Applications: Challenges and Opportunities. Environmental	
	Development and Sustainability, 1-13.	

IV. Articles Published in Proceedings of International / Regional Conferences

- 1. Alwahaibi B.M., **Al-Mamun A.***, Baawain M.S., Omidvarborna H., (2020). Performance evaluation of wastewater treatment technologies towards sustainable water management. In Proceedings of the Oman's International Conference on Water Engineering and Management of Water Resources (OICWE2020), Muscat, Sultanate of Oman, Nov 9-11.
- Al-Mamun, A.*, Abdus Sattar, Jafary, T., Baawain, M.S., (2019). Effect of external resistance on the efficiency of desalination, sewage treatment and power recovery in open air-cathode microbial desalination cell. In Proceeding of the ISMET7 Conference, Okinawa, Japan, Oct 7-11.
- 3. Rahman, S., Jafary, T., Baawain, M.S., **Al-Mamun, A.***, (2019). Investigating Electrochemical Performance at Variable External Loads in Conventional Microbial Desalination Cell. Proceeding of the ISMET7 Conference, Okinawa, Japan, Oct 7-11.
- 4. Baawain, M., Amoatey, P., & **Al-mamun, A.** (2019). The Importance of Environmental Issues for Civil Engineering Program Accreditation. In Proceedings of The 3rd International Conference on Digital Technology in Education, (pp.195-198), October. (**Teaching Pedagogy**)
- 5. Al Jadidi, M., Rahman, R., **Al-Mamun, A.*,** & Jafary, T., (2019). The effect of external resistance on the performance of microbial desalination cell. 9th National Symposium of Engineering, University of Nizwa, Oman, 1st May. [Awarded 2nd prize for the best paper].
- 6. Ahshan, R., Sohel, KMA, Khadem, M., & **Al-Mamun**, **A.***, (2018), Using Mobile Phone in Classroom Teaching and Learning for Engineering Students: A Case Study, accepted for the Proceedings of the 28th Arab Engineering Education Conference, Dec 11-13, Muscat. **Role:** Concept development, research conduct, data analysis and manuscript writing partially. (**Teaching Pedagogy**)
- 7. Chitrakar, P., Sana, A., Baawain, M.S., **Al-Mamun, A.**, Bruss G., & Kwarteng, A., (2018). Preliminary assessment of water quality in the coast of Muscat, Oman. 13th International conference on Coasts, Ports and Marine Structures (ICOPMAS), Iran. Tehran, 27-30 Nov.
- 8. **Al-Mamun, A.***, Baqi, A., Al-Mufargi, W. (2018). Treatment of landfill leachate by single chamber air-cathode microbial fuel cell. 4th AP-ISMET meeting, India. Goa, 13-16 Nov.
- 9. **Al-Mamun, A.*,** Al-Zadjali, K. (2017). Optimization of bio-cathode based microbial fuel cell suitable for practical application of wastewater treatment and electricity generation. ISMET 6 meeting, Portugal. Lisbon, 3-6 October.
- 10. **Al-Mamun, A.*** & Baawain, M.S., (2017). Prospects of dissimilar electron donors on the electrochemical performance of a double-chambered microbial fuel cell. ISMET 6 meeting, Portugal. Lisbon, 3-6 October.
- 11. **Al-Mamun, A.*,** & Baawain, M.S., (2016). Prospects of dissimilar electron donors on the electrochemical performance of a double-chambered microbial fuel cell. Third EU-ISMET meeting, 26-28 Sep, Rome, Italy.
- 12. **Al-Mamun**, **A**.*, & Baawain M.S., Al-Ajmi, B. (2016). Performance of an up-flow baffled channel bio-cathode microbial fuel cell for carbon and nitrogen removal. 4th International Conference on Renewable Energy: Generation and Applications: Belfort, France, 8-10 Feb.
- 13. **Al-Mamun, A.***, & Baawain, M.S., (2015). Application of electrochemically active marine biofilms in an osmotic microbial fuel cell for electrical energy and clean water recovery. Fifth International Conference on Estuaries and Coasts (ICEC2015), Nov 2-4, Muscat, Oman.
- 14. **Al-Mamun**, **A.***, Al-Saidi A., & Baawain M.S., (2015). Fixing aerobic marine biofilm cathode in a compact osmotic microbial fuel cell for freshwater recovery and power generation. In: The 5th international meeting on microbial electrochemistry and technologies, Tempe, Arizona, USA, October 1-4.
- 15. Baawain, M., **Al-Mamun**, **A.***, Sana, A., & Al-Wahaibi, B., (2015). Performance of membrane bioreactor versus activated sludge at a domestic wastewater treatment plant in Oman. Proceedings, Annual Conference Canadian Society for Civil Engineering, vol. 1 (2015).
- 16. Muqaibal, H., **Al-Mamun, A.***, & Baawain, M.S., (2018). Simultaneous electricity production and organics removal from domestic sewage using Microbial Fuel Cell Power optimization aspect. The 1st National Conference on Civil & Architectural Engineering, Sultanate of Oman. Muscat, 26-28 March.
- 17. Al-Abri, B., **Al-Mamun, A.***, Baawain, M.S., & Al-Harthi, I., (2018). Electricity Production and Metal Recovery from Landfill Leachate using Microbial Fuel Cell. The 1st National Conference on Civil & Architectural Engineering, Sultanate of Oman. Muscat, 26-28 March.
- 18. Rahman, S., & **Al-Mamun, A.***, (2018). Prospects of Dissimilar Electron Donors to the Performance of Pseudomonas Aeruginosa Electroactive Bio-Films for Recovery of Electrical Energy. The 1st National Conference on Civil & Architectural Engineering, Sultanate of Oman. Muscat, 26-28 March.

- 19. Al Hinai, S., Al Qanoobi, S., & **Al-Mamun, A.***, (2018). Simultaneous electricity production and organics removal from a mixture of landfill leachate and sewage using Microbial Fuel Cell. The 1st National Conference on Civil & Architectural Engineering, Sultanate of Oman. Muscat, 26-28 March.
- Al-Wahaibi, B., Baawain, M.S., & Al-Mamun, A.*, (2018). Performance of Constructed Wetland (Reed Bed) Wastewater Treatment System. The 1st National Conference on Civil & Architectural Engineering, Sultanate of Oman. Muscat, 26-28 March.
- 21. Al-Sulaimi, I., Baawain, M.S., & **Al-Mamun**, **A.***, (2018). Evaluation of Pressurized Sand Filtration Performance for Viable Helminths Ova Removal. The 1st National Conference on Civil & Architectural Engineering, 26-28 March, Muscat, Oman.

V. Book Chapters

- 1. **Al-Mamun, A.** (2017). Pesticide Degradations, Residues and Environmental Concerns. In: Khan, M.S. and Rahman, M.S. (Eds). Pesticide Residue in Foods: Sources, Management, and Control, Springer, New York. ISBN 978-3-319-52683-6, pp. 87-102.
- Pandit, S., Jadhav, D. A., & Al-Mamun, M.A., & Fosso-Kankeu, E. (2019). Sediment Microbial Fuel Cell for Wastewater Treatment: A New Approach. Nano and Bio-Based Technologies for Wastewater Treatment: Prediction and Control Tools for the Dispersion of Pollutants in the Environment, 303-337. John Wiley. ISBN 9781119576945 (ePDF) | ISBN 9781119577058 (ePub) | ISBN 9781119577096 (hardcover).

RECENT PROFESSIONAL DEVELOPMENT ACTIVITIES

- 1. Workshop on "Demonstration of MFC-fueled autonomous robot, EcoBot II" by by Prof. Ioannis Ieropoulos & Dr. Maria Jose Salar & Dr. Pavlina Theodosiou, Okinawa Institute of Science and Technology, Japan, Oct 7-11, 2019.
- 2. Workshop on "Electricity driven carbon capture and utilisation: where is microbial electrosynthesis?" by Korneel Rabaey, Universidade NOVA de Lisboa, 3rd Oct, 2017.
- 3. Workshop on "Fundamentals of electrochemical methods and microbial thermodynamics" by Dr. Falk Harnisch, Universidade NOVA de Lisboa, 3rd Oct, 2017.
- 4. Workshop about how to use "Turnitin Software" by Mr. Robert Mc Mullin, Sultan Qaboos University, Muscat, Oman, 23 Oct, 2016.
- 5. SQU RSA Water Research and Agri-Biotechnology Researcher workshop, Sultan Qaboos University, Muscat, Oman, 23-24 Feb 2016.
- 6. Patent Search Workshop. Sultan Qaboos University, Muscat, Oman, 30th Nov. 2015.
- 7. Workshop on Modeling and Simulation software for fluid flow, Sultan Qaboos University, Oman, Nov 5, 2015.
- 8. Modeling and simulation of microbial electro-chemistry, Biodesign institute, Arizona State University, USA, 1st Oct, 2015.
- 9. Workshop on "Creating significant learning through integrated course design" By Dr. Stewart Ross (Minnesota State Mankato), Sunday, September 9, 2018 at Sultan Qaboos University.
- 10. Workshop on "Preparing Effective Practitioners and Responsible Citizens for the 21st Century" by Prof. Nicos J. Mourtos, San Jose State University. Organized by Sultan Qaboos University, Oman, 18th May, 2017.
- 11. Workshop on "Critical thinking skills for the 21st century" by Prof. Nicos J. Mourtos, San Jose State University. Organized by Sultan Qaboos University, Oman, 16th May, 2017.
- 12. How to Teach Engineering Students Process Skills. SQU, Muscat, Oman, 26-28 May 2015.