

CURRICULUM VITAE
SHAKHAWAT CHOWDHURY, P.ENG.(ONT., CAN)
B.S.C. (ENG), M.ENG., PH.D.

PROFESSOR, DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS, DHAHRAN 31261, SAUDI ARABIA
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CITATION: http://scholar.google.com/citations?hl=en&user=bMUQgzYAAAAJ&view_op=list_works&sortby=pubdate

EDUCATION

- 2009 **Ph. D. in Civil (Environmental) Engineering**
Queen's University, Kingston, Ontario, Canada
Thesis: Development of model-based methodology with application to risk-based decision-making for selecting water treatment and disinfection approach
Completion: 2009
- 2004 **M. Eng. in Civil (Environmental) Engineering**
Memorial University of Newfoundland, St. John's, Newfoundland, Canada
Thesis: Decision support system for produced water discharges in offshore operations
Completion: 2004
- 1993 **B. Sc. in Civil Engineering**
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
Project: Re-strengthening of damaged structure using ferrocement
Completion: 1993

RESEARCH INTERESTS

- Water and Wastewater Treatment and Emerging Pollutants
- Disinfection Byproducts (DBPs) in Supply Water, Swimming Pools and Desalinated Water
- Removal of Heavy Metals from Drinking Water and Wastewater Using Bio-Technology
- Human Exposure, Risk Analysis and Risk Control
- Multicriteria Decision Making for Water and Wastewater Treatment Selection
- Treated Wastewater Reuse, Effects of Climate Change

RESEARCH COORDINATION

- Coordinator, Water Research Group, KFUPM, Saudi Arabia: 2015– 2018
- Permanent Member, Water Research Group, KFUPM, Saudi Arabia 2011 – 2015

PROFESSIONAL MEMBERSHIPS

- Professional Engineers Ontario (PEO), Canada: 2007 – Present
- Res'EAU Waternet, Canada: 2010 – 2011
- The Institution of Engineers, Bangladesh (IEB): 2000 – Present

NATIONALITY

Canadian

HIGHLIGHTS

Coordinator, Water Research group, Deanship of Scientific Research, KFUPM (2015-2018)

Chair, Program Assessment Committee for ABET, Civil and Environmental Engineering, KFUPM

Published **101** peer-reviewed articles (**65** Refereed Journals) and **02** patents

Well cited with **Citations = 1650+; and h-index =20**

Involved in the University, National and Client Funded projects

Adviser, MS and PhD Candidates

Average of students' teaching evaluations: **8.94 (7.73-9.97)** on a scale of 0-10

Experienced in both academic and consulting environments

ACADEMIC AND RESEARCH APPOINTMENTS

- 2019 (10) – till date** **Professor**
Department of Civil and Environmental Engineering, King Fahd University of Petroleum and Minerals (KFUPM), Dhahran 31261, KSA
- 2015 (05) – 2019 (10)** **Associate Professor**
Department of Civil and Environmental Engineering, King Fahd University of Petroleum and Minerals (KFUPM), Dhahran 31261, KSA
- 2010 (09) – 2015 (05)** **Assistant Professor**
Department of Civil and Environmental Engineering, King Fahd University of Petroleum and Minerals (KFUPM), Dhahran 31261, KSA
- 2011 (07) – 2011 (08)** **Visiting Researcher**
Faculty of Engineering and Applied Science, Memorial University of Newfoundland, St. John's, NL, Canada, A1B 3X5
- 2009 (08) – 2010 (08)** **Post-Doctoral Researcher**
Centre de Recherche en Aménagement et Développement (CRAD), École supérieure d'aménagement du territoire, Université Laval, Québec, QC, Canada
- 2009 (04) – 2009 (08)** **Post-Doctoral Researcher**
Department of Civil Engineering, University of Toronto, Toronto, Canada
- 2005–2009** **Research and Teaching Assistant**
Department of Civil Engineering, Queen's University, Kingston, Canada
- 2004-2005** **Research Assistant and Environmental Laboratory Instructor**
Faculty of Engineering & Applied Science, Memorial University, St. John's, Canada
- 2002-2004** **Research and Teaching Assistant**
Faculty of Engineering & Applied Science, Memorial University, St. John's, Canada

CONSULTING/APPOINTMENTS

- 2007 (09) – 2009 (08)** **Consultant (Part-time position)**
EnviroRisk International Inc.
36 Pearson St., St. John's, NL, Canada, A1A 3R1
- 1995 (04) – 2001 (08)** **Assistant Engineer**
Local Government Engineering Department
The Ministry of Local Government, Rural Development and Cooperatives
Sher-e- Bangla Nagar, Dhaka, Bangladesh
- 1993 (10)- 1995 (04)** **Structural Design Engineer**
Sthapati Shanshad Ltd
Dhanmondi, Dhaka, Bangladesh

MAJOR ACADEMIC AND RESEARCH AWARDS

2010-2012	NSERC Post-Doctoral Fellowship, The Natural Sciences and Engineering Research Council of Canada (NSERC): (Partially availed)
2009-2010	Centre de Recherche en Aménagement et Développement (CRAD) Research Funds, Université Laval, Québec
2006-2009	Alexander Graham Bell Canada Graduate Scholarship (CGS - D3), The Natural Sciences and Engineering Research Council of Canada (NSERC)
2005-2009	Queen's Graduate Award, Queen's University
2006-2008	Conference Award, Queen's University (3 times)
2006-2007	Ontario Graduate Scholarship (OGS), Ontario Government, Canada (Declined)
2005-2006	Ontario Graduate Scholarship in Sci. & Technol. (OGSST), Canada

FUNDED PROJECTS

PERIOD	TITLE AND INVOLVEMENT	FUNDING AGENCY	AMOUNT (SAR)
2013-2015	Model-Based Exposure and Risk Analysis for Disinfection Byproducts in Swimming Pool (TL) [Completed]	EXTERNAL (King Abdulaziz City for Science and Technology (KACST))	1.810 Million
2012-2014	Multi-Criteria Decision-Making for the Selection of Drinking Water Treatment Technology (TL) [Completed]	EXTERNAL (KACST)	1.480 Million
2011-2014	Management of water resources for sustainable development of the Kingdom of Saudi Arabia (TL) [Completed]	INTERNAL (UNIVERSITY)	0.470 Million
2011-2014	Effects of climate change on water resources in Saudi Arabia (TL) [Completed]	INTERNAL (UNIVERSITY)	0.450 Million
2013-2016	Selecting dam locations for maximizing rainwater harvesting in Saudi Arabia (TL) [Completed]	INTERNAL (UNIVERSITY)	0.880 Million
2013-2016	Flood modeling using WMS software: A Case study of Hafer Al-Batin city, Eastern Province, Saudi Arabia (TM) [Completed]	INTERNAL (UNIVERSITY)	0.520 Million
2015 - 2018	Implications of Climatic Change on Virtual Water Content for Cattle Farms in Saudi Arabia (TL) [Completed]	INTERNAL (UNIVERSITY)	0.375 Million

ON-GOING PROJECTS

PERIOD	TITLE AND INVOLVEMENT	FUND. AGENCY	AMOUNT (SAR)
2017-2019	Removal of Arsenic from Drinking Water Using Alginate Based Adsorption Media in the Point of Use (PoU) Filtration Technology (TL)	INTERNAL (UNIVERSITY)	0.43 Million
2015-2018	Effects of water stagnation in plumbing system on human health risk from heavy metals in tap water (TL)	INTERNAL (UNIVERSITY)	0.450 Million
2016 - 2019	Grafted Poly(Trimesoyl chloride-co-Alkyl/aromaticdiamine) on porous carbons for water and wastewater treatment (TM)	INTERNAL (UNIVERSITY)	0.300 Million
2017-2018	Preparation and Evaluation of Synthetic Polymeric Composite Membrane for the Removal of Metal	INTERNAL (UNIVERSITY)	0.250 Million

ions from Water and Waste Water (TM)

CLIENT FUNDED PROJECTS:

PERIOD	TITLE AND INVOLVEMENT	FUND. AGENCY	AMOUNT (SAR)
2010-2012	Technical Review of Water and Groundwater Resources at Az- Zabirah Mine Site (TM) [Completed]	EXTERNAL (Ma'aden Aluminum Company)	0.150 Million
2012-2014	Power and water demand forecasting model development (TM) [Completed]	EXTERNAL (Saudi Aramco)	0.390 Million
2017-2018	Environmental Impact Assessment of the Pristine and Pulse Programs: Terrestrial Environment. [CEW 2482] (TM)	Beacon Development Company, KAUST, Thuwal	3.50 Million
2018-2019	Marjan field development for offshore oil and gas facilities (CEW 2489)	EXTERNAL (Saudi Aramco)	
2018-2019	Replacement of pipelines in BRRI Field (CEW 2556)	EXTERNAL (Saudi Aramco)	
2018-2019	Installation of four SSS slipover jackets, decks, associated pipelines and cables in the Safaniya oil field (CEW 2505)	EXTERNAL (Saudi Aramco)	
2018-2019	The Marjan TP -10 and Associated Facilities development (CEW 2526)	EXTERNAL (Saudi Aramco)	
2018-2019	Vapor handling facilities at Ras Tanura Islands (CEW 2525)	EXTERNAL (Saudi Aramco)	

SELECTED RESEARCH PROJECTS AND OBJECTIVES

Removal of Arsenic from Drinking Water using Alginate Based Adsorption Media in the Point of Use (PoU) Filtration Technology (Duration: 2019-2021; Role: Team Leader)

- o Develop nano-alumina (Al_2O_3) and iron (Fe) impregnated alginate adsorbents using different levels of Al_2O_3 and Fe.
- o Evaluate performance of the adsorbents through lab. experiments by varying arsenic concentrations in deionized water.
- o Optimize the adsorbent media through binary mixture for the best arsenic removal performance
- o Develop the point-of-use (PoU) low-cost alginate based filtration technology using the binary mixture of the adsorbents

Removal of Lead (Pb) from Drinking Water using the Low-Cost Activated Carbon (Duration: 2018-2019; Role: Team Leader)

- o Develop activated carbon (AC) from the waste of jute stick (agricultural waste)
- o Optimize performance of the AC in removing Pb from drinking water through acid or alkaline functionalization
- o Perform lab-scale experiments following the Design of Experiment and the column test
- o Optimize the dose, pH, temperature and reaction time for the best performance
- o Develop water treatment filters using the new materials

Disinfection Byproducts (DBPs) in Desalinated and Blend water: Human Exposure and Risk Analysis (Duration: 2016-2018; Role: Team Leader)

- o Investigate occurrences of DBPs in desalinated and blend water at different stages of desalination
- o Analyze shift of DBPs from chlorinated to brominated and iodinated DBPs in bromide and iodide rich seawater.
- o Investigate the effects of groundwater on the formation and distribution of brominated and iodinated DBPs in blend water

- Investigate the effects of seawater intrusion on the formation and distribution of brominated DBPs in drinking water
- Perform human exposure and risk analysis from DBPs in supply water in the coastal regions

Effects of Water Stagnation in Plumbing System on Human Health Risk from Heavy Metals in Tap Water (Duration: 2015-2018; Role: Team Leader)

- Investigate occurrences of heavy metals in drinking water at different locations in Al-Khobar, Saudi Arabia.
- Perform bench scale experiments by varying water temperature, pH, chlorine content, water flow rate and contact time. The interaction effects of these factors will be explained through factorial design;
- Develop models for heavy metal discharges from water distribution networks into drinking water.
- Investigate the effects of water stagnation in the premise plumbing on heavy metal concentrations in drinking water.
- Develop low-cost technology based point of use (PoU) device for removal of heavy metals from drinking water.

Multi-Criteria Decision-Making for the Selection of Drinking Water Treatment Technology (Duration: 2012-2014; Role: Team Leader)

- Investigated variability of HPC and OP bacteria, and DBPs in drinking water in the WDS, PP and HWT;
- Developed and validated models for bacteria regrowth and DBPs formation in WDS, PP and HWT
- Predicted human exposure and risk from DBPs in municipal water; and
- Developed and applied multicriteria decision-making framework to select the best approach for water treatment and disinfection.

Model-Based Exposure and Risk Analysis for Disinfection Byproducts in Swimming Pool (Duration: 2013-2015; Role: Team Leader)

- Investigated occurrences and variability of DBPs, and parameters affecting formation and distribution of DBPs in water entry point, tap water feeding swimming pool and swimming pool (CSP) water and air prior to and after swimming;
- Developed models to predict DBPs in the CSP through explaining the correlation structure and significance of parameters;
- Investigated bromide conversion into brominated DBPs in swimming pool;
- Analyzed human exposure to DBPs, risks and financial burden from exposure through incorporating multiple pathways.
- Developed approaches to reduce human inputs into swimming pools

Selecting Dam Locations for Maximizing Rainwater Harvesting in Saudi Arabia (Duration: 2013-2016; Role: Team Leader)

- Explained the rainfall variability, patterns, trends and identified the scopes of runoff collection.
- Identified the locations of new dams to collect surface runoff and estimated the runoff using the Watershed Modeling System (WMS) software and hydrologic models
- Estimated the cost savings and carbon emission reduction through using surface runoff as an alternative to desalinated seawater
- Estimated crop water requirements and water losses during the agricultural activities.

Management of Water Resources for Sustainable Development of the Kingdom of Saudi Arabia (Duration: 2011-2014; Role: Team Leader)

- Investigated available resources of water and demands in various sectors.
- Developed the frameworks for reusing treated wastewater in agriculture and partial fulfilment of domestic demands
- Investigated the effects of climate change on water resources and water quality parameters in dam reservoirs
- Developed models for optimization of water resources and demands for multi-source multi-user scenarios

SELECTED RESEARCH SEMINARS (EXCLUDING CONFERENCES)

- Mar 2019** *Disinfection Byproducts in Swimming Pool, Chemical risk and Control Strategy, The 8th Int. Conference on Swimming Pool and Spa, 18-22 March, 2019, Marseille, France (**Keynote Speaker**)*
- Apr 2017** *Desalinated and Blended Water in Saudi Arabia: Human Exposure and Risk Analysis from Disinfection Byproducts. University of Sharjah, Sharjah, UAE*
- Apr, 2016** *Modeling and Control of Disinfection Byproducts in Drinking Water and Swimming Pool, University of Western Ontario, Canada*
- Feb, 2016** *Pollution Prevention: Development of Strategic Framework, Memorial University of Newfoundland, Canada*
- Nov 2011** *Multicriteria decision-making for selecting the best processes of water treatment and disinfection, Auckland University, NZ*
- Mar 2010** *Disinfection byproducts in drinking water: Risk-Based Decision-Making, American University of Sharjah, UAE*
- Jan 2010** *Multicriteria decision making for selecting the best approaches for water treatment and disinfection. Department of Environmental Health Sciences, University of Massachusetts – Amherst, MA*

TEACHING EXPERIENCE

COURSES DEVELOPED AND TAUGHT

King Fahd University of Petroleum and Minerals, Dhahran, KSA (2010-2015)

COURSE NUMBER	COURSE TITLE
CE 201	Engineering Mechanics: Statics
CE 230	Fluid Mechanics
CE 330	Introduction to Environmental Engineering
CE 318	Numerical & Statistical Methods in Civil Engineering
CE 410	Senior Design Project Preparation
CE 473	Design of Water/Wastewater Treatment Plant
CE 531 (Graduate)	Advanced Engineering Hydrology
CE 591 (Graduate)	Advanced Topics in Water Resources and Environmental Engineering
CE 639 (Graduate)	Risk Analysis in Water Resources and Environmental Systems
CE646 (Graduate)	Water Quality Modeling

Université Laval, Québec City, QC, Canada (2009-2010)

COURSE NUMBER	COURSE TITLE
AME 65840	Env. Risk Analysis for Plann. and Regional Dev. II (Grad)

TEACHING HISTORY AT KFUPM 3 YEARS)

2018-2019 (F)	CE 201 (1-2)	28+31	*UG	3
	CE 399	52	*UG	
2017-2018 (W)	CE 201 (7)	22	*UG	3
	CE 591	8	*G	2+3 (Lab)
2017-2018 (F)	CE 201 (1)	37	*UF	3
	CE 201 (2)	24	*UG	3
	CE 646	6	*G	3
2016-2017 (W)	CE 230 (1)	32	*UF	3
	CE 230 (2)	14	*UG	3
2016-2017 (F)	CE 201 (05)	35	*UG	3
	CE 591	04	*G	3
2015-2016 (W)	CE 230	29	*UG	3
	CE 646	6	*G	3
	CE 410	16	*UG	1
2015-2016 (F)	CE 410	14	*UG	1
	CE 646	7	*G	4
	CE 201 (8)	24	*UG	3

COURSE COORDINATION

Senior Design Project Preparation	2013 – 2016
Summer Training Program	2016-2018

SUPERVISING EXPERIENCE (ADVISOR)**GRADUATE**

	STUDENT'S NAME	DEGREE	UNIVERSITY	THESIS
2017-2021	Imran Chowdhury	Ph.D.	KFUPM	Removal of Arsenic using Nano-Alumina (Al ₂ O ₃) and nano zero valence iron (nZVI) impregnated Alginate Adsorbents
2015-2017	Fayzul Kabir	M.Sc.	KFUPM	Modeling Leaching of Heavy Metals from Water Distribution Systems, Plumbing Pipes and Hot Water Tanks
2014-2016	Imran Rahman Chowdhury	M. Sc.	KFUPM	Disinfection Byproducts in Desalinated and blended water: Human Exposure and Risk Analysis
2014-2017	Muhaimin Fahmi	M. Sc.	KFUPM	Selecting Dam Locations for Maximizing Runoff Collection in the South-Western Region of Saudi Arabia
2013-2015	Ammar Musa	M. Sc.	KFUPM	Multi-Objective Optimization Model for Water Resources Management in Saudi Arabia
2011-2013	Abdullah Abbas Abdo	M. Sc.	KFUPM	Implications of Climate Change on Crop Water Requirements in Saudi Arabia

UNDERGRADUATE

	STUDENT'S NAME	DEGREE	UNIVERSITY	PROJECT
2014-15	Osama Zugaiby	Undergraduate	KFUPM	Qaseem University Project
2013-14	Abdullah Al-Shaer	Undergraduate	KFUPM	Aliya Plaza Project
2011-12	Al-Adi Saad Mugbel	Undergraduate	KFUPM	Modeling and Analysis of Water Distribution System Using EPANET
	AL-Shehri, Ahmed Mohammed	Undergraduate (Design Project)	KFUPM	Design of Water Tank for Meridian Hotel, Al-Khobar, Saudi Arabia

THESIS AND EXAM COMMITTEE (MEMBER)

GRADUATE

	STUDENT'S NAME	DEGREE	UNIVERSITY	THESIS/PROJECT
2015-17	Waqas Akram Cheema	PhD	Denmark Technical University (DTU), Denmark	UV & ozone treatments for disinfection by-products in swimming pool water
2014-16	Tarig Mohammed	M.Sc.	KFUPM	Analyzing Spatial Distribution of Rainfall in Saudi Arabia using the Satellite Data
2014-16	Al-Areeq Ahmed	M.Sc.	KFUPM	Flood Modeling for the City of Hafr Al-Batin, Saudi Arabia
2012-14	Hussain Taleb Ammar	M.Sc.	KFUPM	Water Hammer modelling and analysis for Khobar-Dammam water transmission ring line
2012-2013	Alhaji Bashir Labaran	M.Sc.	KFUPM	Removal of some pollutants using TiO ₂ and photo catalyst
2012-2014	Amin Abo Monasar	Ph.D. Comp.	KFUPM	Optimizing Water Distribution Networks for Al-Khobar, Saudi Arabia
2009-2010	Christelle Legay	Ph.D. (Env. Engineering)	Université Laval	Development of Methodologies for evaluation of the exposure of population to chlorination by products

UNDERGRADUATE DESIGN PROJECT COORDINATION

	TOTAL STUDENTS	DEGREE	UNIVERSITY
2015-16	24	Undergraduate	KFUPM
2014-15	17	Undergraduate	KFUPM
2013-14	18	Undergraduate	KFUPM
2012-13	09	Undergraduate	KFUPM
2011-12	03	Undergraduate	KFUPM

ACADEMIC COMMITTEE WORKS

STANDING

- Program Assessment Committee for ABET/NCAAA (2017 - Present), **Chairman**
- Senior Design Project for Undergraduate Students (2013-2016), **Chairman**

- Program Assessment Committee for ABET (2010-2016), Member
- Graduate Admission Committee (2013-2016), Member
- Undergraduate Committee (2013-2014), Member
- Faculty Hiring Committee (2012-2013), Member
- Departmental Assessment Committee (2012-2013), Member
- Text Book Committee (2010-2012, 2016-2017), Member
- Teaching and Learning Committee (2012-2013), Member

AD-HOC

- Lab Safety Committee (2018-2018), **Chairman**
- Students' Scientific Conference Committee (2013-2014), **Chairman**
- Active Learning Committee (2012-2013), Member
- Departmental Research Evaluation Committee (2012-2013), Member
- TA Work Assignment Committee (2011-2012), **Chairman**
- Text book Selection for 'CE 312: Introduction to Civil Engineering' course (2012-2013), Chairman

REVIEWER FOR JOURNALS

- *Environmental Science & Technology* (2013-2016; 10 papers)
- *Water Research* (2011-2016; 14 papers)
- *Journal of Water and Health* (2015-2016: 3 papers)
- *Science of the Total Environment* (2010-2016: 13 papers)
- *Environmental Research* (2015-2016: 1 paper)
- *Water Environment Research* (2013-2015: 6 papers)
- *Journal of Environmental Management* (2009 - 2015: 4 papers)
- *Water Quality Research Journal of Canada* (2008, 2016: 6 paper)
- *Analytica Chimica Acta* (2008: 1 paper)
- *Desalination* (2011- 2015: 9 papers)
- *Journal of Water Supply: Research and Technology* (2009, 2013-2014: 9 papers)
- *Water Resources Management* (2013-2016; 4 papers)
- *Journal of Ozone Science* (2010: 1 paper)
- *Human and Ecological Risk Assessment* (2012-2014: 4 papers)
- *Environmental Monitoring and Assessment* (2011-2016: 10 papers)
- *Journal of Hazardous Materials* (2008, 2009, 2014-2016: 8 papers)
- *Journal of Environmental Engineering – ASCE* (2012-2014: 4 papers)
- *Arabian Journal of Science and Engineering – AJSE* (2013-2015: 7 papers)

CONSULTING/INDUSTRIAL EXPERIENCE

- (a) **Consultant (Part-time position)**, EnviroRisk International Inc., 36 Pearson St., St. John's, NL, Canada, A1A 3R1 (2007-2009)

- Performed outfall dilution analysis using CORMIX hydrodynamic model and predicted water pollution in the Arabian Gulf from crude oil spill. Estimated human health risks from such pollution through food chain.
- Estimated the changes in the climatic parameters in Saudi Arabia for the year 2050.
- Predicted the effects of climate change on water resources and agricultural water demands in Saudi Arabia

(b) Assistant Engineer, Local Government Engineering Department, The Ministry of Local Government, Rural Development and Cooperatives, Sher-e- Bangla Nagar, Bangladesh (1995-2001)

- Worked with communities and involved communities in the participatory development projects
- Served for Bangladesh Government with the focus of rural development and poverty alleviation
- Constructed dual purpose dams for flood protection and agricultural water supplies
- Performed “Environmental Impact Analysis (EIA)” for infrastructural development projects
- Monitored arsenic contamination of ground water and identified the vulnerable zones
- Practiced rain water harvesting as an alternative source of water in the arsenic contaminated areas

(c) Structural Design Engineer, Sthapati Shanshad Ltd, Dhanmondi, Dhaka, Bangladesh (1993-1995)

- Structural design of bridge, culvert, dams and retaining walls
- Design of multi-storied residential buildings and bungalows

HIGHLIGHTED PUBLICATIONS

LIST OF PATENTS

- **Zahir, H., Alhooshani K.R. and Chowdhury S. 2018.** Host-Guest Extraction of Toxic Heavy Metal Ions with p-t-butylcalix[8]arene from Ammonia or amine Solutions. KFUPM Ref no.: 2018-083 (*In process: Filed for US Non-Provisional*)
- **Aziz MA, Chowdhury S, Mazumder MAJ and Chowdhury I., 2019.** Preparation of highly porous carboxylated activated carbon from jute stick. (Applied for patent)

LIST OF SELECTED 20 PAPERS [FULL LIST AT THE END]

1. Aziz MA, Chowdhury IR, Mazumder MAJ and **Chowdhury S***. 2019. Highly porous carboxylated activated carbon from jute stick for removal of Pb²⁺ from aqueous solution. *Environmental Science and Pollution Research* (DOI: 10.1007/s11356-019-05556-6; Accepted on May 22, 2019).
2. **Chowdhury S***. 2019. Disinfection byproducts in desalinated and blend water: Formation and control strategy. *Water & Health* 17 (1): 1-25 (doi: 10.2166/wh.2018.204)
3. **Chowdhury S***, Kabir F., Mazumder M.A.J. and Zahir M.H., 2018. Modeling Lead Concentration in Drinking Water of Residential Plumbing Pipes and Hot Water Tanks. *Science of the Total Environment* 635: 35-44
4. M Zahir, **Chowdhury, S.**, Aziz, ma, Rahman, MM. 2018. Host–Guest Extraction of Heavy Metal Ions with pt-Butylcalix [8] arene from Ammonia or Amine Solutions. *Int. J. of Analytical Chemistry*
5. Kabir F., **Chowdhury S***., Mazumder M.A.J., Zahir M.H. and Alhooshani K., **2018.** Effects of Plumbing Premise on the Occurrences and Variability of Heavy Metals in Desalinated and Blended Tap Water. *Desalination and Water Treatment* 107: 257-271
6. **Chowdhury, S. 2018.** Water quality degradation in the sources of drinking water: an assessment based on 18 years of data from 441 water supply systems, *Environ Monit Assess* 190: 379. <https://doi.org/10.1007/s10661-018-6772-6>

7. Kabir F. and **Chowdhury S***, 2017. Arsenic removal methods for drinking water in the developing countries: technological developments and research needs. **Environ Sci Pollut Res**: 24:24102–24120
8. **Chowdhury S***, Mazumder MAJ, Al-Attas O and Husain T. 2016. Heavy metals in drinking water: Occurrences, implications, and future needs in developing countries. **Sci. of the Total Environment** 569–570: 476–488
9. **Chowdhury S***, Mazumder M.A.J. and Husain T., 2016. Predicting bromide incorporation in a chlorinated indoor swimming pool. **Environmental Sci. and Pollution Research** 23:12174–12184
10. **Chowdhury S.**, 2015. Effects of plumbing systems on human exposure to disinfection byproducts in water: A case study. **Journal of Water and Health** 14(3): 489-503
11. **Chowdhury S.**, Alhooshani, K., and Karanfil, T., 2014. Disinfection Byproducts in Swimming Pool: Occurrences, Implications and Future Needs, **Water Research** 53: 68-109
12. **Chowdhury S.**, 2014. N-Nitrosodimethylamine (NDMA) in food and beverages: A comparison in context to drinking water. **Human and Ecological Risk Assessment** 20: 1291-1312)
13. **Chowdhury S.**, 2013. Exposure assessment for trihalomethanes in municipal drinking water and risk reduction strategy. **Science of the Total Environment** 463-464: 922–930
14. **Chowdhury S.**, Rodriguez M. and Sadiq R., 2011. Disinfection byproducts in the Canadian Provinces: Associated cancer risks and medical expenses. **Journal of Hazardous Materials** 187: 574-584
15. **Chowdhury S.**, Rodriguez MJ. Sadiq R. and Serodes J., 2010. Modeling DBPs formation in drinking water in residential plumbing pipes and hot water tanks. **Water Research** 45(1): 337-347
16. **Chowdhury S.**, Rodriguez M. and Serodes J., 2010. Model development for predicting changes in DBPs exposure concentrations during indoor handling of tap water. **Sci. of the Total Environment** 408(20): 4733-4743
17. **Chowdhury S.**, Champagne P. and McLellan P.J., 2010. Investigating effects of bromide ions on trihalomethanes and developing model for predicting bromodichloromethane in drinking water. **Water Research** 44(7): 2349-2359
18. **Chowdhury S.** Champagne P. and McLellan P. J., 2009. Models for predicting disinfection byproducts (DBPs) formation in drinking waters: A chronological review. **Science of the Total Environment** 407(14): 4189-4206
19. **Chowdhury S.**, Champagne P. and McLellan P. J., 2009. Uncertainty characterization approaches for risk assessment of DBPs in drinking water: A review. **Journal of Environmental Management** 90(5): 1680-1691
20. Chowdhury S. and Champagne P., 2009. Risk from exposure to trihalomethanes during shower: Probabilistic assessment and control. **Science of the Total Environment** 407(5): 1570-1578

FULL LIST OF PUBLICATIONS

(a).FULL LIST OF PUBLICATIONS

(I) LIST OF PATENTS

- Zahir, H., Alhooshani K.R. and **Chowdhury S.** 2018. Host-Guest Extraction of Toxic Heavy Metal Ions with p-t-butylcalix[8]arene from Ammonia or amine Solutions. **KFUPM Ref no.: 2018-083 (In process: Filed for US Non-Provisional)**
- **Aziz MA, Chowdhury S, Mazumder MAJ and Chowdhury I., 2019.** Preparation of highly porous carboxylated activated carbon from jute stick. (Applied for patent)

(II). RESEARCH/REVIEW PAPERS

Peer Reviewed Journal Papers (Accepted/Published)

1. Chowdhury IR, **Chowdhury, S.** and Al-Suwaiyan MS., 2019. Human exposure and risk of trihalomethanes during continuous showering events. **Science of the Total Environment** (Accepted for publication)
2. **Chowdhury, S.**, Mazumder MAJ, Alhooshani, K. and Al-Suwaiyan MS., 2019. Reduction of DBPs in synthetic water by indoor techniques and its implications on exposure and health risk. **Science of the Total Environment** 691, 621-630
3. **Chowdhury, S.**, Chowdhury, IR, Kabir, F., Mazumder MAJ, Zahir, MH and Alhooshani, K., 2019. Alginate-based biotechnology: A review on the arsenic removal technologies and future possibilities. **Journal of Water Supply: Research and Technology – AQUA** 68 (6): 369-389
4. Aziz MA, Chowdhury IR, Mazumder MAJ and **Chowdhury S.** 2019. Highly porous carboxylated activated carbon from jute stick for removal of Pb²⁺ from aqueous solution. **Environmental Science and Pollution Research**, 26:22656–22669
5. **Chowdhury S.** 2019. Disinfection byproducts in desalinated and blend water: Formation and control strategy. **J. Water & Health** 17 (1): 1-25
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