

Curriculum Vitae

Muhammad Abu Bakar
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AREAS OF SPECIALIZATION

Analytical Chemistry, Particularly in the analysis and treatment of water.

AREAS OF RESEARCH INTEREST

Physical, chemical, and biological treatment processes of water as well as development of methods for detecting and treating contaminants. Phytochemical Screening and Evaluation of Pharmacological activities.

CURRENT POSITIONS

2017/July – Present Senior Scientific Officer, Phytochemistry Research Division,
BCSIR Laboratories, Chattogram.

PREVIOUS POSITIONS

2011/July - 2017/July Scientific Officer, BCSIR Laboratories, Chattogram.
2006/July - 2011/July Research Chemist, BCSIR Laboratories, Chattogram.
2005/July - 2006/June Executive, Pacific Jeans Ltd (Washing Plant), CEPZ, Chattogram.
2004/Aug - 2005/April Lecturer (MPO-3010089), Feni South-East College, Fazilpur, Feni.

EDUCATIONAL BACKGROUND

2000 M.Sc, Dept. of Chemistry, Chattogram College, Chattogram.
1999 B.Sc (Hons), Dept. of Chemistry, Chattogram College, Chattogram.
1995 HSC, Science, Govt. Hazi Muhammad Mohsin College, Chattogram.
1993 SSC, Science, Jafor Nagor A/C High School, Sitakunda, Chattogram.

PUBLICATIONS

- 2022 Ecological risks of heavy metals on surficial sediment of Nijhum Dweep (Island), an important biodiversity area of Bangladesh, Mahfuzur Rahman , Jerin Saima , Sabrina Akhter Rima , Md. Imam Sohel Hossain , Delip K. Das , Muhammad Abu Bakar , Mohammad Abdul Momin Siddique, *Marine Pollution Bulletin* 179 (2022) 113688
- 2022 Pollution evaluation and health risk assessment of heavy metals in the surface water of a remote island Nijhum Dweep, northern Bay of Bengal, Mahfuzur Rahman a,* , Sabrina Akhter Rima, Subrota Kumar Saha, Jerin Saima , Md. Sabbir Hossain, Tamisra Nath Tanni, Muhammad Abu Bakar, Mohammad Abdul Momin Siddique , *Environmental Nanotechnology, Monitoring & Management* 18 (2022) 100706
- 2021 Insights into the nutritional properties and microbiome diversity in sweet and sour yogurt manufactured in Bangladesh, S. M. Rafiqul Islam¹, Afsana Yeasmin Tanzina, , Md Javed Foysal, M. Nazmul Hoque, Meheadi Hasan Rumi, A. M. A. M. Zonaed Siddiki, Alfred Chin-Yen Tay, M. Jakir Hossain, Muhammad Abu Bakar, Mohammad Mostafa & Adnan Mannan*. *Scientific Reports*, | (2021) 11:22667, www.nature.com/scientificreports| <https://doi.org/10.1038/s41598-021-01852-9>,
- 2021 Evaluating the Physicochemical and Antimicrobial Properties of Soybean Oil in Consort with Spectral and Heavy Metal Content Available in Chattogram, Bangladesh, Farjana Showline Chaity¹, Saiful Islam, Md Abu Bakar, Sreebash Chandra Bhattacharjee and Md Sahab Uddin*, *International Journal Of Chemical Sciences, Research* |Vol-19, Iss-6 July-2021
- 2020 Optimization of mixed peels from banana, carrot and apple to develop high fiber biscuit. Nahidur Rahman, Md. Borhan Uddin, Md.Fahad Bin Quader, Muhammad Abu Bakar. *International Journal of Natural and Social Sciences*, 2020, 7(1): 21-25.
- 2020 Physiochemical and Microbiological Analysis of Drinking Water in Chattogram City, Bangladesh. Kanij Fatema Nishan, Nilufa Yeasmin, Urmi Rani Devi, Sumiya Akter, Md. Abu Bakar and Md. Mozibul Haque. *Asian Journal of Advanced Research and Reports*. 12(2): 42-50, 2020.
- 2019 A simple system to detect and measure formalin in fruit by using conductivity, pH and capacitance measurement. MD.Shahidul Islam, MD.Mehrub Hasan, Ainul Anam Shahjamal Khan, Muhammad Abu Bakar. *Carpathian Journal of Food Science and Technology* 2019,11(3), 86-93.
- 2019 Temporal Variation of Water Quality Parameters of the Dhanu River, Bangladesh. Md Ashrafur Kabir, Muhammad Abu Bakar, Md. Simul Bhuyan, Barna Goswami. *Journal of Water Technology and Treatment Methods*. 2 issue 1, 2019,
- 2019 Monitoring and assessment of heavy metal contamination in surface water and sediment of the Old Brahmaputra River Bangladesh. Md. Simul Bhuyan, Muhammad Abu Bakar, Md. Rashedun Nabi, Venkatramanan Senapathi, Sang Yong Chung, Md. Shafiqul Islam. *Applied Water Science* (2019) 9:125

- 2019 Heavy Metals and Essential Elements in Poultry Feeds in Chittagong, Bangladesh. Md Ashrafal Kabir, Md. Simul Bhuyan, Sujan Kanti Das, Muhammad Abu Bakar. American-Eurasian Journal of Toxicological Sciences 11 (1): 11-20, 2019
- 2018 Water Quality Assessment Using Water Quality Indicators and Multivariate Analyses of the Old Brahmaputra River. Bhuyan, M.S.*, Bakar, M.A., Sharif, A.S.M., Hasan, M. and Islam, M.S. Pollution, 4(3): 481-493, Summer 2018.
2017. Assessment of water quality in Halda River (the Major Carp Breeding Ground) of Bangladesh. Bhuyan, M.S.and Bakar, M.A. Pollution, 3(3): 429-441, Summer 2017
- 2017 Assessment of water quality of the lower Meghna river estuary using multivariate analyses and RPI. Sharif A. S. M, Bakar M. A, and Bhuyan M. S. International Journal of Chemistry, Pharmacy & Technology Vol. 2, No.2, pp-57-73, 2017
- 2017 Industrial pollution and its effects on fish in Bangladesh: A review. Md. Simul Bhuyan, Muhammad Abu Bakar, Md. Enamul Hoque, Sharif ASM, Md. Shafiqul Islam. Indian Journal of Science, 2017, 24(90), 46-57
- 2016 Water hyacinth (*Eichhornia crassipes*) fractions potentially normalize the lead (Pb) poisoning and enhance in vitro thrombolysis. A. M. Abu Ahmed, Sarowar Jahan Khan, Nipun Mojumder, Farjana Sharmin, Atiar Rahman, Muhammad Abu Bakar, J.M. Kamirul Hasan Chowdhury, Mohammad Ali Azadi. Oriental Pharmacy and Experimental Medicine, pp 1–11, October, 2016
- 2016 Study of arsenic accumulation in rice and evaluation of protective effects of *Chorchorus olitorius* leaves against arsenic contaminated rice induced toxicities in *Wistar albino* rats. Saeed Mohammed Imran Hosen, Rupkanowar Kobi, Dipesh Das, Dil Umme Salma Chowdhury, Md. Jibran Alam, Bashudev Rudra, Muhammad Abu Bakar, Saiful Islam, Zillur Rahman, *Mohammad Al-Forkan. BMC Pharmacology and Toxicology (2016) 17:46
- 2016 Protective effects of *Butea monosperma* against arsenic contaminated rice induced toxicity. Saeed Mohammed Imran Hosen, Rupkanowar Kobi, Dipesh Das, Dil Umme Salma Chowdhury, Md. Jibran Alam, Bashudev Rudra, Muhammad Abu Bakar, Saiful Islam, Zillur Rahman, *Mohammad Al-Forkan. Canadian Journal of Pure and Applied Sciences, Vol. 10, No. 2, pp. 3873-3881, June 2016
- 2016 Assessment of physicochemical parameters with its effects on human and aquatic animals giving special preference to effective management of Turag River. Mohammad Nurul Azim Sikder, Shohid Mohammad Saidul Huq, Md. Addullah Al Mamun, Kazi Arshadul Hoque, Md. Simul Bhuyan, Muhammad Abu Bakar, IOSR Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT). Volume 10, Issue 3 Ver. I (Mar. 2016), PP 41-51
- 2016 Heavy Metals Status in Some Commercially Important Fishes of Meghna River, Adjacent to Narsingdi District, Bangladesh: Health Risk Assessment, Md. Simul Bhuyan, Muhammad Abu Bakar, Aysha Akhtar, Md. Shafiqul Islam, American Journal of Life Sciences, 2016; 4(2): 60-70

- 2013 Estimation of heavy metals and microbiological quality of locally manufactured herbal products in Bangladesh. A. J. M. Morshed, Muhammad Abu Bakar, Faridul Islam and Reaz Md. Mazumdar,. Hamdard Medicus ,Vol. 56, No. 4, (October-December), 2013
- 2013 Heavy Metals In Water, Sediment And Some Fishes of Karnofuly River, Bangladesh. Pollution Research Paper, F. Islam , M. Rahman , S.S.A. Khan , B. Ahmed , A. Bakar And M. Halder, Vol.32, Issue 04, 2013; Page No.(715-721)
- 2013 Screening of Chloramphenicol residue in chicken and fish in Chittagong City of Bangladesh. M.A. Bakar, A.J.M. Morshed, F. Islam and R. Karim, Bangladesh Journal of Veterinary Medicine, Vol. 11(2), 173-175, 2013
- 2013 Heavy Metals Concentration at Different Tannery Wastewater Canal of Chittagong City in Bangladesh. Islam S., Islam F. *, Bakar M. A., Das S., Bhuiyan H. R. International Journal of Agriculture, Environment & Biotechnology. IJAEB: 6(3): 344-350 August 2013 .
- 2013 Evaluation of Essential and Toxic metals in Bakery Foods Consumed in Chittagong (Bangladesh). Jewel Das, Suman Das, Md. Abu Bakar, Apollo Biswas and Monir Uddin. Analytical Chemistry, An Indian Journal, ACAIJ, 13(3) 2013 [118-125]
- 2012 Antidiabetic and antioxidant effect with phytochemical screening of ethanol extract of *Saurauia roxburghii*. Faridul Islam*, Md. Saidur Rahman, Rasheda Akter, Muhammad Abu Bakar, A. M. Abdullah and Nazim Uddin Ahmed , The Pharmascience Monitor. PP 2601-2612, 2012
- 2012 Assessment of Heavy Metals Concentration in Selected Some Medicinal Plants Collected from BCSIR, Chittagong Cultivation Area in Bangladesh. Muhammad Abu Bakar, Sreebas Chandra Bhattacharjee , Hamdard Medicus Vol. 55, No. 3 (July-September), 26-32, 2012
- 2011 Anti-microbial effect of *Terminallia arjuna* bark extract against *Salmonella sp.* isolated from the poultry litter of rural area of Chittagong. Bangladesh . S. Islam, M. A. Kabir, H. R. Bhuiyan, M. N. Mahmud, M. N. Nipa, M. A. Bakar, and S. M. Masum. J Sci. Ind. Res. 46(2), 147-152, 2011
- 2011 Studies on Minerals of Vegetables available at Chittagong City in Bangladesh. Md. Abu Bakar, Saiful Islam, A.M. Abdulla. Electronic Journal of Environmental, Agricultural and Food Chemistry, 10(6), 2011 [2365-2370]
- 2010 Study of Pollution Level of Four Canals of Chittagong City. Md. Abu Bakar, Taimur Reza, Saiful Islam, Md. Alamgir Kabir, Habibur R Bhuiyan . Journal of Subtropical Agricultural Research and Development. 8(1), [755-758], February 2010
- 2009 Pollution Level and Monthly Fluctuation of Pollution- A Study of Waste Water of Chittagong City, Bangladesh. Taimur Reza, Md. Abu Bakar, Saiful Islam and Habibur R Bhuiyan. Electronic Journal of Environmental, Agricultural and Food Chemistry; 9(1): 234-238, 2009

CONFERENCE PROCEEDINGS

- 2010 Study of Heavy Metals Concentration in Different Canals of Chittagong City. Saiful Islam, Md Abu Bakar*, Habib R. Bhuiyan and Alamgir Kabir, Bangladesh Chemical Congress-2010, 10-12 December - 2010 . Organized by- Jahangirnagar University, Savar, Dhaka, Bangladesh.
- 2014 Screening of Chloramphenicol residue in chicken and fish in Chittagong City of Bangladesh , M.A. Bakar*, A.J.M. Morshed, F. Islam and R. Karim, 36th Conference of Bangladesh Chemical Society, 01- 02 March, 2014, Organized by- Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200, Bangladesh.

LIST OF R&D PROJECTS

- 2022-2023 Development of Portable Detection Kits for Ammonia, Iron and Sulfide Test in Water. (Project Leader)
- 2020-2021 Development of Bio-Coagulant from Jackfruit Common Bean for Waste Water Treatment. (Project Leader)
- 2019–2020 Development of herbal preparations / fractions from *Gynura procumbens* and *Coccinia cordifolia* for diabetes management. (Research Associate)
- 2016–2017 Products development from natural rubber latex. (Research Associate)
- 2013–2014 Quantification of pesticides and their residues in crops, fruits and vegetables available at different zone in Bangladesh. (Project Leader)
- 2010–2012 Studies on toxic metals in medicinal plants as well as herbal drugs (Project Leader)
- 2010–2012 Chemical and biological investigation of marker compound from *Saurauia roxburghii* for quality control and standardization of herbal drugs. (Research Associate)

TRAINING/ WORKSHOP INFORMATION

- 29-31 Aug 2022 Understanding Training Course on ISO/IEC 17025:2017, BAB, Dhaka
- 24-28 Oct 2021 Calibration of Length, Mass, Weighing Balance, Temperature, Pressure and Volume Measuring Equipment, NML, BSTI, Dhaka.
- 24-26 Sep 2019 Training Course on Method Validation and Traceability, BAB, Dhaka
- 12 July-09 Sep 2015 Training on Special Foundation training at PATC, Savar, Dhaka
- 27 - 30 April 2014 Training on ISO 17025 at BCSIR laboratories, Chattogram. Conducted by UNIQ SDN. BHD. UKM, Malaysia.
- 03 -07 Feb 2014 Training on LCMSMS, GCMS at USM, Malaysia
- 14-17 May 2013 Training on LCMS at Shimadzu (Asia Pacific) Pte Ltd. Singapore

13- 18 Oct 2012 Training on AAS at Dhaka University, Organized by NITUB
22 -26 April 2012 Training on LIMS at BCSIR, Chattogram, Conducted by Kurt Krikava, Thermo
Fisher Scientific. Philadelphia, PA 19102

ADDITIONAL CONTRIBUTIONS AND RESPONSIBILITY

I co-supervised the theses work of more than 20 M.Sc. and B.Sc. students and I am the
Technical Manager for achieving ISO/IEC 17025-2017 accreditation of BCSIR Chattogram
Laboratories from 13.12.2021

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