



CURRICULUM VITAE

SHAKILA AKTER

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CONTACT DETAILS

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WORK EXPERIENCES

2011- Present: **Senior Scientific officer**, INARS, Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh.

2006 - 2011: **Scientific officer**, Analytical Research Division, Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh.

ACADEMIC QUALIFICATION

Master of Philosophy (M.Phil)

Institution : Jahangirnagar University, Bangladesh
Major in : Organic Chemistry
Year of Completion : 2011

Thesis title: "Anti-diabetic Principles from *Moringa oleifera* Lam. (Sajna), a medicinal plant of Bangladesh."

Master of Science (M.Sc)

Institution : National University, Bangladesh
Major in : Chemistry
Academic Result : First class 7th
Year of Completion : 2005

Bachelor of Science (B.Sc.)

Institution	: National University, Bangladesh
Major in	: Chemistry
Academic Result	: First class 19 th
Year of Completion	: 2003

SELECTIVE STUDIED SUBJECTS IN M.Phil, M. Sc and B.Sc (Hon's) COURSES:

1. Chromatographic & other separation techniques 2. Organic Spectroscopy 3. Organic Synthesis 4. Natural Products Chemistry 5. Chemical Spectroscopy-I & II Applications 6. Analytical Chemistry 7. Environmental Chemistry 8. Inorganic Chemistry 9. Industrial Chemistry 10. Physical & Electro Chemistry

RESEARCH ACHIEVEMENTS**Research and development**

1. To conduct present research projects on Analytical Chemistry, Organic Chemistry and Environmental Chemistry
2. To conduct research projects on identification and quantification of organic pollutants/contaminants & harmful pesticide residues in food, water, fish, soil, fruits and vegetables in Bangladesh environment.
3. Fingerprint analysis of some selected Bangladeshi medicinal plants using TLC, GC, GC-MS, HPLC, NMR and LC-MS profiling.
4. Isolation, structure elucidation and Identification of various known and unknown organic compounds by chromatographic and spectroscopic studies.
5. To provide analytical services to various government and private organization, universities covering study and identification of chemical compounds, fine chemicals, waste and industrial chemicals, industrial products.
6. To study the various industrial problems.
7. To develop methods and validation of methods.
8. To develop methods and validation of methods as per laboratory standard ISO/IEC 17025:2005.

Laboratory Quality System

All tasks related to Quality management system (Quality Manual, Quality System procedures, Internal audit and management review, Internal training, Corrective Action, preventive action, complaints etc) to maintain the existing accreditation and to extend the scope of the field of accreditation according to the laboratory standard ISO/IEC 17025:2005. It is noted that INARS, BCSIR Laboratories has obtained accreditation from BAB, Bangladesh on 74 water quality parameters.

PUBLICATIONS

1. Mohammad Majedul Haque, Md. Rashed Hasan, **Shakila Akter**, Md. Khabir Uddin Sarker, Shamima Akther Eti and Shahin Sultana: Phytochemical Screening, Proximate

- Composition and Heavy Metals of Camellia Sinensis Leaves. *International Journal of Advanced Research (IJAR)*, Vol. 7(7), pp. 195-201, 2019. **(International)**
2. Md.Aminul Ahsan, Md. Abu Bakar Siddique, Mahbuba Akhter Munni, Md.Ahedul Akbor, **Shakila Akter**, Md. Younus Mia: Analysis of Physicochemical Parameters, Anions and Major Heavy Metals of the Dhaleshwari River Water, Tangail, Bangladesh. *American Journal of Environmental Protection*, Vol. 7(2), pp. 29-39, 2018. **(International)**
 3. J. B. Islam, **S. Akter**, A. C. Bhowmick, M. N. Uddin and M. Sarkar: Hydro-environmental pollution of Turag River in Bangladesh. *Bangladesh Journal of Scientific and Industrial Research (BJSIR)*, Vol. 53(3), pp. 161-168, 2018.
 4. Rexona Khanom, Mohammad Anwar Arfien Khan, Abdul Gafur, **Shakila Akter**, Shamim Ahmed, Mohammad Shahjahan, Mohammad Raqibul Qadir: Synthesis of SnO₂ Nanopowders for Advanced Ceramics and Electronic Sensor Transducer Devices and Characterization and Band Gap. *Nanoscience and Nanometrology*, Vol. 3(1), pp. 12-19, 2017. **(International)**
 5. Md. Younus Mia, Md. Raisul Islam, Nurany Sadia, Rezuana Afrin and **Shakila Akter**: Assessment of Water quality parameters of the Bhairab River: a case study on Shaikh Akij and Family (SAF) Leather Industry, Abhaynagar, Jessore, Bangladesh, *Journal of SUB*, Vol. 6, pp. 64-77, 2016.
 6. Md. Younus Mia, Md. Imran Sarkar, Khodeza Khatun, Rezuana Afrin, **Shakila Akter** and Ashraful Azam Khan: Nutrients and Pollutants removed efficiency of Phytoremediation process using Lettuce (*Pistia stratiotes*) and Water Hyacinth (*Eichhornia crassipes*), *SUB Journal of Sustainable Environment and Development*, Vol. 1, pp. 41-50, 2016.
 7. M. Sarkar, J.B. Islam, **S. Akter**: Pollution and ecological risk assessment for the environmentally impacted Turag River, Bangladesh. *J. Mater. Environ. Sci.*, Vol. 7(7), pp. 2295-2304, 2016. **(International)**
 8. R. Afrin, M. Y. Mia, M. A. Ahsan, M.A. Akbor, **S. Akter**: Status of Water Pollution in Respect of Physicochemical Parameters and Anions in the Turag River of Bangladesh. *Bangladesh J. Environ. Sci.*, Vol. 28, pp. 113-118, 2015.
 9. R. Afrin, M. Y. Mia, **S. Akter**: Investigation of Heavy Metals (Pb, Cd, Cr, Cu, Hg and Fe) of the Turag River in Bangladesh. *J. Environ. Sci. & Natural Resources*, Vol. 7(2), pp. 133-136, 2014.
 10. M.T.I. Chowdhury, M.A. Razzaque, Nasim Sultana, S.S.B. Mustafiz, **Shakila Akter**, Ayesha Akter and J.A. Mahmud: Chlorinated Pesticide Residue Status in Some Winter Vegetables. *International Journal of Agriculture and Crop Sciences*, Vol. 6-11, pp. 667-675, 2013. **(International)**
 11. **Shakila Akter**, Nasim Sultana, Md. Aminul Ahsan, Shamim Ahmed, Md. Ahedul Akbor, Md. Majedul Haque, Md. N. Ahmed, Md. Shariful Islam and Md. Nur Hossain: Seasonal Variations

- of Some Physicochemical Properties of River Water around Dhaka City. *Jahangirnagar University Journal of Science*, Vol. 36(2), pp. 93-104, 2013.
12. Brazendranath Sarkar, S.M. Abu Raihan, Nasim Sultana, Raquibur Rahman, Mohammad Emdadul Islam, Shamim Ahmed and **Shakila Akter**: Cytotoxic, Antibacterial and Free Radical Scavenging Activity Studies of the Solvent Extracts of Aerial Stems of *Equisetum Debile* Roxb. *Int. J. Chem. Sci*, Vol. 10(1), pp. 19-26, 2012. **(International)**
 13. Farzana Sharmin, A.N.M. Fakhruddin, M. Shahidul Islam, **Shakila Akter**, Md. Aminul Ahsan, M. Mostafa and Halima Momtaz: Removal of Ammonia and Phosphate Pollution from Fertilizer Factory Effluents using Aquatic Macrophytes, *Bangladesh Journal of Environmental Research*, Vol. 10, pp. 59-68, 2012.
 14. Mahfuza S. Sultana, Kulsum U., **Shakila A.** and Islam M. S: Toxic Metal Contamination on the River near Industrial Area of Dhaka. *Universal Journal of Environmental Research and Technology*, Vol. 2, pp. 56-64, 2012.
 15. M.Munsur Rahman, Ayesha Akhter, **Shakila Akter** and Aminul Ahsan: Chemical Analysis of Water Hyacinth (*Eichhornia crassipes*) Based Manure. *Int. J. Sustain. Agril. Tech*, Vol. 8(10), pp. 32-34, 2012.
 16. MD. Al-Amin, Md. Monirul Islam, M. Mahboob Ali Siddiqi, **Shakila Akter**, Shamim Ahmed, Mohammad Majedul Haque, Nasim Sultana, and A.m. Sarwaruddin Chowdhury: Neoandrographolide Isolated from Leaves of *Adhatoda vasica* Nees. *Dhaka University Journal of Science*, Vol. 60(1), pp. 1-3, 2012.
 17. Monirul Islam, Md. Al-Amin, M. Mahboob Ali Siddiqi, **Shakila Akter**, Mohammad Majedul Haque, Nasim Sultana and A.M. Sarwaruddin Chowdhury: Isolation of Quercetin-3-o-beta-d-glucopyranoside from the Leaves of *Azadirachta Indica* and Antimicrobial and Cytotoxic screening of the Crude Extracts. *Dhaka University Journal of Science*, Vol. 60(1), pp. 11-14, 2012.
 18. Momotaz Begum, M.H. Sohrab, Farhana Afroz, **Shakila Akter**, Choudhury M. Hasan and A.M. Sarwaruddin Chowdhury: Phytochemical Investigations on the Leaves of *Jatropha curcas*. *Dhaka University Journal of Science*, Vol. 59(1), pp. 61-63, 2011.
 19. Mahfuza S. Sultana, Nushrat Jahan, **Shakila Akter** and Mala Khan: Impact of Wastewater and Soil of Fertilizer Production Plant on the Water of the Meghna River. *Bangladesh Journal of Environmental Research*, Vol.9, pp. 17-26, 2011.
 20. **Shakila Akter**, M. Sahidul Islam, Nasim Sutana, M. Aminul Ahsan, Shajahan Siraj, Shamim Ahmed and Md. Ahedul Akbor: Determination of Phosphate in Various Water Samples with Digestion Procedure by UV-Visible Spectrophotometry. *Jahangirnagar University Journal of Science*, Vol. 34(1), pp. 85-94, 2011.
 21. N. Sultana, M.M. Rahman, S. Ahmed, **S. Akter**, M.M. Haque, S. Parveen and S.M. I. Moeiz: Antimicrobial Compounds from the Rhizomes of *Sansevieria hyacinthoides*. *Bangladesh J. Sci. and Ind. Res.* Vol. 46(3), pp. 329-332, 2011.

22. M.A. Akbor, N. Sultana, S. Ahmed, S. Siraj, **S. Akter**: Synthesis, Coordination and Structure of Mixed Ligand Copper (II) Complexes of Di-carboxylic as Primary and Heterocyclic bases as Secondary Ligands. *Jahangirnagar University Journal of Science*, Vol. 33 (1), pp. 139-146, 2010.
23. Md. Ahedul Akbor, Md. Aminul Ahsan, **Shakila Akter**, M.Saidul Islam, Nasrin Akhter and Md. Mkades Hossain: Antimicrobial Studies of Mixed Ligand Transition Metal Complexes of Dibasic Acids with Amine Bases. *Jahangirnagar University Journal of Science* Vol. 32(1), pp. 01-06, 2009.

INSTRUMENTAL EXPERTISE:

I have been working on the following chromatographic and spectroscopic instruments for my daily routine research work. I am able to maintain these systems.

1. Liquid Chromatograph-Mass Spectrometer (LC-MS, Waters Micromass, LCT Premier, KD146, TOF Mass)
2. Gas Chromatography (SHIMADZU GC-2010 Plus & 14B)
3. Gas Chromatograph- Mass Spectrometer (SHIMADZU GCMS-QP 2010 Ultra & 17A)
4. 400 MHz FT-NMR Spectrometer (Bruker AMX400, DPX 400 and JEOL, JNM-LA400)
5. High Performance Liquid Chromatography (HPLC, Shimadzu)
6. UV/Visible Spectrophotometer (Shimadzu)
7. FT-IR spectrometer (Shimadzu)
8. Flame Photometer
9. Atomic Absorption Spectrophotometer (AAS, Varian).
10. Ion Chromatography (Shimadzu)

PROFESSIONAL TRAININGS

1. Participated in the training course on **“Enhancement of Laboratory Skills in Using Quantitative Mass Spectrometry to Analyse Chemicals Related to the Chemical Weapons Convention (CW-QMS)”** organized by Organisation for the Prohibition of Chemical Weapons (OPCW) held at Helsinki, Finland from 11-22 September, 2017.
2. Participated in the training course on **“Operating System and Maintenance of Liquid Chromatography Mass Spectrometer (LCMS-MS)”** organized by Bangladesh Council of Scientific and Industrial Research (BCSIR) held at Dhaka, Bangladesh from 18-20 April, 2017.
3. Participated in the training course on **“Basic Analytical Chemistry Course for Women Chemists”** organized by Organisation for the Prohibition of Chemical Weapons (OPCW) held at The Hague, The Netherlands from 18th May 2016 to 20th May 2016.
4. Participated in the training course on **“Fluorescence Detector and Fraction Collector Operation and Maintenance”** organized by Shimadzu Asia Pacific Pte. Ltd, held at Singapore from 10th July 2014 to 10th July 2014.
5. Participated in the training course on **“Principles and Operation of HPLC/UHPLC with**

Labsolutions Workstation” organized by Shimadzu Asia Pacific Pte. Ltd, held at Singapore from 08th July 2014 to 09th July 2014.

6. Participated in the training course on **“Operating System and Maintenance of Energy Dispersive X-Ray Florescence (ED-XRF)”** organized by Bangladesh Council of Scientific and Industrial Research (BCSIR) held at Dhaka, Bangladesh from 21-22 January, 2014.

7. Participated in the training course on **“Operating System and Maintenance of Inductively Coupled Plasma Mass Spectrometry (ICP-MS)”** organized by Bangladesh Council of Scientific and Industrial Research (BCSIR) held at Dhaka, Bangladesh from 02-04 April, 2013.

8. Participated in the training course on **“Operating System and Maintenance of LC-MS-MS”** organized by Bangladesh Council of Scientific and Industrial Research (BCSIR) held at Dhaka, Bangladesh from 07-09 May, 2012

9. Participated in the training course on **“Shimadzu FTIR & its Application on Scientific Experiment”** organized by AQ Chowdhury Science & Synergy (pvt.) Ltd. held at Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh from 17-28 April, 2011.

10. Participated in the training course on **“Operating System and Maintenance of Fourier Transform Infrared Far Infrared Spectrophotometer (FTIR & FTFIR)”** organized by Bangladesh Council of Scientific and Industrial Research (BCSIR) held at Dhaka, Bangladesh from 29-30 September, 2010.

11. Participated in the training course on **“Atomic Absorption Spectrophotometer (DUO) & its Accessories”** organized by VARIAN Co. Ltd., held at BCSIR, Dhaka, Bangladesh, March, 2009.

12. Participated in the workshop on **“Chemical and Biological Studies of Bioactive Plant Materials”** organized by Asian Network of Research on Antidiabetic Plants (ANRAP), held at BTHS, BCSIR and BIRDEM, Dhaka, Bangladesh from 31 December 2011-03 January 2012.

13. Participated in the workshop on **“Treatment of Water and Wastewater”** organized by Institute of Chemists and Chemical Technologists, Bangladesh (ICCTB), Bangladesh Chemical Society (BCS), held at Dhaka University, Dhaka, Bangladesh from 20-22 June 2014.

TRAINING ON LABORATORY QUALITY MANAGEMENT SYSTEM: ISO/IEC 17025:2005

I have attended and successfully completed following practical training and online training sessions:

1. Participated in the training course on **“Laboratory Quality system, Management and Internal Audit”** ISO 17025:2005, Indian Institute of Quality management (IIQM), Jaipur, India, from 05-08 January, 2010.

2. Completed the online training on **‘Laboratory Internal Calibration’** to learn better management and implementation an ISO/IEC 17025-conformant quality system, conducted by Canadian Association for Environmental Analytical Laboratories (CAEAL), from 21

April to 2 May, 2008.

3. Completed the online training on **‘Explain Uncertainty to my Clients’** to learn better management and implementation an ISO/IEC 17025-conformant quality system, conducted by Canadian Association for Environmental Analytical Laboratories (CAEAL), from 25 March to 4 April, 2008.

4. Completed the online training on **‘Investigation of Non-Conformances Through Root Cause Analysis’** to learn better management and implementation an ISO/IEC 17025-conformant quality system, conducted by Canadian Association for Environmental Analytical Laboratories (CAEAL), from 25 February to 14 March, 2008.

5. Completed the online training on **‘Care and Feeding of a Laboratory quality system’** to learn better management and implementation an ISO/IEC 17025-conformant quality system, conducted by Canadian Association for Environmental Analytical Laboratories (CAEAL), from 28 January to 22 February, 2008.

SYMPOSIUM/ CONFERENCES/ WORKSHOPS ATTENDED

1. Participated in the Symposium on **“Environmental Chemistry for Securing Water Quality”** organized by Bangladesh Journal of Scientific and Industrial Research (BJSIR), held at BCSIR, Dhaka, Bangladesh, 30 July 2017.

2. Participated in the International Conference on **“Engineering Materials and Metallurgical Engineering”** organized by Bangladesh Council of Scientific and Industrial Research (BCSIR), held at Dhaka, Bangladesh from 22-24 December 2016.

3. Participated in the International Symposium on **“Women in Chemistry”** organized by Organisation for the Prohibition of Chemical Weapons (OPCW) held at The Hague, The Netherlands 17 May 2016.

4. Participated in the International Conference on **“16th Asian Chemical Congress”** Bangladesh Chemical Society (BCS), held at Bangladesh University of Engineering Technology (BUET), Dhaka, Bangladesh from 17-18 March 2016.

5. Participated in the workshop on **“Treatment of Water and Wastewater”** organized by Institute of Chemists and Chemical Technologists, Bangladesh (ICCTB), Bangladesh Chemical Society (BCS), held at Dhaka University, Dhaka, Bangladesh from 20-22 June 2014.

6. Participated in the workshop on **“Chemical and Biological Studies of Bioactive Plant Materials”** organized by Asian Network of Research on Antidiabetic Plants (ANRAP), held at BTHS, BCSIR and BIRDEM, Dhaka, Bangladesh from 31 December 2011-03

January 2012.

SCHOLARSHIPS/FELLOWSHIPS AWERDED

- 1 Primary Government Scholarship-First Grade, Sponsored by Dhaka Board under the Education Ministry, Bangladesh.
- 2 Junior Government Scholarships-First Grade, Sponsored by Dhaka Board under the Education Ministry, Bangladesh.
- 3 Government Board Scholarship-Dhaka Board under the Education Ministry, Bangladesh.
- 4 University Own Scholarship-National University.
- 5 University Own Scholarship -Jahangirnagar University.
- 6 NSICT Fellowship for M.Phil (3 years) from Science and Technology Ministry of Bangladesh.

MEMBERSHIP

- 1 Bangladesh Chemical Society (BCS), Bangladesh
- 2 Scientists Association of BCSIR, Bangladesh