



## MD. ABU BAKAR SIDDIQUE

### Scientific Officer

Inorganic Analytical Research division, Institute of National Analytical Research and Services (INARS), Bangladesh  
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#### Academic Qualifications

<b>Master of Philosophy (M.Phil.) in Analytical and Nano chemistry</b>	2018
Department of Chemistry, BUET, Dhaka, Bangladesh.	
<b>Master of Science (M.S.) in Inorganic Chemistry with Thesis</b>	2008
Department of Chemistry, University of Chittagong, Chittagong, Bangladesh.	
<b>Bachelor of Science (Hon's) in Chemistry</b>	2007
Department of Chemistry, University of Chittagong, Chittagong, Bangladesh.	

#### Professional Experience

<u>Year</u>	<u>Position and Organization</u>
01 April 2013 – Present	<b>Scientific Officer</b> Bangladesh Council of Scientific and Industrial Research (BCSIR), Ministry of Science and Technology, Government of the People's Republic of Bangladesh.

#### Professional Training

1. Participated and successfully completed the Training Course on “**Nanotechnology**” at Dr. M. N. Dastur School of Materials Science and Engineering, Indian Institute of Engineering Science and Technology (IEST), Shibpur, West Bengal, India, during June 18 to 08 July, 2018.
2. Attended and successfully completed the Training Course on “**Environmental Issues of Project Management**” conducted by National Academy for Planning and Development (NAPD), Ministry of Planning of the People's Republic of Bangladesh, Nilkhet, Dhaka, Bangladesh during 06-10 May, 2018.
3. Attended the Training Course on “**Method Validation, Traceability, External and Internal Quality Control programme**” conducted by Bangladesh Accreditation Board (BAB), Dhaka, Bangladesh during 09-10 March, 2016 at Ministry of Industries, 91, Motijheel C/A, Dhaka-1000.
4. Attended and successfully completed the “**Lead Assessor Training Course on ISO/IEC 17025:2005-General Requirements for the competence of Testing and Calibration Laboratories**” conducted by Bangladesh

Accreditation Board (**BAB**), Dhaka, Bangladesh during 04-08 December, 2016 at Ministry of Industries, 91, Motijheel C/A, Dhaka-1000.

4. Participated and successfully completed the Training Course on "The use, maintenance and trouble-shooting of High Performance Liquid Chromatography (**HPLC**)" organized by **NITUB** during 24-29 August, 2013 at Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh.

5. Attended and successfully completed the Training Course on "The use, maintenance and trouble-shooting of Ultra-Violet, Visible and Infrared Spectrophotometer (**UV-VIS and IR**)" organized by **NITUB and BCSIR** during 08-13 September 2018 at Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh.

6. Attended and successfully completed the **evening** Training Course on "**Introduction to SPSS**" conducted by National Academy for Planning and Development (**NAPD**), Ministry of Planning of the People's Republic of Bangladesh, Nilkhet, Dhaka, Bangladesh during 10-30 June, 2019.

## Administrative Training

1. "**1<sup>st</sup> Foundation Training course, BCSIR**" organized by Bangladesh Civil Service Administration Academy (**BCSAA**), Shahbagh, Dhaka, Bangladesh during 03 August to 02 October, 2014.

## Research Activities

**Research interest:** Inorganic, Analytical, Environmental and Nano chemistry.

**Ongoing Research and Development Projects:** "Removal of heavy metals from polluted water using low cost adsorbent materials".

**M.S. Thesis Title:** Studies of some Schiff base complexes of magnesium (II) and oxovanadium (V).

**M.Phil. Thesis Title:** Electrochemical capacitive properties of synthesized nanostructured manganese oxides-graphene composites.

**Number of student's thesis supervision:** M.Sc. Thesis-13

## Publications

**Total Publications:** 19

**Google Scholar Link:** <https://scholar.google.com/citations?user=WG9ekGMAAAAJ>

**ResearchGate Link:** [https://www.researchgate.net/profile/Md\\_Siddique12/contributions](https://www.researchgate.net/profile/Md_Siddique12/contributions)

**ORCID identifier is:** 0000-0001-7947-1910

**Web of Science Researcher ID:** Z-5052-2019

## Published Abstract in Conference: 09

1. Shamsun Naher, Ajit mallik, Abdus Samad, **Md. Abu Bakar Siddique**, and Md. Aminul Ahsan, "Determination of the concentration of inorganic nutrients of salinity and non-salinity affected area of Bangladesh", *16<sup>th</sup> Asian Chemical Congress 2016 (March 16-19)*, Serial no. 25, Code EN-PP-013.

2. Anwarul Azim, **Md. Abu Bakar Siddique** and Shakhawat H. Firoz, "A starch assisted facile method for the preparation of iron-manganese based binary oxides in nano scale", *16<sup>th</sup> Asian Chemical Congress 2016 (March 16-19)*, Serial no. 74, Code NM-PP-009.

3. D. A. Chowdhury, M. J. Ahmed, M. H. Uddin, M. Rubel, M. F. Islam and **A. B. Siddique**, "An assessment of physicochemical characteristics of surface water quality of greater Chittagong region of Bangladesh", *16<sup>th</sup> Asian Chemical Congress 2016 (March 16-19)*, Serial no. 74, Code EN-OP-021N.
4. **Md. Abu Bakar Siddique\***, Aninda Nafis Ahmed, M. A. Gafur, Md. Mominul Islam and Shakhawat H. Firoz. Capacitive Properties of Nanostructured Manganese Oxides Synthesized by Gel formation Method (OPB1, Day 1) held at Nabab Nawab Ali Chowdhury Senate Bhaban, University of Dhaka, organized by Bangladesh Chemical Society during 17-19 October, 2018.
5. D. A. Chowdhury, M. J. Ahmed, M. H. Uddin, M. Rubel, M. F. Islam and **A. B. Siddique**. An assessment of physicochemical characteristics of surface water quality of greater Chittagong region of Bangladesh. Bangladesh Chemical Congress 2018 (OPA3, Day 1) held at Nabab Nawab Ali Chowdhury Senate Bhaban, University of Dhaka, organized by Bangladesh Chemical Society during 17-19 October, 2018.
6. Tanjina Ferdushy, **Md. Abu Bakar Siddique\***, Md. Younus Mia, Shahriar Bashir, Md. Abdul Gafur, Md. Ahedul Akbor and Md. Aminul Ahsan. Synthesis, Characterization and Application of EDTA-functionalized Graphene Oxide-Chitosan Based Nanocomposite for Chromium Removal from Contaminated Water. International Conference on Advancement of Life Sciences 2019, organized by Faculty of Science, Mawlana Bhashani. Science and Technology University (MBSTU), Tangail, Bangladesh on 05-06 April 2019.
7. Md. Saddam Hossain, **Md. Abu Bakar Siddique\***, Md. Ahedul Akbor, Md. Aminul Ahsan, Md. Younus Mia. Quality Assessment in terms of Heavy Metals, Anions and Physicochemical Parameters of *Dhaleshwari* River Water in Bangladesh with Water Quality Indices. International Conference on Advancement of Life Sciences 2019, organized by Faculty of Science, Mawlana Bhashani. Science and Technology University (MBSTU), Tangail, Bangladesh on 05-06 April 2019.
8. Mir Talas Mohammad Diganta, A.S.M Saifullah, **Md. Abu Bakar Siddique**, Mohammad Mostafa, Md. Shemul Sheikh and Muhammad Jasim Uddin. Mangrove macroalgae as bio-indicators for biomonitoring of metal contamination in the estuarine ecosystem of Bangladesh. International Conference on Advancement of Life Sciences 2019, organized by Faculty of Science, Mawlana Bhashani. Science and Technology University (MBSTU), Tangail, Bangladesh on 05-06 April 2019.
9. A. K. M. Royhan Uddin, **Md. Abu Bakar Siddique\***, Farjana Rahman, A. K. M. Atique Ullah, Rahat Khan. *Cocos nucifera* leaf extract mediated green synthesis of silver nanoparticles for enhanced antibacterial activity. Bangladesh. Bangladesh Chemical Society Conference-2019, organized by Department of Chemistry, University of Rajshahi, Rajshahi, Bangladesh on 09-10 November 2019.

### Participation in Seminar/Symposium/Workshop

1. Day-long workshop on **Integrity Practices and Strategy in Public Service Delivery** held at Bangladesh Public Administration Training Centre (**BPATC**) on 05 September 2015.
2. Attended in the symposium on "**Environmental Chemistry for Securing Water Quality**" organized by Bangladesh Journal of Scientific and Industrial Research (**BJSIR**) on 30 July 2017 at BCSIR, Dhaka, Bangladesh.
3. Day-long workshop on "**Revised ISO/IEC 17011:2017 and ISO/IEC 17025:2017 standards**" conducted by Bangladesh Accreditation Board (**BAB**), Dhaka, Bangladesh on 04 January, 2018 at Ministry of Industries, 91, Motijheel C/A, Dhaka-1000.

4. Participated in the “**South Asia Regional Chemical Management Workshop**” held in **Colombo, Sri Lanka**, from 4 to 6 December 2018, sponsored and organized by **Organization for the Prohibition of Chemical Weapons (OPCW)**, Hague, Netherlands.

5. Day-long workshop on **X-Ray Powder Diffraction and Data Analysis** organized by Bangladesh Crystallographic Association (**BCA**) on 27 January 2019 at Centre for Advanced Research in Science (**CARS**), University of Dhaka, Bangladesh.

### Membership in Technical Society

1. Bangladesh Chemical Society (BCS), Life Membership Number-2109.
2. Bangladesh Accreditation Board (BAB) Assessor’s Forum (Assessor ID-16122501).
3. Network of Instrument Technical personnel and User scientists of Bangladesh (NITUB), Life Membership Number-183.

### Instrumental Expertise

**Major:** Atomic Absorption Spectrometer (AAS), Ultra Violet (UV) Visible Spectrometer, Fourier Transform Infrared Spectrometer (FT-IR), Flame Photometer, Elemental Analyzer, Ion Chromatograph (IC), High Performance Liquid Chromatography (HPLC), Gas Chromatography (GC), Gas Chromatography-Mass Spectrometry (GC-MS and GC-MS/MS), Thermogravimetric and Differential Thermal Analyzer (TG/DTA), Nuclear Magnetic Resonance (NMR).

**Minor:** Energy Dispersive X-Ray Florescence (ED-XRF), Liquid Chromatography Mass Spectrometer (LCMS), Potentiometric Titrator with Karl Fischer Unit, X-ray Diffractometer (XRD), FT-Raman Spectroscopy, Wavelength Dispersive X-ray Florescence (WD-XRF), Microwave Plasma Atomic Emission Spectrometer (MP-AES).

### ISO/IEC 17025 Activities

1. Worked in the implementation of ISO/IEC 17025 quality management system.
2. Participated in the proficiency testing (PT) program in the year of 2015 (for one parameter) and 2016 (for 20 parameter) from ERA, A Waters Company, and completed successfully.
3. Participated in the **Surveillance Assessment** of Analytical Chemistry Laboratory, Atomic Energy Centre, Dhaka as a Trainee Technical Assessor (TTA) on 17 August 2017 on behalf of Bangladesh Accreditation Board (BAB), Dhaka, Bangladesh.

### Job Responsibilities

- Research and Development in Inorganic, Analytical, Environmental and Nanochemistry.
- To publish the scientific articles in peer reviewed journals.
- To supervise laboratory technical staffs to conduct commercial sample analysis.
- Maintaining ISO/IEC 17025:2005 accreditation on water quality testing parameters.
- Continual improvement of the laboratory to obtain accreditation for more testing parameters.
- Analysis of samples of research and services by Atomic absorption spectrometer (AAS) for metal content.
- In house Calibration of Atomic absorption spectrometer (AAS), glassware.
- Purchasing traceable standards, chemicals, reagents and consumables.

## Industrial Visit (Home & Abroad)

### Visited and experienced with the production system of:

- Mustafa soybean oil limited, Chittagong.
- Berger paint Bangladesh limited, Chittagong.
- PHP glass industries limited, Chittagong.
- PHP steel industries limited, Chittagong.
- Royal cement industries limited, Chittagong.
- Osmania glass industries, Chittagong.
- F.B. Foot ware limited, Gazipur.
- KAFCO, Chittagong
- Intertek bd Laboratory, Chittagong
- American & Efird Lanka (Pvt) Ltd, Welivita, Kaduwela, **Sri Lanka**.
- Panchagarh Sugar Mills Ltd.
- Kazi & Kazi Tea Estate Limited, Panchagarh.
- Saidabad Water Treatment Plant, Dhaka, Bangladesh.
- Dhaka WASA Bottled Water Production Plant "Shanti".