

SHABIBA PARVIN SHANDHI

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Office: Fiber & Polymer Research Division, BCSIR Laboratories, Dhaka
Bangladesh Council of Scientific and Industrial Research (BCSIR)
Dr. Qudrat-E-Khuda Road, Dhaka 1205, Bangladesh Education

M.Sc. in Organic Chemistry 2017
University of Dhaka, Dhaka, Bangladesh

B.Sc. in Chemistry 2018
University of Dhaka, Dhaka, Bangladesh

Professional Experience

Scientific Officer, November 2021 - Present, Fiber & Polymer Research Division, BCSIR Laboratories, Dhaka, Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh

Lecturer-Chemistry (April 2021- October 2021)
Bangladesh Army University of Science and Technology, Saidpur, Nilphamari, Bangladesh

Technical Skills and Competences

- **ATR-FTIR:** Perkin Elmer FTIR/NIR. **UTM:** model 1410-Titan5, **TGA:** Perkin Elmer, Charpy **Impact Tester:** QPI-IC Universal Charpy/Izod Analogue, **Compression Molding Machine:** Paul-Otto Weber Press Machine, **GC-MS** Perkin Elmer, **HPLC:** Perkin Elmer

Computational Skills

- Origin, Chemdraw, Programming: R(studio)
- Operating Systems: MS Word, Excel, PowerPoint

Research Grants (Selected)

- Principal Investigator: Isolation of bioactive compounds from medicinal plant *Piper chaba* H. (Chuijhal) (2023-2024), BDT 1,00,000
- Principal Investigator: Synthesis of nonionic emulsifiers from fatty acids and polyhydroxy alcohols (2024-2025), BDT 3,00,000
- Associate Investigator: Direct synthesis of reduced graphene oxide for a cost reduction approach (2025-2026), BDT 4,00,000

Publications (Selected)

1. **Shandhi S.P.**; Richi F.T.; et al. Isolation, structure elucidation, and bioactivity evaluation of two alkaloids from *Piper chaba* H. stem: A traditional medicinal spice and its chemico-pharmacological aspects. *Food Sci Nutr.* 2024,12(12):10680–10698.
2. **Shandhi S.P.**; Sikdar K.; Ahmed S.; Khatun M.M.; Nahar A. GC–MS spectroscopic analysis of antimicrobial and antioxidant properties of Bangladeshi spice *Piper chaba* H. stems: A potential natural preservative for food. *Food Chem Adv.* 2025, 9:101127.
3. **Shandhi S.P.** Antioxidant profile and fatty acids analysis of leaves of medicinal plant *Piper chaba* H. (Chuijhal): A promising source of antioxidant and fatty acids. *Vegetos.* 2025, 38(4):1551–1558.
4. **Shandhi S.P.** Nutritional assessment and GC analysis of rice bran and bran oil of North Bengal: A prominent nutritive byproduct. *Food Chem Adv.* 2024, 5:100762.
5. Billah M.M.; **Shandhi S.P.**; Naim M.R.; et al. Effect of surface tension modification in lead ion adsorption from water using different microwave exfoliated graphene from graphite obtained by varying intercalating agent composition. *Surf Interfaces.* 2025:107655.
6. Fatema K.; Akter T.; **Shandhi S.P.**; Sarkar M.K.U.; et al. Physico-mechanical evaluation of benzoyl peroxide-treated water hyacinth reinforced polyvinyl alcohol composites and DFT studies of the reaction of the monomer of cellulose. *Smart Mater Manuf.* 2026, 4:100123.

Conference Presentation

Poster Presentations: BCSIR Congress 2024 & 2022

Thesis Supervision

Supervised two M.Sc. thesis students on topics including polymeric nano-bio-composite, surface properties, and adsorption study.

Professional Members

- The BCSIR Scientists' Association (Biggani Songho)
- Life member of the Dhaka University Chemistry Alumni Association (DUCAA)

Professional Trainings

- Chemical security, CRDFGLOBAL (2022)
- Special foundation training course, NAPD (2022)
- GC-MS/MS Operations. BCSIR Dhaka Lab. (2025)
- Responsible care, American Chemistry Council & KDS, Bangladesh (2025)

Awards

- NST fellowship
- Merit scholarship

References

Available upon request.

Last Updated: 17th February, 2026