

SYED SHAFQUAT MAHMOOD

✉ shafquatmahmood@bcsir.gov.bd ✉ shafquat.mahmood@gmail.com 📞 +8801926833403 📍 Dhaka, Bangladesh

Senior Scientific Officer, Industrial Physics Division

BCSIR Dhaka Laboratories, Bangladesh Council of Scientific & Industrial Research (BCSIR)

Dr. Qudrat-I-Khuda Road, Dhaka-1205, Bangladesh

ORCID ID • LinkedIn

Education

M.Sc. in Physics **2013**

University of Dhaka, Dhaka, Bangladesh

B.Sc. (Hons.) in Physics **2012**

University of Dhaka, Dhaka, Bangladesh

Professional Experience

Senior Scientific Officer **August 2024 – Present**

Industrial Physics Division, BCSIR Dhaka Laboratories Bangladesh Council of Scientific & Industrial Research (BCSIR), Dhaka, Bangladesh

Senior Scientific Officer **May 2023 – August 2024**

Institute of Mining, Mineralogy and Metallurgy (IMMM), BCSIR Bangladesh Council of Scientific & Industrial Research (BCSIR), Dhaka, Bangladesh

Scientific Officer **May 2021 – May 2023**

Institute of Mining, Mineralogy and Metallurgy (IMMM), BCSIR Bangladesh Council of Scientific & Industrial Research (BCSIR), Dhaka, Bangladesh

Scientific Officer **August 2016 – May 2021**

Institute of Energy Research and Development, BCSIR Bangladesh Council of Scientific & Industrial Research (BCSIR), Dhaka, Bangladesh

Technical Skills and Competences

- Material science
- Thin film solar cell
- Dielectric and magnetic materials
- Solar simulation
- Energy storage systems

Skills on Research Tools & Techniques

- **Physical Vapor Deposition Techniques:** Thermal Evaporation, Close Space Sublimation, E-beam Sputtering
- **Chemical Deposition Techniques:** Chemical Bath Deposition, Spin Coating, Dip Coating, Drop Casting Method
- **Advanced Materials Characterization:** Raman, WD-XRF, XRD, FESEM, Four-Point Probe, Hall Effect Measurement, Electrochemical Workstation, Impedance Analyzer
- **Solar Simulation Modelling:** SCAPS

Publications (Selected)

1. Sharmin A, **Mahmood S S**, Sultana M, Shaikh M A A, and Bashar M S. Property enhancement of close-spaced sublimated CdTe thin film by post-growth activation step with CdCl₂ and MgCl₂. *Materials Advances*, **2024**. DOI: 10.1039/D3MA00734K
2. Sharmin A, **Mahmood S S**, Sultana M, Aziz S, Shaikh M A A, and Bashar M S. Effect of argon pressure on the physical characteristics of cadmium telluride (CdTe) thin films by close-spaced sublimation. *Journal of Material Science: Material Electronics*, **2023**, 34, 344. DOI: 10.1007/s10854-022-09603-w
3. Sultana M, Siddika A, **Mahmood S S**, Sharmin A, Tabassum S, Rahaman M and Bashar M S. Fabrication of Cu₂ZnSnS₄ (CZTS) thin films by ultrasonic spray pyrolysis at a low substrate temperature and effect of tin concentration on the characteristics of the CZTS thin films. *Bangladesh Journal of Scientific and Industrial Research*, **2022**, 57(1), 1-6.

Industrial Processes

- M.S. Bashar, Munira Sultana, Ayesha Siddika, **Syed Shafquat Mahmood**. Production of gravity powered lamp. BCSIR Ref. No. 39.02.0000.043.37.821.20/1241; (19 January 2022)
- M.S. Bashar, Munira Sultana, Ayesha Siddika, **Syed Shafquat Mahmood**. A Process of Solar Boat. BCSIR Ref. No. 39.02.0000.043.37.909.22/1332; (22 October 2024)

Conference Presentations (Selected)

- Oral Presentation, BCSIR Congress-2022, BCSIR Campus, Dhaka-1000
- Oral Presentation, BCSIR Congress-2023, BCSIR Campus, Dhaka-1000
- Oral Presentation, ICEPSD-2022, Senate Bhaban, Dhaka University, Dhaka-1000

Professional Trainings

Training on Scientific Instrumentation (Selected)

- Application Training on X-ray Diffractometer (XRD): Techniques, Maintenance and Software Operation, BCSIR, Dhaka, Bangladesh
- Application Training on Wavelength Dispersive X-ray Fluorescence (WD-XRF): Techniques, Maintenance and Software Operation, BCSIR, Dhaka, Bangladesh
- Application Training on BET Sorptometer: Techniques, Maintenance and Software Operation, BCSIR, Dhaka, Bangladesh
- Application Training on Raman Spectroscopy: Techniques and Software operation, BCSIR, Dhaka, Bangladesh
- Application Training on Field Emission Scanning Electron Microscope (FESEM): Techniques, Maintenance and Software Operation, BCSIR, Dhaka, Bangladesh
- Application Training on Electrochemical Workstation with Frequency Response Analyzer: Techniques, Maintenance and Software operation, BCSIR, Dhaka, Bangladesh
- Application Training on Headspace-Gas Chromatographic System (HS-GC-FID/ECD system): Techniques and Software operation, BCSIR, Dhaka, Bangladesh

References

- Available upon request.

Last Updated: 03 March 2026