

Dr. Mohammad Nashir Uddin

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Education

- **Ph.D.** in Chemometrics
Jahangirnagar University, 2016 – Degree awarded for research in Chemometric Modeling and Data Science.
- **M.Sc.** in Statistics (Thesis Group)
University of Dhaka, 1996 (Held 1998) – Achieved First Class standing.
- **B.Sc.** (Honours) in Statistics
University of Dhaka, 1995 (Held 1996) – Secured First Class.
- **Higher Secondary Certificate (H.S.C.)**, *Science Group, Dhaka Board*, 1992 – Obtained First Division.
- **Secondary School Certificate (S.S.C.)**, *Science Group, Dhaka Board*, 1990 – Obtained First Division.

Professional Information

- ❖ **Principal Scientific Officer:** Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhanmondi, Dhaka. December 2019 – Present
- ❖ **Director (Additional Charge):** Planning and Development Division, Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhanmondi, Dhaka. 2 August 2019 – 19 August 2024.
- ❖ **Senior Scientific Officer:** Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhanmondi, Dhaka. August 2011 – December 2019
- ❖ **Scientific Officer:** Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhanmondi, Dhaka. June 2006 – July 2011

Technical Skills and Competences

- **Chemometrics**
- **Design of Experiment**
- **Statistical data analysis**
- **Deep Learning and Machine Learning**

Computational Skills

✚ **Programming:** ✎ MATLAB, ✎ FORTRAN

✚ **Packages for quantitative data analysis:**

✎ CAMO Unscrambler ✎ R
✎ SPSS 24 ✎ STATISTICA
✎ Minitab 22

✚ **Packages for qualitative data analysis:**

✎ ATLAS.ti 9

✚ **Packages for Reference management:**

✎ EndNote7

Publications

55. “Determination of aliphatic and phenolic hydroxyl groups in lignin by chemometric analysis of FTIR spectroscopic data”- **Mohammad Nashir Uddin**, M. Nur Alam Likhon, M. Mostafizur Rahaman, Yangcan Jin, Bo Jiang, M. Tushar Uddin, and M. Sarwar Jahan. *TAPPI Journal* 24(10) :480-490. **2025**
54. “Chemometric Model for Rapid Determination of Syringyl/Guaiacyl Ratio in Non-Wood by FT-NIR Spectroscopic Data”- **M. Nashir Uddin**, Taslima Ferdous, Yangcan Jin, M. Mostafizur Rahman, M. Sarwar Jahan. *Analytical Science Advances*. **2025**
53. “Characterization of glass–ceramic tiles utilizing rice husk ash and waste glass powder as a flux”- Mustafi, S., Yousuf, A., Pinky, N. S., Khanom, R., Mobarak, M. B., & **Uddin, M. N.** *Journal of the Australian Ceramic Society*, 1-12. **2025**
52. “Method for Rapid Determination of Hexeneuronic Acid in Non- Wood Pulp by Multivariate Analysis of FT- NIR Spectroscopic Data”- **Mohammad Nashir Uddin**, Taslima Ferdous, Md. Nur Alam Likhon, Riyadh Hossen Bhuiyan, Yonghao Ni, Md. Mostafizur Rahman, M. Sarwar Jahan, *Journal of Applied Polymer Science*, 2025; 0:e57698, 1-12. **2025**
51. “Tea (*Camellia sinensis*) cultivated in three agro-ecological regions of Bangladesh: Unveiling the variability of methylxanthine, bioactive phenolic compound, and antioxidant activity”. Abdullah, A. T. M., Sayka, M. I., Rahman, M. M., Sharif, M., ahmed Khan, T., Jahan, S., ... **Mohammad Nashir Uddin** & Hoque, M. M. *Heliyon*. 10(7), **2024**
50. “Effect of fibre-quality parameters on pulp properties by using multiple linear regression and artificial neural network”. **Uddin MN**, Likhon Md NA, Rahman Md M, Jahan Md S. *International Wood Products Journal*. 15(2-4), 91-99. **2024**
49. “Unlocking Potential: The role of chemometric modeling in pulp and paper manufacturing”- **Uddin, Mohammad Nashir**, Rahman, M. Mostafizur, Likhon, M. Nur Alam and Jahan, M. Sarwar. *Nordic Pulp & Paper Research Journal*, **2024**.
48. “Leading through innovation: The role of BCSIR in facilitating Small and Medium Enterprises in Bangladesh”, **Mohammad Nashir Uddin**, Shah Abdul Tarique, Md. Aftab

- Ali Shaikh, Muhammad Shoeb-Ur-Rahman. *International Journal of SME Development*, 5: 115-129, **2023**
47. "Trace metal exposure and human health consequences through consumption of market-available *Oreochromis niloticus* (L.) in Bangladesh". Parvin, A., Hossain, M. K., Shahjadee, U. F., Lisa, S. A., **Uddin, M. N.**, Shaikh, M. A. A. and Suchi, P. D. *Environmental Science and Pollution Research*, 30(15): 45398-45413, **2023**
 46. "Optimization of alkali concentration in the pretreatment of sugarcane bagasse for ethanol production". S. M. Asaduzzaman Sujon, M. Hossain, **M. Nashir Uddin** and A. N. M. Fakhruddin, *Bangladesh J. Sci. Ind. Res.* 58(2), 89-98, **2023**
 45. "Sediment-bound hazardous trace metals (oid) in south-eastern drainage system of Bangladesh: First assessment on human health", Islam, F., Parvin, A., Parvin, A., Akhtar, U. S., Shaikh, M. A. A., **Uddin, M. N.**, ... & Hossain, M. K. *Heliyon*, 9(9). **2023**
 44. "Development of methods for quantification of gelatin in vegetable capsule shell and for classification of capsule shell as from vegetable or animal sources by chemometric analysis of FTIR spectroscopic data". Debnath, A., **Uddin, M.N.**, Jahan, R., Rana, A., & Karim, M. (2022). *Bangladesh Journal of Scientific and Industrial Research*, 57(2), 91–98. **2022**
 43. "Evaluation of *Erythrina fusca* Lour. as a pulping raw material". M. Mostafizur Rahman, Esrat Jahan, Jannatun Nayeem, Kazi M. Yasin Arafat, A. K. M. Golam Sarwar, **M. Nashir Uddin** & M. Sarwar Jahan. *International Wood Products Journal.*, 13 (2): 107-114 **2022**
 42. "Non-Wood Fibers: Relationships of Fiber Properties with Pulp Properties" Taslima Ferdous, Yonghao Ni, Mohammad Abdul Quaiyyum, **Mohammad Nashir Uddin**, and Md Sarwar Jahan *ACS Omega*, 6:21613–21622, **2021**
 41. "Chemometric model for rapid detection of urea and hydrogen peroxide in milk". M. Basak, **M. N. Uddin**, R. A. Jahan, A. A. Rana and M. M. Karim. *Bangladesh J. Sci. Ind. Res.* **56(1)**: 1-8, **2021**
 40. "Development of chemometric model for characterization of non-wood by FT-NIR data", **Mohammad Nashir Uddin**, Taslima Ferdous, Zahidul Islam, M. Sarwar Jahan, M.A. Quaiyyum. *Journal of Bioresources and Bioproducts* 5(3):196-203, **2020**
 39. "Study of the Effect of Ethephon Treatment on Proximate Composition of Banana (*Musa Sepientum*) Khondaker Afrina Hoque, Mohammad Sayadur Rahaman, Barunkanti saha, Shah Ekhlumur Reza, **Mohammad Nashir Uddin**, *Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT)* 14 (3): 36-44, **2020**
 38. "Formic acid pulping of crops residues available in Bangladesh". Ferdous, T., Jahan, M.S., Quaiyyum, M.A. **Uddin, M.N.** *Biomass Conv. Bioref.* 10, 289-297, **2020**
 37. "Chemometrics assisted spectrophotometric method for simultaneous determination of paracetamol and caffeine in pharmaceutical formulations". **M. N. Uddin**, A. Mondol, M. M. Karim, R. A. Jahan and A. A. Rana, *Bangladesh J. Sci. Ind. Res.* 54(3), 215-222, **2019**
 36. Prehydrolysis kraft pulping of jute cutting and caddis mixture for rayon production"- Jannatun Nayeem, M Sarwar Jahan, Razia Sultana Popy, **M Nashir Uddin** and M A Quaiyyum. *Nonwood Pulping, TAPPI Journal*, 18(5):287-293, **2019**

35. "Pulpwood Quality of the Second Generation *Acacia auriculiformis*"- Md. Moinul Haque, **M Nashir Uddin**, M A Quaiyyum, Jannatun Nayeem, M Zahangir Alam, M Sarwar Jahan. *Journal of Bioresources and Bioproducts*. 4(2): 77-83, **2019**
34. "Method for predicting lignocellulose components in jute by transformed FT-NIR spectroscopic data and chemometrics"- **Uddin, Mohammad** & Ahmed, Sohan & Ray, Swapan & Islam, Muhammad & Hai Quadery, Ariful & Jahan, Md. *Nordic Pulp & Paper Research Journal*. 10.1515/npprj-2018-0018. **2019**
33. "Rapid determination method of dissolving pulp properties by spectroscopic data and chemometrics"-**Uddin, Mohammad** & Nayeem, Jannatun & Islam, Muhammad & Jahan, Md. *Biomass Conversion and Biorefinery*. 10.1007/s13399-019-00383-8. **2019**
32. "Prediction of viscosity index of motor oils using FTIR spectral data and Chemometrics"- Mohammad Nazmul Hossain, **Mohammad Nashir Uddin**, Mohammad Mainul Karim, Ajoy Kumar Das, Ashequl Alam Rana and Rumana Akter Jahan, *Journal of Scientific & Innovative Research*, 7(2):43-49, **2018**
31. "Development of a chemometric method for the analysis of Sudan III-IV dyes adulteration in chili powder using UV-visible spectroscopic data"- Md Faizul Islam, **Mohammad Nashir Uddin**, Ashequl Alam Rana and Mohammad Mainul Karim. *Journal of Scientific & Innovative Research*, 7(2):30-35, **2018**
30. "Hydro-environmental pollution of Turag river in Bangladesh"- J.B. Islam, S. Akter, A.C. Bhowmick, **M. N. Uddin** and M. Sarkar. *Bangladesh J. Sci. Ind. Res.* 53(3), 161-168, **2018**
29. "Minerals and anionic pollution effects on hydro-environment of Turag river, Bangladesh" J.B.Islam, S. Akter, A.C. Bhowmick, **M. N. Uddin** and M. Sarkar. *Bangladesh J. Sci. Ind. Res.* 53(2), 143-152, **2018**
28. "Development of Method for Rapid Prediction of Chemical Compoments of Dhaincha Using FT-NIR Spectroscopy and Chemometrics"-**M. Nashir Uddin**, Swapan Kumer Ray, M. Saiful Islam, Jannatun Nayeem, M. Sarwar Jahan, *J-FOR Journal of Science & Technology for Forest Products and Processes*, 6(4): 22-28, **2017**
27. "Pectin from ripe peels of mango cultivars". K. Nahar, M. Z. Haque, K. Nada, **M. N. Uddin**, M. Abdullah Al-Mansur, N. Khatun and S. A. Jabin. *Bangladesh J. Sci. Ind. Res.* 52(3), 229-238, **2017**
26. "Assessment of roadside surface water quality of Savar, Dhaka, Bangladesh using GIS and multivariate statistical techniques", Fahad Ahmed, A. N. M. Fakhruddin, MD. Toufick Imam, Nasima Khan, Abu Tareq Mohammad Abdullah,, Tanzir Ahmed Khan, Md. Mahfuzur Rahman, **Mohammad Nashir Uddin**, *Applied Water Science*, Springer, 7:1-17, **2017**
25. "Chemometrics assisted method for classification of mango juice by FTIR spectroscopic data"- **M. N. Uddin**, A. K. Majumder, S. Ahamed, B. K. Saha and B. Mumtaz, *Bangladesh J. Sci. Ind. Res.* 52(2), 73-80, **2017**
24. "Chemometrics Assisted Method for Classification of Mango Juice as Adulterated or Safe with over Use of Artificial Colours by UV Spectroscopic Data"- **Mohammad Nashir Uddin**, Ajit Kumar Majumder, Abu Tareq Mohammad Abdullah, Md. Alamgir Kabir.. *Journal of Food and Nutrition Sciences*. 5(2): 51-56, **2017**
23. "Development of Method for Rapid Quantification of Glucose, Fructose and Sucrose in Mango Juice by Chemometric Techniques in De-noised FTIR Spectroscopic Data"-

- Uddin MN**, Majumder AK, Ahamed S, Saha BK, Motalab M, *Int J Food Sci Nutr Diet.* 6(1): 338-344, **2017**
22. "Variation of chemical characteristics and pulpability of dhaincha (*Sesbania bispinosa*) on location" -Mamon Sarkara, Shrikanta Sutradhara, AKM Golam Sarwar, **M. Nashir Uddin**, Sontosh C. Chanda and M. Sarwar Jahan, *Journal of Bioresources and Bioproducts.* 2(1): 24-29, **2017**
21. "An approach for the use of agricultural by-products through a biorefinery in Bangladesh"- Md. Sarwar Jahan, **Mohammad Nashir Uddin**, AFM Akhtaruzzaman, *Forestry Chronicle* 92(4):447-452, **2016**
20. "Soda pulping of umbrella palm grass (*Cyperus flabettiformis*)"-M. Sarwar Jahana, **M. Nasir Uddin**, Asif Rahman, M. Mostafizur Rahman and M. Nurul Amin. *Journal of Bioresources and Bioproducts.* 1(2): 85-91, **2016**
19. "Simultaneous determination of furosemide and spironolactone in pharmaceutical formulations by spectrophotometric method using principal component regression" -S. S. Israt, **M. N. Uddin**, R. A. Jahan, and M. M. Karim, *Bangladesh J. Sci. Ind. Res.* 51(4), 297-306, **2016**
18. "Simple method for classification of mango varieties on the basis of their physicochemical properties by chemometric techniques"- **M. N. Uddin**, R. Ara, M. Motalab, A. N. M Fakhruddin and B. K. Saha, *Bangladesh J. Sci. Ind. Res.* 51(4), 253-260, **2016**
17. "The effect of three different feed types on growth performance of *Ceriodaphnia reticulata* and *Bosmina* sp. culture as a live fish feed"-M Begum, **MN Uddin**, MM Rahman, N Sultana, *International Journal of Fisheries and Aquatic Studies*, 3(1): 400-405, **2015**
16. "Study of hydrochemistry and pollution status of the Buriganga river, Bangladesh"-M. Sarkar¹, A. K. M. L. Rahman¹, J. B. Islam¹, K. S. Ahmed¹, **M. N. Uddin**, N. C. Bhoumik, *Bangladesh J. Sci. Ind. Res.* 50(2), 123-134, **2015**
15. "Knowledge, Risk Behaviour and Vulnerability to HIV/AIDS among Female Tribal Workers in a Selected Area of Bangladesh", - Mohamad Quamaruzzaman, Mehedi Hasan Khan, **Mohammad Nashir Uddin**, *Central Asian Journal of Medical Science and Education (CAJMSE)*, 1(1): 19-24, **2015**.
14. "Prediction of Compressive Strength of Concrete with a Skewed Pattern Application of Artificial Neural Network Approach"- A. Rahman, M. Hadiuzzaman, Ajit K. Majumder, **M. N. Uddin**, *Journal of Engineering And Technology Research*, 2 (2):70-80, **2014**
13. "Nutritional evaluation of different mango varieties available in Bangladesh"- Ara, R., Motalab, M., **Uddin, M.N.**, Fakhruddin, A.N.M and Saha, B.K., *International Food Research Journal* 21(6): 2169-2174, **2014**
12. "Semi-Pilot Study of the Production of Biomass and β -D-Fructofuranosidase by *Saccharomyces cerevisiae* IFSTBY1111 in a Fed-Batch Fermenter"- Monzur Morshed Ahmed, Md. Fakruddin, Md. Mamunur Rashid, Md. Mohaddis Hossain, **Mohammad Nashir Uddin**, Md. Mozammel Hoque and Md Mahfujul Haques, *Industrial Biotechnology* (Journal of bio-based innovation to drive the global bio-economy), 10(1):47-52, **2014**

11. "Assessment of four different media for the mass culture of *Ceriodaphnia Reticulata* (Jurine) as a live fish feed"- M. Begum, P. Noor, K.N. Ahmed, L.C. Mohanta, N. Sultana, M.R. Hasan and **M.N. Uddin**, *J.Asiat.Soc. Bangladesh,Sci.* 39(2):129-138, **2013**
10. "Maternal Deaths in Bangladesh: Are we getting the right picture?"- Samia Afrin, **Nashir Uddin** and Shireen Huq. *Women's Health and Rights-Advocacy Partnership in South Asia (WHRAP-SA)*,19-23, **2013**
9. "Women's Age at Marriage and its Socio-economic Context in a Rural Area of Bangladesh"-**Mohammad Nashir Uddin**, Mehedia Hassan Khan, *Perspectives in Social Science*, 10:63-74, **2012**
8. "Biomass production of *Jatropha curcas* L., a comparison"- Rahaman M.M, Banu L.B, **Uddin M.N** and Begum M.N, *Bangladesh J. Sci. Ind. Res.* 46(4), 533-538, **2011**
7. "Effect of Potassium fertilizer on Development of Bacterial Blight of Rice"- Begum M.N, Rahaman M.M and **Uddin M.N** *Bangladesh J. Sci. Ind. Res.* 46(1), 69-76, **2011**
6. "Morphological changes of different castes of the subterranean termites (*Odontotermes proformosames* Ahmad) in fungus combs of termitophiles"- Dr. Parveen Noor & **Mohammad Nashir Uddin** . *The Journal of Plant Protection Sciences, India*, 2(2), **2010**
5. "Enzyme activity of chickpea (*Cicer arietinum* L.) during germination"- Syeda Sabrina Rahman Liza, S.M. Badier Rahman, M.Mahbubar Rahman, U. Fatema Shahjadee and **M. Nashir Uddin** *Bangladesh J. Life Science* 22(1):43-47, **2010**
4. "Biological Control of Sheath blight disease of rice by using antagonistic bacteria"- Bashar M.A, Hossain M.A, Rahaman M.M, **Uddin M.N** and Begum M.N., *Bangladesh J. Sci. Ind. Res.* 45(3), 225-232, **2010**
3. "A study to establish a protocol for cultivation of *Jatropha curcas* Linn"- Rahaman M.M, Banu L.B, **Uddin M.N** and Begum M.N., *Bangladesh J. Sci. Ind. Res.* 44(4):457-460, **2009**
2. "In equality measurements: An application in the age-specific distributions of income and land ownership for Bangladesh"- **Mohammad Nashir Uddin** & Razina Ferdous. *Dhaka Univ. J. Sci.*, 49(2):183-190, **2001**
1. "Non-parametric Density Estimation"-**Mohammad Nashir Uddin** & Razina Ferdous. *Dhaka Univ. J. Sci.*, 49(2):175-181, **2001**

Conference Presentations

- International Conference on Mathematical Modeling, COMSATS, ISESCO, NMC, National Mathematical Centre (NMC), Abuja, Nigeria, 29-30 December, 2015
- Chemometrics and its application in Industrial Research (Individual in-house presentation) BCSIR Laboratories, Dhaka, BCSIR, 08 October, 2015
- 23rd Bangladesh Science Conference Bangladesh Association for the Advancement of Science (BAAS), Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur, 17 October, 2015
- 16th Asian Chemical Congress, Bangladesh Chemical Congress, BUET, 16-19 March, 2016
- 20th International Mathematics Conference 2017, Bangladesh Mathematical Society, University of Dhaka, 08-10 December, 2017

- International Conference on Recent Advances in Mathematical and Physical Sciences, Faculty of Mathematical and Physical Sciences, Jahangirnagar University, 27-29 January, 2018
- International Conference on Science and Technology for Celebrating the Birth Centenary of Bangabandhu (ICSTB-2021), Invited Lecture, Bangladesh Council of Scientific and Industrial Research (BCSIR), BCSIR, Dhaka, 11-13 March, 2021
- International Conference on Science and Technology for Celebrating the Birth Centenary of Bangabandhu (ICSTB-2021), Oral presentation, Bangladesh Council of Scientific and Industrial Research (BCSIR), BCSIR, Dhaka, 11-13 March, 2021
- BCSIR Congress-2022, Invited presentation Bangladesh Council of Scientific and Industrial Research (BCSIR), BCSIR, Dhaka, 01-03 December, 2022

Thesis Supervision

- Supervised 15 MS level students for accomplishing their thesis mostly from Applied Chemistry and Chemical Engineering Department of Dhaka University.

Professional Training

- More than 20 professional training have been obtained in different fields including Research and Development, Planning and Development, Public Procurement, Administration, Data Accusation from Scientific Instruments and Analysis, etc.
- More than 10 professional training have been provided as a resource person on Experimental Design, Data Analysis, Chemometrics and use of software in R&D including SPSS, Unscramblar, Minitab, etc.