

Curriculum vitae

Dr. Md. Nurul Islam, Chief Scientific Officer, Chemistry Division, Bangladesh Jute Research Institute, Dhaka-1207, Bangladesh. Mobile: 01819414630, Phone: 02-48121098 (Office), Email: drmnislam@yahoo.co.uk, drmnislam97@gmail.com.

Educational Qualification:

- **Doctor of Engineering (Ph.D.):** Symbiotic and Environmental Systems Engineering, 2005. Grade: A

Discipline: Advanced Materials Science and Engineering.

Doctoral Dissertation: Studies on gas and methanol permeability of sulfonated polyimide membranes and gas separation performance of their pyrolytic membranes.

University: Department of Advanced Materials Science and Engineering Graduate School of Science & Engineering, Faculty of Engineering, **Yamaguchi University Japan.**

Advisor: Prof. Dr. Ken-ichi Okamoto .

- **Master of Science (M. Sc.):** Applied Chemistry and Chemical Engineering, 1991, Dhaka University, Bangladesh. **Grade: A .**

Master's Thesis: Improvement of Hessian Cloth by UV Radiation induced Graft Co-polymerization.

- **B. Sc. (Hons):** Applied Chemistry and Chemical Engineering, 1990, Dhaka University, Bangladesh. **Grade: B .**

Under Graduate Research: Determination of heavy metals from industrial wastewater treatment, pulp and paper manufacture.

- **H. Sc. (Higher Secondary Certificate):** Science group, Dhaka Board, 1986. **Grade: A.**
- **S. Sc. (Secondary School Certificate):** Science group, Dhaka Board, 1984. **Grade: A.**

Professional Experiences:

- Working as Chief Scientific Officer in Chemistry Division, Bangladesh Jute Research Institute, Manik Mia Avenue, Dhaka-1207, Ministry of Agriculture, Government of Bangladesh.

Field of Specialization:

Chemical Modification on Jute and Allied fibres for Industrial Application

- Working as Chief Scientific Officer (cc) in Chemistry Division, Bangladesh Jute Research Institute, Manik Mia Avenue, Dhaka-1207, Ministry of Agriculture, Government of Bangladesh since 1996.
- Conversion with the operation of analytical instruments like UV-visible spectrophotometer, Tg-Mass analyzer, Gas separation apparatus, FT-IR, SEM, NMR and many more instruments for analytical studies.
- Manufacture of housing construction materials with jute polymer composite.
- Modification of natural fibre (jute) by various methods for diverse uses of textile sector and to reduce environmental pollution.
- Blending of modified natural fibre (jute) with cotton, rayon, silk, and wool in order to make fine yarns and fabrics.
- Preparation of fire proof material from jute for making the car body and pulp and paper production from jute.
- Production of Pulp and Papers, Cellulose, Biodegradable Sonali bags and Viscose Rayon from Jute Fibers Which are Environmental Friendly and Economically Viable.
- Preparation of Charcoal, Activated carbon and various ink from Jute Sticks

Preparation of Membrane for Gas Separation:

- Studies on the gas separation performance of various polyimide membranes derived from sulfonated polyimide.
- Studies on the olefin/paraffin separation performance of low temperature pyrolytic membranes derived sulfonated polyimide.
- Studies on the gas separation performance of composite carbon molecular sieve membranes prepared from polyimides by dip-coating method.
- Studies on the sulfonated polyimide membranes for methanol permeability and proton conductivity in view of fuel cell applications.

- Preparation and gas separation performance of CMS membranes from jute lignin by dip-coating method.

Additional Vitae details:

- ✓ Very hard working and enjoy working with interdisciplinary people.
- ✓ Like to have good exposure and glad to exchange scientific thoughts.
- ✓ Want to become an active contributor in the area of scientific research of interest.
- ✓ Proper expression and presentation capabilities.
- ✓ Capability of becoming active leader in any scientific work.
- ✓ Potentiality to give expected output in stipulated period.

Computer Literacy:

- ✓ Operating System: DOS, Windows 8/10/XP.
- ✓ Application Package: MS-Word, MS-Excel, MS-Power Point, Fox pro.

Communication Skill:

- Excellent writing and speaking capabilities in English language, Bengali and excellent spoken capability on Japanese language.

Outstanding Achievement

- (i) Monbukagakusho Scholarship in the year 2001 for pursuing PhD at Yamaguchi University Japan.
- (ii) I have supervised M.Sc students and one research associate during the past years and currently doing joint research with Prof. Dr. Sarwaruddin Chowdhury of Department of Applied Chemistry and Chemical Engineering, University of Dhaka.
- (iii) Outstanding paper award of Journal of Chemical Engineering of Japan, 2006.

Training:

(a) In Country:

Sl. no.	Organization	Year	Duration		Name of Programme
			Mos.	Days	
1.	BJRI	2022	-	1	ই-গভর্নেন্স ও উদ্ভাবন কর্ম পরিকল্পনা বাস্তবায়ন
2.	BJRI	2022	-	1	সেবা প্রদান প্রতিশ্রুতি
3.	BJRI	2022	-	1	অফিস ব্যবস্থাপনা ও দক্ষতার উন্নয়ন
4.	BJRI	2021	-	1	আয়কর রিটার্ন দাখিল
5.	BJRI	2021	-	1	Annual Performance Agreement
6.	BJRI	2020	-	2	Public Procurement procedures (Goods, Works and Services)
7.	BJRI	2020	-	1	টেকসই উন্নয়ন অভীষ্ট(এসডিজি)
8.	Ministry of Commerce	2020	-	2	The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)
9.	BJRI	2020	-	1	বার্ষিক গোপনীয় প্রতিবেদন (এসিআর)লিখন ও নিয়মাবলী
10.	BJRI	2020	-	1	তথ্য অধিকার আইন
11.	BJRI	2020	-	2	Service Process Simplification
12.	BJRI	2019	-	1	e-Filing
13.	BJRI	2019	-	1	Sustainable Development Goal
14.	KGF	2018	-	3	Intellectual Property Rights and Technology Commercialization in Agriculture
15.	BJRI	2018	-	2	Project Appraisal Study

16.	BJRI	2018	-	3	Agriculture Project Management
17.	BJRI	2017	-	2	Innovation in Public Service
18.	BARC	2017			Project Development and Management
19.	BARD	2014	-	14	Administrative and Financial Management

Personal Information:

- Date of Birth : October 09, 1968.
- Father's Name : Md. Mazed Ali.
- Mother's Name : Golapjan Begum.
- Permanent Address : Road No-11, House no-26/F Banani, Dhaka-1213, Bangladesh.
- Marital Status : Married.
- Nationality : Bangladeshi by birth.
- Passport no : A01698104
- Blood Group : B (+ve)
- Religion : Islam
- Sex : Male

Membership:

- American Chemical Society, USA.
- Chemical Engineering society of Japan.
- Society of polymer science, Japan.
- Bangladesh Association for the advanced science.
- Bangladesh Chemical Society.
- Asian Journal of Plant Sciences (Member, Editorial Board.)

List of publications

1. **M. Nurul Islam**, , Jahid Sarker, Ayesha Khatton, S. M. Mahruf Hossain, Helena Akhter Sikder, Rashed Ahmed, A.M. Sarwaruddin Chowdhury .Synthesis and characterization of Activated Carbon Prepared from jute Stick Charcoal for Industrial Uses.**Scholars International Journal of Chemistry and Material Sciences**, 5 (3), :33-39 (Mar, 2022)
2. **M. Nurul Islam**, Ayesha Khatton, Jahid Sarker, and Helena Akhter Sikder, A.M. Sarwaruddin Chowdhury, Preparation of Yarn by Blending of Etherified Jute Fibre with Natural and Synthetic Fibre. **European Journal of Applied Sciences Vol.10, No.1 (2022)**.
3. **M.Nurul Islam**, Ayesha Khatton, Jahid Sarker, and Helena Akhter Sikder, A.M. Sarwaruddin Chowdhury Preparation and characterization of Activated Carbon from jute stick by chemical activation :Comparison of different Activating agents . **Saudi Journal of Engineering and Technology Volume-7, Issue-2 (Feb, 2022)**
4. **M. Nurul Islam** , A. Khatton , M. M. Rahman , S.M. Mahruf Hossain , J. Sarker, H. A. Sikder , A. M. Sarwaruddin Chowdhury. Microcrystalline Cellulose from Jute Fiber: A Bright Prospect for Pharmaceutical Industry .**Scholars International Journal of Chemistry and Material Sciences**
5. **M.Nurul Islam**, M.A.Hussain, A.Khatton , J.Sarker , H.A. Sikder , A.M.Sarwaruddin Chowdhury. Development of Fire Retardant on Jute by Chemical Means . **Scholars International Journal of Chemistry and Material Sciences Volume-5, Issue-5 (July, 2022)**
6. **M. Nurul Islam**, Ayesha Khatton, Jahid Sarker, and Helena Akhter Sikder, A.M. Sarwaruddin Chowdhury Modification of Jute Fibre by Etherification Method for Diverse Textile Uses. **Saudi Journal of Engineering and Technology Volume-7, Issue-2 (Feb, 2022)**
7. **M.Nurul Islam**, S. M. Mahruf Hossain, Ayesha Khatton, Jahid Sarker, Helena Akhter Sikder, A.M.Sarwaruddin Chowdhury, Production of Fabrics with Etherified Jute Blended Yarns., **Saudi Journal of Engineering and Technology Volume-7, Issue-3, 147-150 (Mar, 2022)**
8. **Md. Nurul Islam**, Weiliang Zhou, Tatsuaki Honda, Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto, Preparation and gas separation performance of flexible polymeric membranes by

low temperature pyrolysis of sulfonated polyimides, **Journal of Membrane Science**, **261(2005)17-26**.

9. **Md.Nurul Islam**, Kazuhiro Tanaka Hidetoshi Kita and Ken-ichi Okamoto, Preparation and gas separation performance of composite carbon molecular sieve membranes derived from NTDA-based polyimides, **Transactions of the Materials Research Society of Japan 30(2) (2005) 401-404**
10. **Md.Nurul Islam**, Kazuhiro Tanaka Hidetoshi Kita and Ken-ichi Okamoto, Preparation and gas separation properties of composite carbon molecular sieve membranes derived from polyimides with thermally decomposable sulfonic acid salt and/or hexafluoroisopropylidene group, **Journal of Chemical Engineering, Japan, 39(2) (2006) 131-136**.
11. **Nurul Islam**, Mohammad Ali, M. Kamal Uddin, Khalil Ahmed and A. M. Sarwar Chowdhury. Studies on the Physico-Mechanical Properties of the modified jute fibre by sulfonation method, **Pakistan Journal Biological Science, 9(8): 1424-1429(2006)**
12. **M. N Islam**, Mohammad Ali, M. Kamal Uddin, Khalil Ahmed and A. M. Sarwaruddin Chowdhury, Studies on the dyeing properties of fabrics sulphonated jute fibre with other fibres, **Pakistan Journal Biological Science, 9(7): 1219-1224(2006)**
13. Ayesha Khatton, **M. Nurul Islam**, Mubarak Hossen, Jahid Sarker, and Helena Akhter Sikder, A.M. Sarwaruddin Chowdhury Development of water repellency on jute fabric by chemical means for diverse textile uses. **Saudi Journal of Engineering and Technology Volume-7, Issue-3, 128-131 (Mar, 2022)**
14. Helena Akhter Sikder, A.N. M. Hamidul Kabir, A.M. Sarwaruddin Chowdhury, **M. Nurul Islam**, Ayesha Khatton, Jahid Sarker, S.M. Mahruf Hossain. Production of High Yield Pulp and Paper from Jute Fibre in Bangladesh: A Comparison with Other Crop Residues. **Scholars International Journal of Chemistry and Material Sciences Volume-5, Issue-5 (July, 2022)**
15. Kazuhiro Tanaka, **Md.Nurul Islam**, Masayoshi Kido , Hidetoshi Kita and Ken-ichi Okamoto, Gas permeation and separation properties sulfonated polyimide membranes, **Polymer, 47(12)(2006)4370-4377**
16. Ken-ichi Okamoto Yan Yin, Otoo Yamada, **Md.Nurul Islam**, Tatsaki Honda Takashi Mishima, Yoshiki suto, Kazuhiro Tanaka Hidetoshi Kita, Methanol Permeability and proton conductivity of sulfonated co-polyimide membranes, **J. Membr.Sci., 258, 115-122(2005)**.
17. Mubarak A. Khan, M.khabir uddin **M.Nurul Islam** and, K.M. Idriss Ali, Degradable property of UV cured Hessian Cloth (jute), **J.Appl. Polym. Sci., 58, 31-39(1995)**.

18. K.M. Idriss Ali ,Mubarak A. Khan, **M.Nurul Islam**, Improvement of physico-mechanical properties of Hessian Cloth (Jute) by graft co-polymerization of Urethane Acrylate with Ultraviolet Radiation, **Polym. Plast. Technol. Eng.**, **35(1)**, 53-65(1996).
19. Mubarak A. Khan, **M.Nurul Islam** and Ali, K.M. Idriss, Graft Co-polymerization of Urethane Acrylate on Hessian Cloth (jute) by UV RADIATION, **Polym. Plast. Technol. Eng.**, **35(1)**, 53-65(1996).
20. Mubarak A. Khan, **M.Nurul Islam** and Ali, K.M. Idriss, Effect of additives in the improvement of Hessian Cloth (Jute) by induced Co-polymerization, **Radiat, Phys. Chem.**, **48(3)**, 337-342(1996).
21. Ali, Mohammed, **M.Nurul Islam**, Mian, A. Jabber abd Chowdhury A. M. Sarwar, Modification of jute fibre by sulfonation for diverse textile use, Ali Mohammed, Journal of the Textile Inst, **Part-1: Fibre Science & Textile Technology**, **92(1)**, 34-43(2001).
22. Ali Mohammed, **M.Nurul Islam**, Auwal, M. Rabiul, Fazal-E-Karm, Mian. A. Janner and Chowdhury A. M. Sarwar, studies on the Physico-mechanical properties of fabrics prepared from blends of sulfonated jute fibre with natural and synthetic fibres, **Indian Journal of Fibre and Textile Research**, **26(4)**, 414-4174(2001).
23. Ali Mohammad, **M.Nurul Islam**, Mian, A. Jabber and Chowdhury A. M. Sarwar, Studies on the improvement of textile properties of jute and jute products., Ali Mohammed, **Bangladesh Journal of Scientific Research**. **19(1)** 11-16(2001)
24. Ali Mohammad, **M.Nurul Islam**, Mian, A. Jabber and Chowdhury A. M. Sarwar, Adapting the principle of neutral sulphite cooking for modification of textile quality of jute fibre, **Indian Journal of Fibre and Textile Research**, **25**, 298-302 December 2000
25. S.M.N.Hossain, **M.N. Islam**, M.Kamrujjaman, M.Shahadat Hossain. Blended Etherified jute fiber with other natural and Synthetic Fiber For Wide Textile uses., **Internatoan Journal of EGINEERING TECHNOLOGY**, Vol.6 Issue1 ,January 2019.

Conference Paper:

1. **M. N Islam, S.M.M. Hossain, S. Sarker and Md. Asaduzzaman**, Blending of the chemically modified jute fiber with other fibres for diversified use of textile sectors, Conference on Bangladesh chemical Society, Chattogram, March, 2017.

2. **Md. Nurul Islam, Md Asaduzzaman and Mubarak A. Khan.**, Improvement on Hessian Cloth by UV Radiation induced graft Co-polymerization for eco-friendly diversified use of jute, International Conference on Strengthening of collaboration for Jute, Kenaf and Allied fibres Research & Development, Dhaka, June, 2011.
3. **M. N Islam** Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto. Synthesis and gas permeation performance of low temperature flexible pyrolytic membranes derived from sulfonated polymer Conference, Ehime, (2002) Japan.
4. **M. N Islam** Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto., Gas Permeation performance of pyrolytic membranes derived from sulfonated polyimide Material Research Society of Japan. Yamaguchi, (2001).
5. **Md. Nurul Islam** ,Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto. Preparation and Gas Separation Properties of Flexible Pyrolytic Membranes from Precursor Polymers, International Conference of Japan Society of High Polymer Science, Kyoto, Japan. P-35
6. **Md. Nurul Islam**, Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto.,Single and mixed gas permeation performance of low temperature pyrolytic membranes derived from sulphonated polymid.,chemical Engineering Society Conference,Tokoy(2003), Japan.
7. **Md. Nurul Islam**, Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto., Preparation and gas separation performance of composite carbon molecular sieve membranes derived from NTDA-based polyimides., Materials Research Society Conference , Tokyo , December 22-23 (2004), Japan.

Patent:

1. **Ali Mohammed, Islam Md. Nurul** and Mian, A, Jabbe, a process for the production of Fine yarn and Fabrics from Chemically modified jute fibre blended with Cotton
Submitted to Bangladesh patent office 2006.

2. **Ali Mohammed, Islam Md. Nurul** and Mian, A, Jabbe, a process for the production of modified jute fibre by chemical means for fine spinning and textile purposes, **Submitted to Bangladesh patent office 2006.**

Conference Paper:

1. **M. N Islam, S.M.M. Hossain, S. Sarker and Md. Asaduzzaman**, Blending of the chemically modified jute fiber with other fibres for diversified use of textile sectors, Conference on Bangladesh chemical Society, Chattogram, March, 2017.
2. **Md. Nurul Islam, Md Asaduzzaman and Mubarak A. Khan.**, Improvement on Hessian Cloth by UV Radiation induced graft Co-polymerization for eco-friendly diversified use of jute, International Conference on Strengthening of collaboration for Jute, Kenaf and Allied fibres Research & Development, Dhaka, June, 2011.
3. **M. N Islam** Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto. Synthesis and gas permeation performance of low temperature flexible pyrolytic membranes derived from sulfonated polymer Conference, Ehime, (2002) Japan.
4. **M. N Islam** Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto., Gas Permeation performance of pyrolytic membranes derived from sulfonated polyimide Material Research Society of Japan. Yamaguchi, (2001).
5. **Md. Nurul Islam** ,Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto. Preparation and Gas Separation Properties of Flexible Pyrolytic Membranes from Precursor Polymers, International Conference of Japan Society of High Polymer Science, Kyoto, Japan. P-35
6. **Md. Nurul Islam**, Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto., Single and mixed gas permeation performance of low temperature pyrolytic membranes derived from sulphonated polyimide., chemical Engineering Society Conference, Tokyo (2003), Japan.
7. **Md. Nurul Islam**, Kazuhiro Tanaka, Hidetoshi Kita and Ken-ichi Okamoto., Preparation and gas separation performance of composite carbon molecular sieve membranes derived from NTDA-based polyimides., Materials Research Society Conference , Tokyo , December 22-23 (2004), Japan.

List of Technologies Developed:

Technology Nos.	Technology Name
Technology-1	Development of charcoal and activated carbon production technologies from jute sticks.
Technology2	Development of technology for manufacturing alternative jute plastic composites from golden fiber jute.
Technology-3	Technology for making eco-friendly, affordable cellulose, paper and biodegradable green bags from jute alternatives to polyethylene.
Technology-4	Development of technology for manufacturing microcrystalline cellulose (MCC) from jute fiber.
Technology-5	Development of technology suitable for use in textile and apparel industry by modifying jute by sulfonation method.
Technology-6	Development of technology suitable for use in textile and clothing industry by modifying jute by etherification method.
Technology-7	Development of technology for production of waterproof jute fabric by chemical treatment.
Technology-8	Development of fire resistant jute and jute fabric production technology by chemical treatment

I the undersigned, certify that all information stated herein is true and correct.



30/10/2022

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Dr. Md. Nurul Islam