

## Curriculum Vitae

Name : Dr. Md. Fakhrul Islam  
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Religion : Islam

### Profile Summary

Dr. Md. Fakhrul Islam received the prestigious UK Commonwealth Scholarship, earning his PhD and MSc in Materials Science from the University of Manchester in 1995 and 1991, respectively. Before this, he obtained his MSc and BSc in Metallurgical Engineering from BUET in 1988 and 1986, securing the Chancellor's Award for graduating First Class First in his undergraduate studies.

Upon graduation, Dr. Fakhrul joined BUET's Department of Metallurgical Engineering as a lecturer in 1989, rising to the rank of full professor by 2005. His visionary leadership and tireless work ethic have been cornerstones of his career. Over the years, he has published over 100 research papers, contributing significantly to the field of materials science and engineering.

In 2010, Dr. Fakhrul founded BUET's Department of Glass and Ceramic Engineering (GCE), successfully convincing the government to secure the necessary funding. His foresight in materials science led to the department being renamed Nanomaterials and Ceramic Engineering (NCE) to align with the advancements of the 4th Industrial Revolution and the growing importance of nanotechnology. Over his career, Dr. Fakhrul also led two BUET departments—Materials and Metallurgical Engineering (MME) and NCE—for a combined 11 years, where he championed initiatives that enhanced research and infrastructure, demonstrating his excellence as both an educator and administrator.

During his time as a Research Scientist at IMEC in Belgium, Dr. Fakhrul conceived the idea of producing pure silicon in Bangladesh using locally sourced raw materials, understanding its pivotal role in semiconductor technology. With a \$1 million grant from the World Bank, he established a ceramic fiber production lab at BUET's NCE department. Additionally, he is advancing research on silicon nanoparticles using a home-built microwave plasma reactor, laying the foundation for future semiconductor manufacturing in Bangladesh.

In 2020, amid the global Covid-19 pandemic, Dr. Fakhrul was appointed to lead the restoration of the Usmania Glass Sheet Factory after a fire severely damaged its furnaces and other equipment. Despite the risks posed by the pandemic, he and his team worked tirelessly for four months to bring the factory back to full operation. His leadership during this challenging time underscores his dedication to overcoming adversity and finding critical solutions when needed most.

Under Dr. Fakhrul's leadership, the Department of NCE has achieved remarkable milestones:

1. Secured Funding: Raised over BDT 35 crore from various government and private agencies to support research and development at BUET.
2. Established Advanced Lab Facilities: Set up a modern characterization and nano-synthesis laboratory to enhance research capabilities in nano and ceramic materials.
3. Fostered Industry Collaborations: Facilitated collaborative research to solve the problems of the industries, including Bangladesh Chemical Industries Corporation (BCIC), DBL Group, Shinepukur Ceramics, Anwar Cement Sheet Ltd., Anwar Ispat Ltd., and Nasir Glass.

Dr. Fakhrul's significant contributions to BUET, combined with his leadership, vision, and extensive knowledge in administration, have been instrumental in establishing a state-of-the-art research environment. His initiatives continue to strengthen BUET's position as a leading institution in engineering and technology.

### **Research Interest:**

Multiferroics, ferroelectric materials, engineering and traditional ceramics, refractories, fabrication of microwave plasma reactor to produce nanoparticles and production of H<sub>2</sub> fuel using nanoparticles photocatalyst.

**Education:**

Degree/ Examination	Institution (University/College/School/ Department)	Class/Division	Year Completed
Ph.D. (Materials Science)	University of Manchester, UK	Successfully completed	1995
M. Sc. (Metallic and Ceramic Materials)	University of Manchester, UK	First Class	1991
M. Sc. Engineering (Metallurgical)	Bangladesh University of Engineering and Technology	First Class	1988
B. Sc. Engineering (Metallurgical)	Bangladesh University of Engineering and Technology	1 <sup>st</sup> in Class First Class	1986
Higher Secondary certificate	Chittagong Government College, Chittagong	First Division	1980
Secondary School certificate	Habilashdwip High School, Patiya, Chittagong	First Division	1977

**Research Grants Received:**

Organization Offering the grant	Project Title Project	Year
DBL Ceramics Limited	Research Project under Memorandum of Understanding between The Bangladesh University of Engineering and Technology (BUET) and The DBL Ceramics Limited”	March, 2018- February, 2021
University Grants Commission of Bangladesh (UGC)	CP-3823: Ultra-light Weight Energy- saving Heat Insulating Ceramic Materials	July, 2015- June, 2018
Ministry of Education	Establishment of the Department of Glass and Ceramic Engineering in BUET	July, 2009- June, 2016
IBBL Bank, Bangladesh	Refinement of locally available raw materials for ceramics industries	2002
BRTC, BUET	Development of software to analyze microstructural imaged (Image Analyzer)	1996-97

### **Professional Awards/Honours Received:**

- Visiting Professor at the Microsystems Technology Laboratories, MIT, USA from 01/08/2019 to 06/08/2019.
- Visiting Professor under the staff mobility program at the University of Limerick, Ireland from 15/07/2019 to 31/07/2019.
- Received a scholarship as a Visiting Scholar at Katholieke University Leuven, Belgium, from 15/09/2002 to 15/11/2002. During this time, he worked as a research scientist at IMEC, Belgium
- Awarded the UK Commonwealth Scholarship (1990-1995) to pursue MSc and PhD degrees at UMIST, UK.
- Received" Chancellor's Award "for securing the First Class First position in the B. Sc. Engineering Examination.

### **Professional Work at National and International Levels:**

- Served as an independent director of the Government owned Usmania Glass Sheet Factory for 6 years from 2015-2021.
- Worked as an Organizing Secretary of the 2<sup>nd</sup> International Conference on Structure, Processing and Properties of Materials (SPPM2004) organized by the Department of Materials and Metallurgical Engineering, BUET, Dhaka, in association with TMS, The Minerals, Metals and Materials Society, USA.
- Worked as a Research Scientist at IMEC, Belgium, where he worked on semiconductor technology and conceived the idea of pure silicon production in Bangladesh using locally available raw materials. Based on this he developed a ceramic fiber production lab.
- Worked as a consultant on a Pilot Plant project study on the Production of Bearing Materials at Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka.
- Worked as a team leader to solve the problems of different organizations like China-Bangla Ceramic Industries Ltd., Ball Bearing importers, Plastic industries and R. A. K. Ceramics Ltd., Nasir Glass Industries Limited and Bengal Glass Works Limited.
- Worked as a team leader of the main group to solve the problems of different organizations like Tiende Ceramics Company Ltd., Bangladesh Titas Gas, Bangladesh Railway, Shinepukur Ceramics Ltd.
- Worked as a team leader to minimize the percentage of rejection of insulation products of Bangladesh Insulation and Sanitary-ware Factory (BISF), Dhaka.
- Expert hands on Diffusion Bonding (DB) experiments. Did couple of hundred of DB experiments for Rolls-Royceplc, Bam olds wick, Lancashire, UK.

- Hands-on experience with TEM, SEM plus EDX, HIP auto clave, casting techniques, mechanical testing etc.
- Taken a project to find out possibility and feasibility of using locally available raw materials in the local ceramic and glass industries.

### **Contribution to the University Administration:**

- Head, The Department of Materials and Metallurgical Engineering during 06/01/2007-05/01/2009
- Head, Department of Glass and Ceramic Engineering, during 11/04/2010-29/05/2017 and 31/08/2019-17/09/2021
- Project Director, “Establishment of the Department of Glass and Ceramic Engineering in BUET” Sub-Project.
- ISM, “Ultra-light Weight Energy-saving Heat Insulating Ceramic Materials”, Project.
- Project Director, “Research Project under Memorandum of Understanding between The Bangladesh University of Engineering and Technology (BUET) and The DBL Ceramics Limited”
- Convener, Project Implementation Committee (PIC) - To construct 15 storied GCE-MME & KCC building since 14 February, 2016 - 28 March 2021.

### Supervision of Thesis/ Design Project at Undergraduate Level:

No. of Students	Project and Thesis Title	Year
2	Development of Clay Based Water Filter	2012-2013
1	Effect of Dopants on BaTiO <sub>3</sub> Ceramics Dielectric Properties	2011-2012
2	Effect of Nb <sub>2</sub> O <sub>5</sub> doping and sintering temperature on the properties of BaTiO <sub>3</sub> Ceramics	2010-2011
2	Effect of ZnO, Ta <sub>2</sub> O <sub>5</sub> and BaCO <sub>3</sub> mixing ratio and sintering parameters on the formation and dielectric properties of BZT	2010-2011
1	Structure-property relationship in BaTiO <sub>3</sub> bases dielectric ceramics	2003-2004
1	Assessment of raw materials and extrusion quality of locally produced PVC pipes	2003
2	Characterization of clay minerals	2001-2002
5	structure-property relation in ceramic insulators	1998, 2002, 2003
1	Formation of alumina fibre in jute substrate	2002
1	Diffusion welding of stainless steel	1999

### Supervision of completed Graduate Research Work:

Level	Thesis Title	Year
M.Sc.	Role of Oxygen Vacancies on Ferromagnetism in Oxide Dilute Magnetic Semiconductors (CeO <sub>2</sub> /TiO <sub>2</sub> )	2020
M.Sc.	Synthesis and Size-Dependent Properties of Multiferroic BiFeO <sub>3</sub> Nanoparticles.	2015
M.Sc.	Structure-Property Relationship of Ba <sup>2+</sup> and Ti <sup>4+</sup> Doped Multiferroic Bismuth Ferrite	2014
M.Sc.	Studying the Effects of Composition and Sintering Parameters on Dielectric Properties of Tantalum Oxide Doped Barium Titanate	2013
M.Sc.	Study of the Effects of Composition and Sintering Parameters on Dielectric Properties of Zirconia and Niobium Oxide Doped Barium Titanate Ceramics	2011
M.Sc.	Effect of Grain Refinement on the Properties Of Pore Free Strontium Doped BaTiO <sub>3</sub> Dielectric Ceramics	2009
M.Phil	Preparation and Characterization of BaTiO <sub>3</sub> Based Dielectric Ceramics	2008
M.Sc.	Role of Ca Doping and Process Variables in the Dielectric Properties of Barium Titanate Ceramics	2005
M.Sc.	Effect of Composition and Firing Cycle on the Properties of High Tension Ceramic Insulator	2004

## Selected Publications:

1. M.M. Rahman, M.A. Matin, M.A. Hakim, **M.F. Islam** “Optical and electrical properties of impurity-less multiferroic bismuth ferrite nanoparticles” *Materials Science & Engineering: B*, Elsevier, Volume 275, January, 2022.
2. M.A.A. Bally, M.A. Islam, S.M. Hoque, R. Rashid, **Md Fakhru Islam**, F.A. Khan “Magnetocaloric properties and analysis of the critical point exponents of  $\text{Pr}_{0.55}\text{Ca}_x\text{Sr}_{0.45-x}\text{MnO}_3$  ( $x = 0.00, 0.05, 0.1$  and  $0.2$ ) at PM-FM phase transition”, Elsevier, Volume 28, September, 2021.
3. A. Momin, Roksana Parvin, M. Shahjahan, **Md. Fakhru Islam**, Hidekazu Tanaka, A. K. M. Akther Hossain, “Interplay between the ferrimagnetic and ferroelectric phases on the large magnetoelectric coupling of  $x\text{Li}_{0.1}\text{Ni}_{0.2}\text{Mn}_{0.6}\text{Fe}_{2.1}\text{O}_4-(1-x)\text{Bi}_{0.8}\text{Dy}_{0.2}\text{FeO}_3$  composites”, *Journal of Materials Science: Materials in Electronics* (Springer), 31(1), 511–525, 2020.
4. T. Morshed, E. Ul-Haq, C. Silien, S. A. M. Tofail, M. A. Zubair, **M. F. Islam**, “Current-voltage characteristics of phase boundaries PVDF-TrFE (70/30)/PANI nanocomposite”, *IEEE Transactions on Dielectrics and Electrical Insulation*, 27(5), 1428-1432, 2020.
5. M. M. Mahmud, S. Zaman, A. Perveen, R. A. Jahan, **M. F. Islam**, M. T. Arafat, “Controlled release of curcumin from electrospun fiber mats with antibacterial activity”, *Journal of Drug Delivery Science and Technology*, 55, 101386, 2020.
6. M. M. Rhaman, M. A. Matin, M. N. Hossain, M. N. I. Khan, M. A. Hakim, **M. F. Islam**, “Ferromagnetic, electric, and ferroelectric properties of samarium and cobalt co-doped bismuth ferrite nanoparticles”, *Journal of Physics and Chemistry of Solids* (Elsevier), 147, 109607, 2020.
7. M. M. Rhaman, M. A. Matin, M. A. Al Mamun, A. Hussain, M. N. Hossain, B. C. Das, M. A. Hakim, **M. F. Islam**, “Enhanced electrical conductivity and multiferroic property of cobalt-doped bismuth ferrite nanoparticles”, *Journal of Materials Science: Materials in Electronics* (Springer), 31(11), pp. 8727-8736, 2020.
8. M. A. Matin, M. N. Hossain, M. M. Islam, M. A. Hakim, **M. F. Islam**, “Optical and Ferroelectric Properties of  $\text{Bi}_{0.95}\text{Gd}_{0.05}\text{Fe}_{1-x}\text{Cr}_x\text{O}_3$ ”, *Transactions on Electrical and Electronic Materials* (Springer), 21, 5, 2020.
9. M. A. Matin, M. M. Rhaman, M. A. Hakim, and **M. F. Islam**, “ $\text{Bi}_{1-y}\text{Sm}_y\text{FeO}_3$  as prospective photovoltaic materials”, *Bulletin of Materials Science* (Springer), 43, 2, 2020.
10. M. Rhaman, M. A. Matin, M. A. Hakim, M. N. Hossain, **M. F. Islam**, B. C. Das, “Enhanced Electric Conductivity and Multiferroic Property of Cobalt Doped

Bismuth Ferrite Nanoparticles", *Journal of Materials Science: Materials in Electronics* (Springer), 31, 8727, 2020.

11. M. A. Zubair, A. A. Mamun, K. McNamara, S. A. M. Tofail, **F. Islam**, V. A. Lebedev, "Amorphous Interface Oxide formed due to high amount of Sm doping (5-20 mol%) stabilizes finer size anatase and lowers indirect band gap", *Applied Surface Science* (Elsevier), 529, 146967, 1-11, 2020.
12. M.J. Islam, M.R. Alam, **M.F. Islam**, M. Hasanuzzaman, "Evaluation of commonly used aggregates for sustainable infrastructure development in Bangladesh", *Int. J. Geomate*, 18, 66, 98-104, 2020.
13. Sapan Kumar Sen, Tapash Chandra Paul, Supria Dutta, MA Matin, **MF Islam**, MA Hakim, "Effect of gamma ( $\gamma$ -) irradiation on the structural, morphological, optical and electrical properties of spray pyrolysis-deposited h-MoO<sub>3</sub> thin films" *Surfaces and Interfaces* (Wiley), 17, 2020.
14. A. A. Momin, M. A. Zubair, **Md. Fakhru Islam**, A. K. M. Akther Hossain "Enhance magnetoelectric coupling in  $x\text{Li}0.1\text{Ni}0.2\text{Mn}0.6\text{Fe}2.1\text{O}4-(1-x)\text{BiFeO}_3$  multiferroic composites" *Journal of Materials Science: Materials in Electronics*, vol. 30, pages13033–13046, 2019 (Springer).
15. Rahman, M.M., Matin, M.A., Hossain, M.N., Mozahid, F.A., Hakim, M.A. and **Islam, M.F.**, Bandgap engineering of cobalt-doped bismuth ferrite nanoparticles for photovoltaic applications. *Bulletin of Materials Science*, 2019, 42(4), p.190.
16. Matin, M.A., Hossain, M.N., Ali, M.A., Hakim, M.A. and **Islam, M.F.**, Enhanced dielectric properties of prospective  $\text{Bi}0.85\text{Gd}0.15\text{Fe}1-x\text{Cr}x\text{O}_3$  multiferroics. *Results in Physics*, 2019, Vol. 12, pp.1653-1659.
17. Matin, M.A., Hossain, M.N., Hakim, M.A. and **Islam, M.F.**, Effects of Gd and Cr co-doping on structural and magnetic properties of  $\text{BiFeO}_3$  nanoparticles. *Materials Research Express*, 2019, Vol. 6(5), p.055038.
18. Al Mamun, M.A., Noor, M., Ullah, A.A., Hossain, M.S., Abdul, M., **Islam, F.** and Hakim, M.A, Effect of  $\text{CePO}_4$  on structural, magnetic and optical properties of ceria nanoparticles. *Materials Research Express*, 2019, Vol. 6(1), p.016102.
19. M. A. Zubair, M. T. Chowdhury, M. S. Bashar, M. A. Sami, **M. F. Islam**, "Thickness dependent correlation between structural and optical properties of textured CdSe thin film", *AIP Advances*, Vol. 9(4), Article No. 045123, pp. 1-15, 2019 (American institute of physics); <https://doi.org/10.1063/1.509659>.
20. Chowdhury, M.T., Zubair, M. A., Takeda, H., Hussain, K.M.A. and **Islam, M.F.**, Optical and structural characterization of ZnSe thin film fabricated by thermal vapour deposition technique. *AIMS MATERIALS SCIENCE*, 2017, vol. 4(5), pp.1095-1121.



21. Chowdhury, S. S., Kamal, A. H. M., Hossain, R., Hasan, M., **Islam, M. F.**, Ahmmad, B. and Basith, M. A., "Dy doped BiFeO<sub>3</sub>: A Bulk Ceramic with Improved Multiferroic Properties Compared to Nano Counterparts", *Ceramic International*, 2017.
22. Islam, M.R., Galib, R.H., Sharif, A., Rizvi, M.H., Zubair, M.A. and **Islam, M.F.**, "Correlation of charge defects and morphology with magnetic and electrical properties of Sr and Ta codoped BiFeO<sub>3</sub>", *Journal of Alloys and Compounds*, 688(A), pp 1186-1194 (2016).
23. Hasan, M., **Islam, M.F.**, Mahbub, R., Hossain, M.S. and Hakim, M.A., "A soft chemical route to the synthesis of BiFeO<sub>3</sub> nanoparticles with enhanced magnetization", *Materials Research Bulletin*, 73, pp.179-186 (2016).
24. Mazumdar, S.C., Khan, M.N.I., **Islam, M.F.** and Hossain, A.A., "Tuning of magnetoelectric coupling in (1- y) Bi<sub>0.8</sub> Dy<sub>0.2</sub> FeO<sub>3-y</sub> Ni<sub>0.5</sub> Zn<sub>0.5</sub> Fe<sub>2</sub> O<sub>4</sub> multiferroic composites", *Journal of Magnetism and Magnetic Materials*, 401, pp.443-454(2016).
25. Hasan, M., Basith, M.A., Zubair, M.A., Hossain, M.S., Mahbub, R., Hakim, M.A. and **Islam, M.F.**, "Saturation magnetization and band gap tuning in BiFeO<sub>3</sub> nanoparticles via co-substitution of Gd and Mn", *Journal of Alloys and Compounds*, 687, pp.701-706 (2016).
26. Hasan, M., Hakim, M.A., Basith, M.A., Hossain, M.S., Ahmmad, B., Zubair, M.A., Hussain, A. and **Islam, M.F.**, "Size dependent magnetic and electrical properties of Ba-doped nanocrystalline BiFeO<sub>3</sub>", *AIP Advances*, 6(3), p.035314 (2016).
27. Mazumdar, S.C., Khan, M.N.I., **Islam, M.F.** and Hossain, A.A., "Enhanced multiferroic properties in (1-y) BiFeO<sub>3-y</sub> Ni<sub>0.50</sub> Cu<sub>0.05</sub> Zn<sub>0.45</sub> Fe<sub>2</sub> O<sub>4</sub> composites", *Journal of Magnetism and Magnetic Materials*, 390, pp.61-69 (2015).
28. Hasan, M., **Islam, M.F.** "Enhancement of Magnetic Properties of Nanocrystalline BiFeO<sub>3</sub> Synthesized by a Facile Sol-Gel Auto-Combustion Process", *International Journal of Advanced Engineering and Nano Technology*, Vol. 2, No. 8 (2015).
29. Hussain, A., Matin, M.A. and **Islam, M.F.** "Fabrication and Characterization of Dielectric Properties of BaTiO<sub>3</sub>/Ni<sub>0.6</sub>Zn<sub>0.4</sub>Fe<sub>2</sub>O<sub>4</sub> Multiphase Multiferroic", *International Journal of Advanced Engineering and Nano Technology*, 2(12), pp.11-14 (2015).
30. Mahbub, R., Fakhrul, T., **Islam, M.F.**, Hasan, M., Hussain, A., Matin, M.A. and Hakim, M.A., "Structural, Dielectric, and Magnetic Properties of Ba-Doped Multiferroic Bismuth Ferrite", *Acta Metallurgica Sinica (English Letters)*, 28(8), pp.958-964 (2015).

31. Mahbub, R., **Islam, M.F.**, "Sintering behavior and microstructure development of Ba<sup>2+</sup> doped BiFeO<sub>3</sub>", International Journal of Innovative Technology and Exploring Engineering, Vol. 3, pp: 97-102 (2014).
32. **Islam, M.F.**, Rizvi, M.H., Khan, T.A. and Hasanuzzaman, M., "Development of Ceramic Candle Filters by Slip Casting Process", Key Engineering Materials (Vol. 608, pp. 85-90). Trans Tech Publications (2014).
33. R. Islam, M. A. Matin, R. Mahbub, M. A. Hakim, **M. F. Islam** "Novel Smart Ferroelectric Functional Material for Application in Transducers", in the proceedings of 16th Electronics Packaging Technology Conference, (EPTC' Dec-2014 by IEEE), Singapore.
34. Rubayyat Mahbub, **Md. Fakhru Islam** "Sintering behavior and microstructure development of Ba<sup>2+</sup> doped BiFeO<sub>3</sub>", Int. J. of Innovative Technology and Exploring Engineering, 2014, Vol. 3, 97-102.
35. **Md. Fakhru Islam**, Rubayyat Mahbub, Adnan Mousharraf "Effect of sintering parameters and Ta<sub>2</sub>O<sub>5</sub> doping on the microstructure and dielectric properties of BaTiO<sub>3</sub> based ceramics", in the proceedings of International Conference on Traditional and Advanced Ceramics, Bangkok, Thailand, 2013.
36. **Md. Fakhru Islam**, M.H. Rizvi, T.A. Khan, M. Hasanuzzaman "Development of Ceramic Candle Filters by Slip Casting Process", in the proceedings of International Conference on Traditional and Advanced Ceramics, Bangkok, Thailand, 2013.
37. Adnan Mousharraf and **Md. Fakhru Islam** "Effect of Ta<sub>2</sub>O<sub>5</sub> doping on the microstructure and dielectric properties of BaTiO<sub>3</sub> based ceramics", International Journal of Automotive and Mechanical Engineering, Vol. 7, page-840-849, January-June 2013.
38. Rubayyat Mahbub, Md. Sazzad Hossain, **Md. Fakhru Islam** "Structural Characteristics and Dielectric Properties of Tantalum Oxide Doped BaTiO<sub>3</sub> Based Materials", Materials Engineering - Materiálové inžinierstvo Journal, 2013, Vol. 20, 45-54.
39. Shahida Akhter, D. P. Paul, M. A. Hakim, S. Akhter, D. K. Saha, B. Anjuman, and **F. Islam**, "Microstructure and Complex Permeability Spectra of Polycrystalline Cu-Zn Ferrites", Journal of Scientific Research, 4 (3), 551-560 (2012).
40. Rubayyat Mahbub, Takian Fakhru, **Md. Fakhru Islam** "Enhanced Dielectric Properties of Tantalum Oxide Doped Barium Titanate Based Ceramic Materials", in the proceedings of 5th BSME international conference on thermal engineering, Dhaka, Bangladesh, 2012.
41. Adnan Mousharraf, Md. Sazzad Hossain and **Md. Fakhru Islam** "Potential of local clay as raw material for ceramic industries" Journal of Chemical

Engineering, IEB, Vol. ChE. 26, No. 1, December 2011.

42. Md. Muktedir Billah, Adnan Mousharraf and **Md. Fakhru Islam** "The effect of sintering time on the densification of pure nano-crystalline BaTiO<sub>3</sub>" International Conference on Mechanical Engineering, ICME 11-RT-026, (ICME 2011).
43. Adnan Mousharraf, Aninda Nafis Ahmed and **Md. Fakhru Islam** "Effect of calcination and sintering parameters on the formation and microstructure of Ba(Zn<sub>1/3</sub>Ta<sub>2/3</sub>)O<sub>3</sub> (BZT)" Third international conference on chemical engineering, EA093, (ICChE-2011).
44. T Chowdhury, **Md. Fakhru Islam**, A Panupat, N Vaneesorn and A Thanaboonsombut "Characterisation of Local clays for High Tension Ceramic Insulators" Proc. of The 2nd International Conference on Structure, Processing and Properties of Materials, SPPM2004, 25-27 February 2004, Dhaka, Bangladesh, pp. 534-541.
45. S. M. Hoque, M. A. Choudhury, M. A. Hakim and **M. F. Islam** "Density and grain size dependant magnetic and electrical properties of NiO.8CuO.2CO.02Fe.904" Proc. of The 2nd International Conference on Structure, Processing and Properties of Materials, SPPM2004, 25-27 February 2004, Dhaka, Bangladesh, pp. 705-712.
46. Md. Mahabubar Rahman Shaha, Mominul Huq and **Md. Fakhru Islam** "Study of Colossal Magnetoresistive Properties in Layered Magnetite (La<sub>2-x</sub>Bx)BaMn<sub>207</sub>(OsXsO.5)" Proc. of The 2nd International Conference on Structure, Processing and Properties of Materials, SPPM2004, 25-27 February 2004, Dhaka, Bangladesh, pp. 721-728 .
47. Islam Rashed, Y. Chan and **Islam, M.F.** "Structure-property relationship in high-tension ceramic insulator fired at high temperature" Materials Science & Engineering B, accepted 2 September 2003, article in press.
48. Hoque, S.M., Choudhury, M.A. and **Islam, M.F.** "Density and grain size dependant magnetic and electrical properties of NiO.8CuO.2Fe.904." Submitted in Journal of Nuclear Science and Application on 9th April, 2003.
49. Hoque, S.M., Choudhury, M.A. and **Islam, M.F.** "Characterization of Ni-Cu mixed spinel ferrite" Journal of Magnetism and Magnetic Materials 2002, Vol. 251, 292-303.
50. **Islam M.F.** and Ridley, N. 'Diffusion welding of microduplex stainless steel' Scripta Mat., 1998, Vol. 38(8), 1187-1193.
51. **Islam, M. F.**, Pilling, J. and Ridley, N 'Effect of surface finish and sheet thickness on isostatic diffusion bonding of super plastic Ti-6Al-4V' Mat.Sci. Tech., December 1997, Vol. 13, 1045-1050.

52. **Islam, M.F.** and Alam, M.O. 'Interface Characterization of Isostatic Diffusion Welding between Dissimilar Titanium Alloys' Titanium - Extraction and Processing, eds. Mishra, B. and Kipouros, G.J., TMS, Warrendale PA, (1997), 175-186.
53. Haseeb, A.S.M.A., **Islam, M.F.**, Alam, M.O. and Tofail, S.A.M. 'Surface Hardening Behaviour of Titanium Alloys in Carburization' Titanium -Extraction and Processing, eds. Mishra, B. and Kipouros, G.J., TMS Warrendale P A, (1997), 163-173.
54. Alam, M.O., **Islam, M.F.** and Helali, M.M 'Diffusion Welding of Ti-3Al-2. 5 V by Hiping' Proc. International Conference on Structure, Processing and Properties of Materials, SPPM'97, 15-17 November, 1997, Dhaka, Bangladesh, B53-61.
55. **Islam, M.F.**, and Ridley, N. 'Characterization of diffusion bonds formed between Ti-6Al-4V and Titanium Aluminide Super Alpha-Z.' Mat.Sci. Tech., August 1996, Vol. 12, 623-627.
56. Pilling, J., Ridley, N., and **Islam, M.F.** 'On the modelling of isostatic diffusion bonding in materials: Super plastic Super Alpha-2' Mat.Sci. Eng., 1996, A 205, 72-78.
57. Tofail, S.A.M. and **Islam, M.F.** 'Alumina fibre: Formation in Jutje substrate' Proc. 3rd. Annual Paper Meet, Mechanical Engineering Division, Institution of Engineers', Bangladesh, Chittagong, 1996, 22-27.
58. Alam, M.O. and **Islam, M.F.** 'Study on isostatic diffusion welded samples of dissimilar titanium alloys' Proc. 3rd. Annual Paper Meet, Mechanical Engineering Division, Institution of Engineers', Bangladesh, Chittagong, 1996, 330-337.
59. **Islam, M.F.** and Haque M.M., 'Effect of process variables on structure and properties of centrifugally cast Brass and Aluminium' Proc. and. Annual Paper Meet. Mechanical Engineering Division, Institution of Engineers', Bangladesh, 20-23 September 1995, Rajshahi, 35-41.
60. **Islam, M.F.** 'Diffusion bonding of super plastic Titanium Aluminide' Proc. 2nd Annual Paper Meet. Mechanical Engineering Division, Institution of Engineers', Bangladesh, 20-23 September 1995, Rajshahi, 194-204.
61. Ridley, N. and **Islam, M.F.** 'Isostatic diffusion bonding of microduplex alloys' Hot Isostatic Pressing'93, ed. Delaey, L. and Tas, H., Elsevier Science RV., (1994), 325-332).
62. Ridley, N., **Islam, M.F.** and Pilling, J. 'Superplasticity and diffusion bonding of microduplex Super Alpha-2' Structural Intermetallics, ed. Darolia, R., Lewandowski, J.J., Liu , C.T. et al., TMS, Warrendale PA, (1993), 63-68.
63. Ridley, N., **Islam, M.F.** and Pilling, J. 'Isostatic diffusion bonding studies on

superplastic Ti-6Al-4V and Super Alpha-2 intermetallic alloy'. Titanium' 92 - Science and technology, ed. Froes, F. H. and Caplan, I.L., TMS, 2, (1993), 1625-1632.

64. **Islam, M.F.** and Haque, M.M. 'Structure and properties of centrifugally cast Brass' Mech. Engg. Res., Vol. 12, 1989, 31-36.

### **International/National conference papers and Proceedings:**

1. **F. Islam** and M. Hasanuzzaman, "Effect of Firing Cycle and Glaze Variables on Reducing the Number of Pin-hole Defects", Proceedings of the 2nd International Conference on Industrial and Mechanical Engineering and Operations Management (IMEOM), 2020.
2. Matin, M.A., Siddique, M.N.A., Sharif, M.I., Mamun, M.A.A., Hakim, M.A., **Islam, M.F.** and Ramakrishna, S., "Past, Present and Future Perspectives of Municipal Solid Waste Management in Bangladesh: in Light of Japan and Singapore", Circular Economy Asia Pacific, 29 Aug 19 - 1 September. 2019, NUS, Singapore.
3. Noor, M., Al Mamun, M.A., Matin, M.A., **Islam, M.F.**, Haque, S., Rahman, F., Hossain, M.N. and Hakim, M.A., Effect of pH Variation on Structural, Optical and Shape Morphology of BiVO<sub>4</sub> Photocatalysts. In *2018 10th International Conference on Electrical and Computer Engineering (ICECE), 2018*, pp. 81-84, IEEE.
4. Hossain, T.M.S.A., Matin, M.A., Hakim, M.A. and **Islam, M.F.**, 2018, Fabrication and Characterization of NiO-doped BaTiO<sub>3</sub> for Multilayer Ceramic Capacitor. In *2018 10th International Conference on Electrical and Computer Engineering (ICECE), 2018*, pp. 77-80, IEEE.
5. Ali, S.A., Matin, M.A., Hakim, M.A. and **Islam, M.F.**, Effects of CoFe<sub>2</sub>O<sub>4</sub> substitution on magnetic properties of NiFe<sub>2</sub>O<sub>4</sub> spinel ferrite. In *IOP Conference Series: Materials Science and Engineering, 2018*, Vol. 438, No. 1, p. 012017, IOP Publishing.
6. Hossain, M.N., Matin, M.A., Hakim, M.A. and **Islam, M.F.**, Effects of Gd and Cr co-doping on multiferroic properties of Bi<sub>0.9</sub>Gd<sub>0.1</sub>Fe<sub>(1-x)</sub>Cr<sub>x</sub>O<sub>3</sub> (x= 0– 0.08). In *IOP Conference Series: Materials Science and Engineering, 2018*, Vol. 438, No. 1, p. 012016. IOP Publishing.
7. M.F. Rahman, M.S. Haque, M.H. Rizvi, M.A. Matin, M.A. Hakim and **M.F. Islam**, "Bismuth vanadate (BiVO<sub>4</sub>) nanoparticles: Preparation and characterization" International Conference on Nanotechnology and Condensed Matter Physics, Dhaka, Bangladesh, 11<sup>th</sup> -12<sup>th</sup> January, 2018.
8. Matin, M.A., Hossain, M.N., Rizvi, M.H., Zubair, M.A., Hakim, M.A., Hussain, A. and **Islam, M.F.**, 2017, December. Enhancing magnetoelectric and optical properties of co-doped bismuth ferrite multiferroic nanostructures *IEEE 19th*

*Electronics Packaging Technology Conference (EPTC), 2017, pp. 1-7, IEEE.*

9. M. N. Hossain, M. A. Matin, M. A. Hakim, M.M. Rhaman, B. C. Das, Mithun Kumar Das, A.A. Momin, and **M. F. Islam**, “ Variation of Structural Transformation and Dielectric Properties of Gd and Cr co-substituted BiFeO<sub>3</sub>”, 2nd International conference on "Physics for sustainable development and Technology" ICPSDT-2017, CUET, 10-11<sup>th</sup> Dec 2017.
10. Haque, M. S., Rahman, M. F., Zaman, M. M., Matin, M. A., Hakim, A. K. M. A., & **Islam, M. F.** (2017). Fabrication of CoNiP Thin Films with Improved Magnetic Property for Application in MEMS. In *Applied Mechanics and Materials* (Vol. 860, pp. 87-92). Trans Tech Publications.
11. A. Hussain, M.A. Matin, R.M. Turjo, M. Hassan, A.K.M.A. Hakim, M.F. Rahman, M.S. Haque and **M.F. Islam**, Aspects of Grain Size in Functional BTO/NZFO Multiphase Multiferroics, 1st International Conference on Materials and Manufacturing Engineering (ICMME 2015) 25 – 27 December, 2015, Islamic University of Technology (IUT), Board Bazar, Gazipur, Dhaka.
12. M. F. Rahman, M. S. Haque, D. Gerosa, M. A. Matin, M. Hasan, A. Hussain, A.K.M. A. Hakim and **M. F. Islam**, Fabrication and Characterization of Nano-structured MgMn<sub>2</sub>O<sub>4</sub> Spinel as Cathode for Rechargeable Magnesium Battery, 1st International Conference on Materials and Manufacturing Engineering (ICMME 2015) 25 – 27 December, 2015, Islamic University of Technology (IUT), Board Bazar, Gazipur, Dhaka.
13. M.S. Haque, M.F. Rahman, M. M. Zaman, M.A. Matin , M. Hasan, A. Hussain, A.K.M.A. Hakim, and **M.F. Islam** Fabrication of CoNiP Thin Films with Improved Magnetic Property for Application in MEMS, 1st International Conference on Materials and Manufacturing Engineering (ICMME 2015) 25 – 27 December, 2015, Islamic University of Technology (IUT), Board Bazar, Gazipur, Dhaka.
14. Abu Naser Rashid Reza, TashneemAra Islam, ArmanHussain, **Md. Fakhru Islam**, Md. Mohar Ali Bepari, Improvement of the Mechanical Properties of Titania stabilized Alumina Ceramic Cutting tool, International Conference on Mechanical, Industrial and Materials Engineering 2015 (ICMIME2015) 11-13 December, 2015, RUET, Rajshahi, Bangladesh.

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