

CURRICULUM VITAE

(Dr. Md. Minhaz-Ul Haque)

Personal

Name : MD. MINHAZ-UL
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Date of Birth : 1st August 1978
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Education

Doctor of Philosophy (2012) : **Chemical and Materials Engineering**, “Leonardo da Vinci PhD School,” Faculty of Engineering, University of Pisa, Italy.
Title of thesis: “Preparation, compatibilization and characterization of low environmental impact polymer composites containing natural fibres”.
<https://etd.adm.unipi.it/t/etd-03152012-184002/>

Master of Science (2000) : First Class (1st position) in **Applied Chemistry & Chemical Technology**, University of Rajshahi, Bangladesh.

Bachelor of Science (Honours) (1999) : First Class (3rd position) in **Applied Chemistry & Chemical Technology**, University of Rajshahi, Bangladesh.

Higher Secondary Certificate (1996) : **Science Group**, Sardah College, Rajshahi, Bangladesh.

Secondary School Certificate (1994) : **Science Group**, Yousufpur Krishi High School, Rajshahi, Bangladesh.

Professional Employments

Oct 2016 to Present : Professor, Dept. of Applied Chemistry & Chemical Engineering, Islamic University, Kushtia, Bangladesh.

Dec 2017-Mar 2019 : Postdoc, Dept. of Mechanical Engineering, Yamaguchi University, Japan.

Aug 2014-Jan 2016 : Visiting researcher, Wood and Bionanocomposite research groups, Lulea University of Technology, Lulea Sweden.

May 2013-Oct 2016 : Associate Professor, Dept. of Applied Chemistry & Chemical Technology, Islamic University, Kushtia, Bangladesh.

Sep 2007-May 2013 : Assistant Professor, Dept. of Applied Chemistry & Chemical Technology, Islamic University, Kushtia, Bangladesh.

Sep 2004-Sep 2007 : Lecturer, Dept. of Applied Chemistry & Chemical Technology, Islamic University, Kushtia, Bangladesh.

Prior experience in implementing research project

<i>TITLE OF THE PROJECT/RESEARCH ACTIVITIES</i>	<i>DONOR/SPONSOR</i>	<i>POSTION IN THE PROJECT</i>	<i>YEAR</i> <i>from to</i>
Development of ecofriendly nanocomposite based on natural rubber, vinyl acetate and rape straw	University Grant Commission	Director	Jul 2020 June 2021
Preparation and characterization of cellulose acetate from wheat straw	Ministry of Science and Technology	Director	Jul 2020 June 2021
Synthesis of cellulose acetate from rice straw by trans-esterification reaction	Ministry of Science and Technology	Director	Jul 2019 June 2020
Preparation and characterization of cellulose acetate from papaya stem fibres	Islamic University	Director	Jul 2019 June 2020
Bio-plastics and Bio-composites from Renewable Resources of Bangladesh	University Grant Commission	Associate Director	Jul 2016 June 2017
Fabrication of nano/filter by banana rachis nano/cellulose and clay composites for industrial waste water purification	Ministry of Science and Technology	Associate Director	Jul 2017 June 2018

Supervised Research student

M.Phil student: 2

M.Sc student: 10

Skills

Languages : Bengali (Native)

English (B2: written and spoken)

Japanese (Basic)

Italian (A1: written and spoken)

Technical : Synthesis (Cellulose acetate, PVAc, PMMA, PU etc.) and Functionalization (PCL, PLA, starch, cellulose etc.) of polymers; Processing of polyolefin (EVAc, PE, PP, PS etc.) and polyester (PCL, PLA, PHB, PHBV etc.) with natural fibres, cellulose microfibers, nanocellulose, nano particle of CaCO₃ and organoclay.

: Melt processing of different polymers such as EVA, PLA, PCL, LDPE, HDPE, PP, natural rubber etc. as well as Solvent casting of PLA, PVA, PU etc.

: Material characterization by Differential Scanning Calorimetry (DSC), Thermogravimetric Analysis (TGA), Dynamic Mechanical Thermal Analysis (DMTA), Infrared Spectroscopy (FT-IR), Atomic Force, Transmission Electron, Scanning Electron and Optical Microscopies (AFM, TEM, SEM, OM), X-ray diffractometry, melt rheology, Tensile and Fatigue analyses etc.

Awards and Scholarships

1. Highly Cited Article Award 2020 for a research paper published in Advanced Industrial and Engineering Polymer Research.
2. Postdoctoral Scholarship (Aug 2014 to Jan 2016), Kempe Foundation, Sweden.
3. Polymers Best Paper Award 2014 (<http://www.mdpi.com/2073-4360/2/4/554>)
4. University grant for three years (13,638.00 Euro/year), University of Pisa, Italy, (2009-2011).
5. University prize, University of Rajshahi, Rajshahi, Bangladesh, 2009
(In recognition of securing the First Class First in Applied Chemistry in Master of Science examination of the year 2000)
6. Gold medal award, Sher-E- Bangla Fazlul Haque Hall, University of Rajshahi, Bangladesh, 2002
(In recognition of securing the First Class in Applied Chemistry in Bachelor of Science examination of the year 1999)

Other Activities

1. House tutor, Shahid Ziaur Rahman Hall, Islamic University, Kushtia (Jul 2013- August 2014)
2. April - October 2011, Training program "*Ph.D plus: il dottorato si fa strada*", organized by University of Pisa, Italy.
3. Representative of the PhD student, Department of Chemical Engineering, Industrial Chemistry and Materials Science, University of Pisa, Italy (2010 to 2011)
4. House tutor, Begum Fazilatunnessa Mujib Hall, Islamic University, Kushtia (Jul 2007- Dec 2008)

Country Visited for Academic Purposes

1. **China**- From 21 to 23 August 2023, Invited lecture, 2023 China South and Southeast Asia Collaborative Symposium on Wood Science and Technology, Kunming Southwest Forestry University, Kunming, China.
2. **Turkey**- From 13 to 17 March 2023, Participant of Erasmus+ Staff Mobility for Teaching, Cankiri Karatekin University.
3. **Sweden**- From 9 to 10 Dec 2019, Trial Lecture, Karlstad University.
4. **Japan**- From Dec 2017 to Mar 2019, Postdoctoral Researcher, Yamaguchi University.
5. **Australia**- From 28 Jul to 5 Aug 2018, 11th Asian-Australasian Conference on Composite Materials, Cairns (Oral presentation) and to visit University of Southern Queensland, Toowoomba, Australia.
6. **Sweden**- From Aug 2014 to Jan 2016, Postdoc Scholar, Lulea University of Technology.
7. **Latvia**- From 17 to 19 Aug 2015, poster presentation in Materials Science meeting, Riga, Latvia.
8. **Italy**- From Jan 2009 to May 2012, PhD program, University of Pisa
9. **Poland**- From 10 to 22 Oct 2011, Trainee, "*Studies on composites of PLA with nanocellulose by various techniques (AFM, DMTA, impact testing)*", Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences, Lodz, Poland.
10. **France**- From 4 to 6 July 2011, Participation to summer lecture in material sciences entitled "*Engineering High Performance Polymers Composites*", East Paris Institute of Chemistry and Materials Science (ICMPE - EPICaMS), Thiais, France.
11. **India**- From 24 to 26 September 2010, Second International Conference on Natural Polymers & Biomaterials (ICNP-2010), Kerala, India. (Invited lecture).
12. **Germany**- From 7 to 10 March, 2010, 10th European Symposium on Polymer Blends, Dresden, Germany. (Poster presentation).

References

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Biomedical Materials, CNR,

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LIST OF PUBLICATIONS

Book Chapters

1. **Md. Minhaz-UI Haque.** Effect of modifications on natural rubber, *Handbook of Natural Polymers, Volume 2, Functionalization, Surface Modification, and Properties*, edited by, M. S. Sreekala, L Ravindran, K. Goda, S. Thomas, Elsevier 2024, pp 223-256.
2. **Md. Minhaz-UI Haque.** Property Improvements of Wood and Wood-Plastic Composites in *Wood Polymer Composites: Recent Advancements and Applications* edited by Mavinkere Rangappa, S., Parameswaranpillai, J., Kumar, M.H., Siengchin, H.S, Springer 2021, PP 67-92.
3. **Md. Minhaz-UI Haque.** Polypropylene (PP)/Cellulose-Based Biocomposites and Bionanocomposites in *Polypropylene-Based Biocomposites and Bionanocomposites* edited by Visakh P. M., Matheus Poletto, John Wiley & Sons 2017, PP 23-54.

Full Papers

1. Md Helal Uddin, Md. Shafiqul Islam, Md. Abdullah Al, Mst. Honufa Khatun, **Md. Minhaz-UI Haque**, Development of an ecofriendly composite based on naturalrubber, vinyl acetate and rapeseed plant straw: effect of natural rubber modification, *International Journal of Education & Applied Sciences Research*, 2024; (1):1-19.
2. Tanjeena Zaman, Talukdar Mohammad Fahad, Masud Rana, Md Shahadat Hossain, Al Mamun, Md Anwarul Haque, Ashananda Sarker, Md Shariful Islam, **Md Minhaz-UL Haque**, Tarannum Naz, Md Imran Nur Manik, Hazrat Ali, Kyo Yamasu, Alam Khan. Endosulfan affects embryonic development synergistically under elevated ambient temperature. *Environmental Science and Pollution Research* **30**, 73393–73404 (2023). <https://doi.org/10.1007/s11356-023-27665-z>
3. MM Islam, MS Islam, M Maniruzzaman, **Md. Minhaz-UI Haque**, AA Mohana. Banana Rachis CNC/Clay Composite Filter for Dye and Heavy Metals Adsorption from Industrial Wastewater. *Engineering Science & Technology*, 2021;**2**: 44-56
4. **Md. Minhaz-UI Haque**, Koichi Goda, Shinji Ogoe, Yuta Sunaga. Fatigue analysis and fatigue reliability of polypropylene/wood flour composites. *Advanced Industrial and Engineering Polymer Research*. 2019;**2**(3):136-142.
5. **Md. Minhaz-UI Haque**, Koichi Goda, Hirokazu Ito, Shinji Ogoe, Masaki Okamoto, Tomoyuki Ema, Keiko Kagawa, Hidetaka Nogami. Fatigue performance of wet and dry pulverized wood flour reinforced PP composite. *Journal of Composites Science*. 2019;**3**:20.
6. **Md. Minhaz-UI Haque**, Koichi Goda, Hirokazu Ito, Shinji Ogoe, Masaki Okamoto, Tomoyuki Ema, Keiko Kagawa, Hidetaka Nogami. Melt-viscosity and mechanical behaviour of polypropylene (PP)/wood flour composites: effect of pulverization of wood flour with and without water. *Advanced Industrial and Engineering Polymer Research*. 2019;**2**:42-60.
7. **Md. Minhaz-UI Haque**, Natalia Herrera, Shiyu Geng, Kristiina Oksman. Melt compounded nanocomposites with semi-interpenetrated network structure based on natural rubber, polyethylene, and carrot nanofibers. *Journal of Applied Polymer Science* 2018;**135**: DOI: 10.1002/app.45961.
8. **Md. Minhaz-UI Haque**, Debora Puglia, Elena Fortunati, Mariano Pracella. Effect of reactive functionalization on properties and degradability of poly(lactic acid)/poly(vinyl acetate) nanocomposites with cellulose nanocrystals. *Reactive and Functional Polymers* 2017;**110**:1-9.

9. **Md. Minhaz-UI Haque**, Kristiina Oksman, Semi-IPN of biopolyurethane, benzyl starch and cellulose nanofibers: structure, thermal and mechanical properties. *Journal of Applied Polymer Science* 2016;**133**: DOI: 10.1002/app.43726.
10. Shiyu Geng, **Md. Minhaz-UI Haque**, Kristiina Oksman. Crosslinked poly (vinyl acetate)(PVAc) reinforced with cellulose nanocrystals (CNC): Structure and mechanical properties. *Composite Science and Technology* 2016;**126**:35-42.
11. K Piekarska, P Sowinski, E Piorkowska, **Md. Minhaz-UI Haque**, M Pracella. Structure and properties of hybrid PLA nanocomposites with inorganic nanofillers and cellulose fibers. *Composites Part A* 2016;**82**:34-41.
12. Mariano Pracella, **Md. Minhaz-UI Haque**, Massimo Paci, Vera Alvarez. Property tuning of poly(lactic acid)/cellulose bio-composites through blending with modified ethylene-vinyl acetate copolymer, *Carbohydrate Polymers* 2016;**137**:515-524.
13. **Md. Minhaz-UI Haque**, M. Maniruzzaman, Md. Shamim Reza. Thermal and Tensile Mechanical Behavior of Polystyrene graft Acetic Anhydride Treated Pulque Fibers. *Journal of Natural Fibres* 2016;**13**(2):125-136.
14. Md. Tipu Sultan, **Md. Minhaz-UI Haque**, M. Maniruzzaman, Md. Ashraful Alam. Composite of polypropylene with pulque fibres: Morphology, thermal and mechanical properties. *Journal of Thermoplastic Composite Materials* 2015;**28**:1615-1626.
15. **Md. Minhaz-UI Haque**, Ariel Stocchi, Vera Alvarez, and Mariano Pracella. Fracture Behaviour of Biodegradable Polymer/Polyolefin-natural Fibers Ternary Composites Systems. *Fibers and Polymers* 2014;**15**(12):2625-2632.
16. Mariano Pracella, **Md. Minhaz-UI Haque** Debora Puglia. Morphology and properties tuning of PLA/cellulose nanocrystals bionanocomposites by means of reactive functionalization and blending with PVAc. *Polymer* 2014;**55**(16):3720-3728.
17. **Md. Minhaz-UI Haque**, Mst. Ayesha Akther Zaman, M. H. Rahaman, M. Z. Hossain, M. Maniruzzaman. Thermal and Tensile Mechanical Behavior of Acetic Anhydride Treated Silk Fibres. *International Journal of Materials Science and Applications* 2014;**3**(3):106-110.
18. Md. Hafezur Rahaman, Mst Ayesha Akhter Zaman, **Md. Minhaz-UI Haque**, Md. Shadiqul Islam and Basir Ahmed, "Thermal, Mechanical and Morphological Properties of Acetylated Pulque Fiber", *Journal of Applied Science and Technology* 2013;**9**(1):12-17.
19. E. Fortunati, D. Puglia, J. M. Kenny, **Md. Minhaz-UI Haque**, M. Pracella. Effect of ethylene-co-vinyl acetate-glycidylmethacrylate and cellulose microfibers on the thermal, rheological and biodegradation properties of poly(lactic acid) based systems, *Polymer Degradation and Stability* 2013;**98**:2742-2751.
20. **Md. Minhaz-UI Haque**, M. E. Errico, G. Gentile, M. Avella, M. Pracella. Functionalization and compatibilization of poly(ϵ -caprolactone) composites with cellulose microfibres: morphology, thermal and mechanical properties. *Macromolecular Materials and Engineering* 2012;**297**:985-993.
21. **Md. Minhaz-UI Haque**, Vera Alvarez, Massimo Paci, Mariano Pracella. Processing, compatibilization and properties of ternary composites of Mater-Bi with polyolefins and hemp fibres. *Composite Part-A* 2011;**42**:2060-2069.
22. Mariano Pracella, Cristiano Pancrazi, **Md. Minhaz-UI Haque**, Aldo D'Alessio. Thermal and micro structural characterization of compatibilized polystyrene/natural fillers composites. *Journal of Thermal Analysis and Calorimetry* 2011;**103**:95-101.
23. **Md. Minhaz-UI Haque**, Mariano. Pracella. Reactive Compatibilization of Composites of Ethylene-Vinyl Acetate Copolymers with Cellulose Fibre. *Composite Part A* 2010;**41**:1545-1550.

24. Mariano Pracella, **Md. Minhaz-UI Haque**, Vera Alvarez. Compatibilization and Properties of Ethylene-co-Vinyl Acetate Composites Containing Surface Functionalized Cellulose Microfibres. *Macromolecular Materials and Engineering* 2010;**295**:949-957.
25. Mariano Pracella, **Md. Minhaz-UI Haque**, Vera Alvarez. Functionalization, compatibilization and properties of polyolefin composites with natural fibres. *Polymers* 2010;**2**:554-574.
26. M. Maniruzzaman, **Md. Minhaz-UI Haque**, M. A. Gafur, Md. Sahadat Hossain. Properties of Pulque fibre reinforced LDPE Composites. *Textile Asia* 2008; **XXXIX**: 37-39.
27. M. S. Alam, G. M. A. Khan, S. M. Abdur Razzaque, M. J. Hossain, **Md. Minhaz-UI Haque**, Sonia Zebsyn. Dyeing of cotton fabric with reactive dyes and their physico-chemical properties. *Indian Journal of Fibre & Textile Research* 2008;**33**:58-65.
28. Md. Ibrahim H. Mondal, **Md. Minhaz-UI Haque**. Effect of grafting with methacrylate monomers onto jute constituents using potassium persulphate initiator catalysed by Fe (II). *Journal of Applied Polymer Science* 2007;**103**:2369-2375.
29. M. Maniruzzaman, **Md. Minhaz-UI Haque**, M. H. Rahman, M. A. Rahman. Effect of grafting of acrylate monomers on some properties of Agave cantala fibre. *Journal of Polymer Materials* 2006;**23**:279-285.

Conference communications

1. **Md. Minhaz-UI Haque**, Koichi Goda, Kristiina Oksman. Preparation and characterization of cellulose nanocomposites based on IPN technique of natural rubber and poly(methyl methacrylate). 2018 JCOM Young Researcher Symposium, August 29-30, 2018, Hakone, Japan.
2. **Md. Minhaz-UI Haque**, Koichi Goda, Hirokazu Ito, Shinji Ogoe, Masaki Okamoto, Tomoyuki Ema, Keiko Kagawa, Hidetaka Nogami. Melt-viscosity and mechanical behaviour of pulverized wood flour reinforced polypropylene composites, 11th Asian–Australasian Conference on Composite Materials, Cairns Convention Centre, Cairns, Australia. July 29 - August 1, 2018.
3. **Md. Minhaz-UI Haque**, Koichi Goda, Hirokazu Ito, Shinji Ogoe, Masaki Okamoto, Tomoyuki Ema, Keiko Kagawa, Hidetaka Nogami. Mechanical properties of polypropylene (PP)/wood flour composites: effect of pulverization with and without water of wood flour, ECCM18 - 18th European Conference on Composite Materials, Athens, Greece, 24-28th June 2018.
4. Mariano Pracella, **Md. Minhaz-UI Haque**. Preparation and characterization of PLA nanocomposites with nanocellulose filled PVAc. 15th European Conference on Composite Materials - ECCM15, Venice (Italy), 24 to 28 June 2012.
5. Mariano Pracella, **Md. Minhaz-UI Haque**. Functionalization, compatibilization and properties of biodegradable polymer composites with cellulosic fibres. Polymers for Advanced Technologies (PAT) 2011, Lodz, Poland, 2nd - 5th October, L-01, p-25.
6. Mariano Pracella, **Md. Minhaz-UI Haque**, Maria Errico, Gennaro Gentile, Vera Alvarez. Blends and composites of biodegradable polyesters with cellulosic fibres. Effect of chemical modification on the morphology thermal and mechanical properties. EPF 2011, 26 June- 1 July, Granda, Spain, T6-OP53, p-583.
7. Mariano Pracella, **Md. Minhaz-UI Haque**. Functional modification of polymer composites with cellulose and natural fibres. Phase interactions, morphology and properties. *Second International Conference on Natural Polymers & Biomaterials (ICNP-2010)*, September 2010, Kerala, India, IL-153, p-152.
8. V. Alvarez, **Md. Minhaz-UI Haque**, L. Luduena, M. Paci, M. Pracella. Preparation and Properties of Biodegradable Polymer/Polyolefin-Natural Fibers Ternary Composites Systems. *XII Latin American Symposium of Polymers, SLAP 2010*, July 2010, Costa Rica, O-94.

9. V. Alvarez, J. Pérez, **Md. Minhaz-UI Haque**, M. Pracella. Effect of Chemical Modification on the Properties of Ethylene-co-Vinyl Acetate/Cellulose Composites. *XII Latin American Symposium of Polymers, SLAP 2010*, July 2010, Costa Rica, O-58.
10. M. Pracella, **Md. Minhaz-UI Haque**, M. Paci, S. Filippi. Thermal Behaviour of Polymer/Cellulose Fibre Composites. Effect of Chemical Modification and Interfacial Interactions. *XXXII National Congress on Calorimetry, Thermal Analysis and Applied Thermodynamics, AICAT 2010*, May 26-28, 2010, Trieste, Italy, Book of Abs. pp. 20-25.
11. **Md. Minhaz-UI Haque**, V. Alvarez, M. Pracella. Ethylene Vinyl Acetate/Cellulose Composites: Functional Modification, Morphology and Phase Interactions. *10th European Symposium on Polymer Blends*, March 7-10, 2010, Dresden, Germany, Book of Abs. p- 153.
12. M. Pracella, **Md. Minhaz-UI Haque**, G.D. Guerra, N. Barbani, E. Piorkowska. Compatibilization and Property Control of Polyolefin and Polyester Composites Containing Natural Fibres. *V International Conference on Science and Technology of Composite Materials, ComatComp 09*, 7-9 Oct. **2009**, Donostia- San Sebastian, Spain, Proceedings, pp. 643-646.
13. Shamim-Ara Pervin, **Md. Minhaz-UI Haque**, M. A. Akther Zaman, Basir Ahmed, M. Maniruzzaman. Grafting of *Agave atrovirens* (Pulque) fibre with different types of vinyl monomers. *Bangladesh Chemical Congress 2006*, p-67.
14. M. A. Z. Rezvhe, **Md. Minhaz-UI Haque**, M. H. Rahaman, M. A. Gufur, M. Maniruzzaman. Physical and Mechanical properties of *Agave cantala* fiber reinforced LDPE Composites. *Bangladesh Chemical Congress 2006*, p-68.
15. M. H. Rahaman, **Md Minhaz-UI Haque**, B. Ahmed, M. A. Gufur, M. Maniruzzaman. Mechanical properties of LDPE composites reinforced with palm fibre. *Bangladesh Chemical Congress 2006*, p-69.
16. M. A. Akther Zaman, **Md Minhaz-UI Haque**, Md. Sahadat Hossain, M. A. Gufur, M. Maniruzzaman. Improvement in mechanical characteristics of pulque fibre reinforced LDPE composites through chemical modification of fibres. *Bangladesh Chemical Congress 2006*, p-70.