

# Professor Dr. Mazharul Islam

P.Eng. (APEGA, Canada), Fellow (IEB, Bangladesh), Member (ASME, USA), Member (ASEE, USA)

## Personal Details

Personal Web: <https://sites.google.com/site/mazhar1970/>

Clarivate Analytics' Publons : <https://publons.com/a/1570948/>

Elsevier's SCOPUS : <http://www.scopus.com/authid/detail.url?authorId=24827852800>

Google Scholar : <http://scholar.google.com/citations?user=itQ2bUwAAAAJ>

LinkedIn : <https://www.linkedin.com/in/mazharulislam1970/>

## Educational Qualifications

2008 Doctor of Philosophy in Mechanical Engineering  
University of Windsor, Windsor, Ontario, Canada.

2001 Masters of Science in Renewable Energies  
Carl von Ossietzky University of Oldenburg, Germany.

1998 Masters of Science in Mechanical Engineering  
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh.

1993 Bachelor of Engineering in Mechanical Engineering  
Regional Engineering College (renamed as National Institute of Technology), Durgapur, India.

1988 H.S.C.  
Dhaka College, Dhaka, Bangladesh.

1986 S.S.C.  
Government Laboratory High School, Dhaka, Bangladesh.

## Professional Affiliations/Titles

- P. Eng. : The Association of Professional Engineers and Geoscientists of Alberta (APEGA), Canada
- Fellow : The Institution of Engineers Bangladesh (IEB), Bangladesh
- PEV : Board of Accreditation for Engineering and Technical Education (BAETE), IEB, Bangladesh
- Member : The American Society of Mechanical Engineers (ASME), USA

## Notable Academic Honors and Awards

- Scholarship from the Indian Government  
Undergraduate study in Mechanical Engineering at Regional Engineering College, Durgapur, India (1990 to 1993)
- German Academic Exchange Service (DAAD) Scholarships  
Postgraduate Program Renewable Energy at University of Oldenburg, Germany (August 2000 to September 2001)

- Ontario Graduate Scholarship (OGS)  
Doctoral study in Mechanical Engineering at University of Windsor, Canada (May 2004 to April 2005)
- Ontario Graduate Scholarship (OGS)  
Doctoral study in Mechanical Engineering at University of Windsor, Canada (May 2005 to April 2006)
- Ontario Graduate Scholarship in Science & Technology (OGSST)  
Doctoral study in Mechanical Engineering at University of Windsor, Canada (May 2006 to April 2007)
- Ontario Graduate Scholarship in Science & Technology (OGSST)  
Doctoral study in Mechanical Engineering at University of Windsor, Canada (May 2007 to April 2008)

## Academic Positions

Since January 13, 2020 - Director, Institutional Quality Assurance Cell (IQAC), Ahsanullah University of Science and Technology, Dhaka, Bangladesh

- Implementation, and Monitoring of Outcome-Based Education (OBE) Systems at AUST
  - Monitoring the development of OBE-based curricula at Architecture, Engineering & Business Programs of AUST for UGC's approval as the Director IQAC
  - Active participation in the activities of the central committee of Ahsanullah University of Science and Technology (AUST) as the Co-Chairman to implement OBE at AUST since February 9, 2020.
- Preparation of Guideline/Report/EBook
  - 2021 "The Framework for Implementing Outcome-based Education (OBE) at AUST", available at [https://drive.google.com/file/d/1Dx4-\\_IIt3SlzqSckW7FU0i5PhoIKZZh0](https://drive.google.com/file/d/1Dx4-_IIt3SlzqSckW7FU0i5PhoIKZZh0).
  - 2020 "AUST Guideline for Online Teaching and Learning", prepared under the supervision of the VC of AUST. The preamble of the guideline was written by the VC.
- Facilitation of Online Course
  - 2020 "Online Teaching & Learning" : 4-week long online course offered for the faculty members of AUST during April 2 to 29
- Organization of Symposiums as the Convener of the Organizing Committee
  - International OBE Symposium 2022: "Non-Conventional Teaching and Learning Activities in Engineering Education from the OBE Perspective", July 16-17, 2022 (Under Preparation) (<http://iqac.aust.edu/obe-symposium-2022>)
  - International OBE Symposium 2021: "Implementation of Outcome-based Education in the Engineering Programs to Meet the Requirements of the Washington Accord", November 27-28, 2021 (<http://iqac.aust.edu/obe-symposium-2021>)
- Internal Facilitation of Workshops at AUST
  - "Hands-on Workshop: Thesis Journey using LaTeX", June 25, 2020 (jointly facilitated for the final year Mechanical Engineering students of AUST)
  - "OBE Implementation Framework at AUST", Hands-On Workshop, MPE Conference Room, AUST, Bangladesh, Jan 14, 2020
- External Invited Facilitation of Workshops
  - "Outcome Based Education (OBE) Curriculum Design", December 30, 2021, conducted by the IQAC of Varendra University, Rajshahi, Bangladesh

- “Workshop on OBE Curriculum Development”, 25 November 2021, Organized by the University Grants Commission of Bangladesh, Strategic Planning & Quality Assurance Division (SPQA), Bangladesh
- “Outcome Based Education Curriculum”, 30 January, 2021, Organized by IQAC, Independent University Bangladesh (IUB)
- Facilitation of Training Events
  1. Training Course for the New Faculty Members on “Introduction to Outcome-based Education (OBE)”, November 24-25, 2021
    - Mazharul Islam. 2019. “Seminar on “Outcome-Based Education”, An introductory seminar for the School of Business, AUST, March 1, 2020
    - “Training Program on Outcome-Based Education for the New Faculty Members”, AUST, 2020
- Webinar/Online Presentations
  - Mazharul Islam. 2020. “Reflections from BAETE’s Second Symposium and the Way Forward for the AUST Engineering Programs”. A webinar arranged for the faculty members of AUST on Oct 7, 2020.
  - Mazharul islam. 2020. “Conducting the Final Exams in Google Classroom”. An online presentation arranged for the faculty members of AUST on Sep 30, 2020.

Since April 2018 - Professor, Department of Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka, Bangladesh

- Member of the Academic Council of AUST
- Teaching:
  - Power Plant Engineering (ME 4201)
  - Aerodynamics (ME 4019)
  - Renewable Energy (ME 4011)
  - Instrumentation and Measurement Sessional (ME 3110)
  - Communication Seminar (ME 3100)
  - Basic Mechanical Engineering (ME 1211)
- Supervision of Undergraduate Final Year Projects
  - Project and Thesis (ME 4000)
- Research Project: “Design and Development of Semi Automatic Briquettes/Pellet Manufacturing Machines”, funded by GIZ, GmbH, Germany (July 2018 to December 2018)
- Design, Development, and Implementation of Outcome-Based Education (OBE) Systems in the Six Engineering Programs at AUST
  - Worked as the Member Secretary of the central committee of AUST to implement OBE in the six engineering programs between 13 January 2019 to 8 February, 2020.
  - Designed and developed a dedicated website (URL: <https://sites.google.com/aust.edu/obe/>) on OBE implementation
  - Prepared the following initial templates for the engineering programs of AUST:
    - \* Course Outline

- \* Course Specification
- \* Final Examination Vetting Form
- \* Course Report
- \* CO-PO Direct Measurements
- Delivered presentation among the central committee members
  - \* Mazharul Islam. 2018. “Framework for OBE Implementaton at AUST”. The First Central Meeting on OBE, December 18.
  - \* Mazharul Islam. 2019. “Introduction to Outcome-Based Education (OBE)”. The Second Central Meeting on OBE, January 9.
- Facilitation of Workshops
  1. Mazharul Islam. 2019. “OBE Implementation Framework at AUST”, Hands-On Workshop, EEE Conference Room, AUST, Bangladesh, Dec 18, 2019
  2. Mazharul Islam. 2019. “OBE Implementation at AUST”, Hands-On Workshop on “Course Outline” and “Course Specifications”, MPE Conference Room, AUST, Bangladesh, Dec 3, 2019
  3. Mazharul Islam. 2019. “OBE Implementation at AUST”, Hands-On Workshop on “Course Outline” and “Course Specifications”, MPE Conference Room, AUST, Bangladesh, Nov 28, 2019
  4. Mazharul Islam. 2019. Writing Course Outcomes for Outcome-Based Education (OBE). A workshop on “Writing Course Outcomes”, Department of Mechanical & Production Engineering, AUST, Dhaka, Bangladesh, Mar 28.
  5. Mazharul Islam. 2019, “Writing Course Outcomes for Outcome-Based Education (OBE)”. A Workshop on “Writing Course Outcomes”. February 14, 2019.
- Facilitation of Training Events
  1. Mazharul Islam. 2018. “Effective Class Sessions for Students”. Orientation on Teaching & Learning for New Faculty Members, Ahsanullah Univresity of Science and Technology (AUST), Dhaka, Bangladesh. May 9, 2018
- Seminar Presentations
  1. Mazharul Islam. 2019. “Introduction to Outcome-Based Education(OBE)”. A Seminar on “Introduction to OBE” at the Department of Arts & Science, AUST, January 29
  2. Mazharul Islam. 2019. “Introduction to Outcome-Based Education (OBE)”. A Seminar on “Introduction to OBE” at the Department of Mechanical and Production Engineering, February 7.
  3. Mazharul Islam. 2019. “Implementation of OBE using Selected Culminating. Courses”. A seminar delivered to the faculties of AUST, Dhaka, Bangladesh, Oct 10, 2019.
  4. Mazharul Islam. 2019. “Mapping Graduate Attributes with Knowledge Profiles, Complex Engineering Problem Solving, and Complex Engineering Activities ”, A Seminar for the AUST Faculties, VC Seminar Room, AUST, Nov 12
  5. Mazharul Islam. 2019. “Avoiding Plagiarism: OBE Perspective”. Seminar on “Avoiding Plagiarism in Engineering Education”, VC Seminar Room, AUST, Nov 21, 2019
  6. Mazharul Islam. 2019. “Seminar on “Outcome-Based Education””, An introductory seminar for the faculties of the Department of Architecture, AUST, Dec 10, 2019

November 2017 to April 2018 - Associate Professor, Department of Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka, Bangladesh

- Teaching:
  - Basic Mechanical Engineering (ME 1211)
  - Engineering Drawing (ME 1214)
  - Engineering Drawing-II (ME 108)
- Field supervision of two postgraduate students of IIUM, Malaysia:
  - “Design Analysis of Smaller Capacity Horizontal Axis Wind Turbines for Comoros Island” - Ali Said
- Facilitation of Workshops
  1. Mazharul Islam. 2018. “Writing Course Outcomes for Outcome-Based Education (OBE)”. OBE Workshop, Department of Mechanical and Production Engineering, April 8, 2018.
- Facilitation of Training Events
  1. Mazharul Islam. 2017. “Effective Class Sessions for Students”. Orientation on Teaching Methodology for New Faculty Members, Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh. (Invited)

July 2015 to July 2017 - Associate Professor, Department of Mechanical Engineering, Kulliyah of Engineering, International Islamic University Malaysia, Malaysia

- Teaching:

Thermofluid Engineering (MEC 2920)	Computer Aided Engineering (MEC 4865)
Thermal Sciences (MEC 2705)	Aerospace Engineering Lab 1 (MEC 2700)
Computational Fluid Dynamics (MEC 4863)	
- Research Project:

CFD Analysis of Straight Bladed Vertical Axis Wind Turbines with Selected Transition and Turbulence Models – Funded by the Ministry of Higher Education (MOHE), Malaysia (December 2015 – June 2017)
- Trainer for Postgraduate Development Program, Student Smart Learning and Research Training Unit (SMART), IIUM, Malaysia  
”How to Avoid Plagiarism”, 1st April 2017, 2.00 pm - 4:30 pm, Package 3
- Supervision of Postgraduate Students:
  1. CFD Analysis of Straight Bladed Vertical Axis Wind Turbines with Selected Transition and Turbulence Models - Nur Farah ‘Aqilah Bt Mohamed Zaki (February 2016 to July 2017)
  2. Adjoint-Based Automotive Shape Optimization to Increase Fuel Efficiency - Muhammad Anas B Sahazubir (February 2017 to to July 2017)
- Supervision of Undergraduate Final Year Projects (FYP1 & FYP2):
  1. “CFD Analysis Around Ahmed Body Using Local Correlation-Based Transition Model” - Nur Farah Nabihah Binti Che Hadi (September 2015 to August 2016)
  2. “Energy Simulation Of A Malaysian Residential Building” - Hanif Mohamad (September 2015 to August 2016)

3. “Analysis of a Horizontal Axis Wind Turbine using QBLADE” - Amirul Hakim Bin Zuhdi (February 2016 to January 2017)
4. “Analysis of a Vertical Axis Wind Turbine using QBLADE” – Muhammad Anas Bin Sahazubir (February 2016 to January 2017)
5. “CFD Analysis of Low Reynolds Number Airfoils using SU2” – Muhammad Hafzuddin Bin Ismail (February 2016 to January 2017)
6. “Effects Of Mesh Quality on CFD Analysis of Airfoils” - Mohd Hanif Bin Mohamad (September 2016 to June 2017)
7. “CFD Analysis of Backward-Facing Step At Subsonic Speeds Using Openfoam” - Muhammad Muizzuddin Bin Mohd Pauzi (September 2016 to June 2017)
8. “CFD Analysis of A Light Aircraft” - Muhammad Nazrin Bin Ishak (September 2016 to June 2017, shortlisted for the AEROS Student Awards 2017)

- Collaborative Research Activities:

Engaged in collaborative research works with partners from different countries, including Canada, Czech Republic, Croatia, Germany, Italy and Malaysia.

- Research Group:

I took an initiative to form a special-purpose Research Group on Engineering Education at the Kulliah of Engineering and was selected as the founding secretary of this group.

November 2013 to June 2015 - Research Associate, Department of Mechanical and Manufacturing Engineering, Schulich School of Engineering, University of Calgary, Canada

- Funded from a combination of endowed funds and NSERC/ENMAX IRC in Renewable Energy (5-year total budget: 2.25 million Canadian \$).
- Conducted research activities mainly related to computational fluid dynamics (CFD) analysis under the directives/interests of the NSERC/ENMAX Industrial Research Chair in Renewable Energy.
- Actively used the computing facility of WestGrid ([www.westgrid.ca](http://www.westgrid.ca)) for CFD simulations using OpenFOAM.
- Assisted selected graduate students of the Chair in their post-graduate (M.Sc & Doctoral) studies.
- Corresponded and learned advanced CFD related techniques (like dynamic meshing, finite volume schemes and solutions) from Wikki Ltd. UK (<http://wikki.co.uk>) mainly for solving problems related to aerodynamics.
- Engaged in collaborative research works with partners from different countries, including Czech Republic, Croatia, Germany, Italy, Malaysia, the UK.

October 2008 to August 2013 - Assistant Professor, Department of Mechanical Engineering, Taibah University, Al-Madinah Al-Munawwarah, Kingdom of Saudi Arabia

- Teaching:

Thermodynamics I;  
Thermodynamics II;  
Fluid Mechanics I;  
Fluid Mechanics II;

Heat Transfer;  
Materials Science; and  
Renewable Energy Systems.

- Capstone Design Projects advised:
  - 2009-2010: Chassis and Shell body “Designing and Manufacturing”, Taibah University Solar Car (TU-SoC) Capstone Design Project
  - 2010-2011: Solar Car Power Collection and Storage, Taibah University Solar Car (TU-SoC) Capstone Design Project
  - 2011-12: Solar Thermosiphon Unit with Alternative Coating
  - 2011-12: Solar Thermal Water Distillation
  - 2012-13: Design & Fabrication of an Experimental Setup for Measuring Forces Produced by Airfoils

June 2008 to September 2008 - University of Windsor, Canada

- Conducted research activities related to Straight-Bladed Vertical Axis Wind Turbine (SB-VAWT).
- The activities include: (1) Computational analyses with design parameters of a smaller-capacity SB-VAWT; (2) Preparation of report related to the design considerations and conceptual proposal of rooftop SB-VAWT for the University of Windsor’s Centre for Engineering Innovation (CEI).

September 2007 to December 2007 - Sessional Instructor, Department of Mechanical Engineering, University of Windsor, Canada

- Hired for teaching an undergraduate course “Fluid Mechanics II”.
- Numerous animations, video clips and case-studies were used for effective demonstration of different principles of fluid mechanics.

August 2005 to January 2006 - Ontario Centre of Excellence/University of Windsor/Posonic, Canada

- Worked as the main researcher on “Design of Cost Effective Straight-Bladed Vertical Axis Wind Turbines for Urban and Remote Applications”.
- The collaborative research project was jointly commissioned by the Mechanical, Automotive and Materials Engineering Department at the University Of Windsor and Posonic Corporation, Canada.
- The project was funded by Ontario Centre of Excellence to design a cost-effective smaller-capacity vertical axis wind turbine for urban and remote applications.

Between September 2003 to August 2007 - Graduate Assistant, Department of Mechanical Engineering, University of Windsor, Canada

Employed for the following undergraduate courses:

1. Thermodynamics I (September, 2003 to December, 2003)
2. Computer Aided Design (January, 2004 to April, 2004)
3. Fluid Mechanics II (September, 2004 to December, 2004)
4. Analysis of Mechanical Systems (January, 2005 to April, 2005)
5. Fluid Mechanics II (September, 2005 to December, 2005)
6. Analysis of Mechanical Systems (January, 2006 to April, 2006)
7. Thermodynamics I (September, 2006 to December, 2006)
8. Fluid Mechanics I (January, 2007 to April, 2007) and

9. Heat Transfer (May, 2007 to August 2007).

The main responsibilities include (i) conducting tutorial; (ii) demonstration and marking of sessionals; (iii) marking of the assignments; (iv) marking of the mid-terms and the final examinations; and (v) Proctoring.

### Industrial Positions

July 2000 to April 2003 - Sub-divisional Engineer / Assistant Engineer, Directorate of Project Planning, Bangladesh Power Development Board (BPDB), Dhaka, Bangladesh

- Worked as a committee member for “Chittagong Hill-Tracts Solar PV Electrification Project” & “Wind Resources Assessment Project” of BPDB;
- Identification and Feasibility Analysis of Renewable Energy and Energy Efficiency related projects;
- Economic, Financial, Technical, Environmental and Social assessment of power projects;
- Preparation of Project Concept Paper, Project Proforma, Technical Assistance Project Proforma;
- Preparation of Bid Documents with sound Technical Specifications;

February 2000 to July 2000 - Manager, Bangladesh Renewable Energy Development Company Ltd. (BREDC), Subsidiary Company of Bangladesh Power Development Board, Dhaka, Bangladesh

- Served as the founding Manager who was responsible for the initial formalities (concept paper, preparation of Memorandum of Association and Article of Association, registration of company etc.) of launching this company dedicated on environmentally benign renewable and non-conventional energy sources.
- Engaged in project identification and preparation of project proposals for renewable energy and energy conservation related activities in relevance to Bangladesh.

February 1998 to January 2000 - Assistant Engineer, Directorate of System Planning, Bangladesh Power Development Board, Dhaka, Bangladesh

- Served as mechanical engineer, responsible for generation planning and renewable energy related activities of BPDB;
- Designed, compiled and maintained the Web Site of BPDB;
- Collected, compiled & prepared generation statistics in appropriate forms;
- Participated in preparation of Annual Report of Bangladesh Power Development Board.

July, 1994 to February, 1998 - Assistant Engineer, Siddhirganj Power Station, Bangladesh Power Development Board, Siddhirganj, Bangladesh

- Initially worked in the maintenance department of this power plant.
- Also served as Shift Charge Engineer (Mechanical Engineer), responsible for proper functioning of the 30MW and 50MW unit (Design & Erection : M/S Black and Veatch International, Missouri, USA) of the power plant equipment such as boiler, turbine, pumps, heat-exchangers and other auxiliaries and the power plant as a whole with Elsag Bailey’s “Infi90 Distributed Control System”.



January, 1994 to March, 1994 - Field Engineer, Salt Iodization Project (SIP), UNICEF-BUET-BSCIC, Dhaka, Bangladesh

- Worked as a Field Engineer with the consultant (Mechanical Department, Bangladesh University of Engineering and Technology) of UNICEF;
- Was responsible for site visit, supervision of civil foundation, inspection and installation of Salt Iodation Plant (SIP), commissioning training to the operators of SIP, Report writing etc.

### Funded Research Projects as the Principal Investigator

- Research Initiative Grant Scheme (RIGS), Ministry of Higher Education (MOHE), Malaysia  
Research project titled “CFD Analysis of Straight Bladed Vertical Axis Wind Turbines with Selected Transition and Turbulence Models” (December 2015 – June 2017)
- “Design and Development of Semi Automatic Briquettes/Pellet Manufacturing Machines”, funded by GIZ, GmbH, Germany (July 2018 to December 2018)

### Expert Services

Bangladesh Energy & Power Research Council, Bangladesh (BEPRC)

- Member, Moderator Committee (since 2018).
- Member, Monitoring Committee for the project titled “Design and Development of a Strategic Flow Acceleration System to Maximize the Power Output of a Conventional Open (Bare) Wind Turbine in Context of Bangladesh” (since 2019).
- Member, Negotiation Committee (2018-2019).

### Invited Training Activities

1. Delivered training to the Local Government Engineering Department (LGED) engineers on Renewable Energy Information Network (REIN) of Bangladesh which has been implemented under the Sustainable Rural Energy (SRE) project funded by UNDP and executed by LGED, aims to provide an information platform with a comprehensive scope and long-term perspective.
2. Works as a facilitator of training course on “Training Module for Solar Photovoltaic Technology” Organized by LGED and funded by UNDP. Satisfactorily taken two lectures on “Renewable Energy Scenario in Bangladesh” and “Operation & Maintenance of Lead Acid Storage Battery” in each of the training programs.

### Peer Review

Certified Publons Academy peer reviewer (<http://bit.do/Publons-MI>)

Ad hoc Invited Review Works for Journals as of 28 Sep 2020

- Applied Energy, Elsevier BV  
(Q1 - <https://www.scimagojr.com/journalsearch.php?q=28801&tip=sid&clean=0>)
- Journal of Zhejiang University-SCIENCE A, Zhejiang University Press  
(Q1 - <https://www.scimagojr.com/journalsearch.php?q=9500154018&tip=sid&clean=0>)

- Ocean Engineering, Elsevier BV  
( Q1 - <https://www.scimagojr.com/journalsearch.php?q=28339&tip=sid&clean=0>)
- Renewable Energy, Elsevier BV  
( Q1 - <https://www.scimagojr.com/journalsearch.php?q=27569&tip=sid&clean=0>)
- Energy for Sustainable Development, Elsevier  
( Q1 - <https://www.scimagojr.com/journalsearch.php?q=17600155126&tip=sid&clean=0>)
- Applied Sciences, MDPI  
( Q1 - <https://www.scimagojr.com/journalsearch.php?q=21100829268&tip=sid&clean=0>)
- International Journal of Sustainable Energy, Taylor & Francis Ltd.  
( Q2 - <https://www.scimagojr.com/journalsearch.php?q=145556&tip=sid&clean=0>)
- Energies, MDPI  
( Q2 - <https://www.scimagojr.com/journalsearch.php?q=62932&tip=sid&clean=0>)
- Wind Energy, John Wiley and Sons Ltd.  
( Q2 - <https://www.scimagojr.com/journalsearch.php?q=13848&tip=sid&clean=0>)
- Aerospace, MDPI  
( Q3 - <https://www.scimagojr.com/journalsearch.php?q=21100853739&tip=sid&clean=0>)
- International Journal of Environment Studies (Special Issue on Energy Conservation, Generation and Storage), Taylor & Francis Ltd.  
( Q3 - <https://www.scimagojr.com/journalsearch.php?q=110000&tip=sid&clean=0>)
- Wind Engineering, SAGE Publications Inc.  
( Q3 - <https://www.scimagojr.com/journalsearch.php?q=13850&tip=sid&clean=0>)

#### Invited Review Works for Conferences

- International Conference on Mechanical, Industrial and Energy Engineering 2018, 23-24 December, 2018, Khulna, Bangladesh. (4 articles)

#### Editorial Job

- Member of the Editorial Board of Annals of Engineering (<https://mm-pub.com/index.php/login/editorial>) in the field of Mechanical Engineering
- Co-Editor of the book “Renewable Energy for Sustainable Development”, Germany, ISBN 3-8142-0837-4. (Invited)

#### Participation in Events as a Chair (invited)

- Session Chair, Plenary Session on “Global Engineering Education”, The 3<sup>rd</sup> International Conference on Industrial & Mechanical Engineering and Operations Management, 26 Dec 2020

#### Participation in Panels (invited)

- A workshop on “Status of the IQACs at Private Universities: Ways to Step Forward”, 28 Jan, 2020
- Webinar on “Role of IQAC in Ensuring Quality of Education during the Pandemic Situation”, organized by North South University, 22 Aug 2020

- 4th International Conference on Industrial and Mechanical Engineering and Operations Management (IMEOM) on December 26, 2021, Organized by the Industrial Engineering and Operations Management (IEOM) Society of Bangladesh

### Attended Conference(s)/Forum without Presentation

- The 2014 University of Calgary Conference on Postsecondary Learning and Teaching, May 13-14, 2014, University of Calgary, Calgary, Canada
- Engineering Education Forum, Saudi Council of Engineers / Taibah University, 16-18 May, 2009, Al-Madinah Al-Munawwarah, KSA.

### Notable Experiences with HPC/ICT/Teaching related Tools & Software

- Operating systems: Unix, Linux (Fedora & Ubuntu) and Windows;
- Documentations and reporting:  $\text{\LaTeX}$  and Markdown ;
- High Performance Computing (HPC): WestGrid, Canada
- Learning Management System (LMS): CLEW, JUSUR, Blackboard Academic Suite, Desire2Learn, iTa'Leem (Moodle-based) and Piazza
- Programming: Fortran, Visual Basic, C/C++ and python;
- Computer Aided Designing and Drafting: AutoCAD and DraftSight;
- Solid Modelling: Solidworks, Blender and OpenSCAD;
- Meshing: blockMesh, cfMesh, snappyHexMesh, GMSH and Gambit;
- Computational Fluid Dynamics (CFD): OpenFOAM, Foam-Extend-3.0 and Fluent;
- Finite Element Analysis (FEA): Ansys, Elmer Multiphysics;
- Optimization and Parametric analysis: Dakota;
- Graphics:  $\text{\LaTeX}$ TikZ
- Scientific Visualization: Paraview, Visit and gnuplot;
- Mathematical problem solving: Matlab, Octave and MathCad;
- Simulation of Renewable Energy Systems: RETScreen, & INSEL;
- Analysis of Low Speed Airfoils: Xfoil, XFLR 5 and DesignFoil;
- Turbulence measurements & analysis: ThermalPro;
- Wind Energy resources assessment: WASP, developed by Riso;
- Geographic Information System Analysis: ArcInfo, ArcView and ArcGIS Explorer;

## Continuing Education Course after Doctoral Study

- University of Calgary, Canada  
2015 ENL 415-017 Pronunciation - Winter 2015 (24/Jan/2015 – 11/Apr/2015, 30 Hours)  
2015 WRI 203-038 Intensive Grammar and Style Clinic (Tue, Thu 8:30AM - 4:30PM , 12 May 2015 to 14 May, 15 Hours) 2014 BMC 352 Learning Online, Online course during May-June

## Courses / Workshops / Seminars / Training

### Teaching & Learning Related

- University of Calgary, Canada  
2020 “Online Student Assessment” (TI 0720-006), 18 June 2020 “Best Practices for Designing a Quality Rubric” (TI 0727-003), 12 June 2020 “Course Design Essentials” (TI 0726 - 002), June 4 2014 “Teaching Online Program”, October 17 – November 17 2014 “Instructional Skills Workshop”, September 30, October 2, 7, 9.  
2014 Workshop on “Course Design Workshop”, three-day, blended (in class & online) hands-on workshop, May 27, June 3 & June 10 2014 Workshop on “Refreshing and Renewing the Curriculum”, Mick Healey, Emeritus Professor, University of Gloucestershire, UK, May 22
- Commonwealth of Learning (COL), Canada  
2020 4-week long MOOC on “Blended Learning Practice”, jointly offered by the COL & Athabasca University, Canada  
2019 5-week long MOOC on “Introduction to Technology-Enabled Learning”, jointly offered by the COL & Athabasca University, Canada  
2019 Self-learning Online Course on “Understanding Open Educational Resources” available at <http://learnoer.col.org>
- Board of Accreditation for Engineering and Technical Education (BAETE), The Institution of Engineers, Bangladesh  
Feb 8-11, 2021 “Online Orientation and Discussion Session on Accreditation Evaluation by Program Evaluators” Oct 9, 2019 One-day workshop on the “Hand-on Orientation for New Program Evaluators (Group-A)”  
June 19, 2019 One-day workshop on Hands-on Orientation on Outcome-based Education (OBE) December 12, 2017 Workshop on “Preparation for Outcome Based Accreditation”,
- Foundation for Learning Teaching and Research (fLTR)  
2020 6-day (18 hours) long Certificate Course in e-Learning and Teaching (CeLT), 20 Nov-5 Dec, 2020
- Bangladesh University Grants Commission, Bangladesh  
2020 A workshop on “Status of the IQACs at Private Universities: Ways to Step Forward” 2020 A Virtual Workshop on “Are Your Online Students Engaged”, arranged by Strategic Planning and Quality Assurance (SPQA) Division, UGC
- Bangladesh Accreditation Council, Bangladesh  
2020 Consultation Workshop on “Accreditation Standards & Criteria”, arranged for the IQAC Directors through Zoom 2020 A consultation workshop on “Rules of Accreditation, Accreditation Committee & Appeal”, arranged for the directors of Institutional Quality Assurance Cells
- Dhaka Ahsania Mission  
June 16 & 17, 2019 Two-day long workshop on “OER Policy Development for Dhaka Ahsania Mission”, Organized by Center for International Education and Development (CINED)

- Institute for the Development of Online Learning  
2020 “Are Your Online Students Engaged?”, June 23-24
- Bangladesh University of Science and Technology  
2019 Workshop on “QS Masterclass on University Rankings & Ratings”
- Ahsanullah University of Science and Technology, Bangladesh  
2019 “Workshop on Policy Development for Technology-Enabled Learning (TEL) at Ahsanullah University of Science and Technology”, 29-30 April  
2017 “Teaching Orientation for AUST Teachers”, December 2-3
- The Centre for Teaching & Learning (CTL), IIUM, Malaysia  
2017 “Designing Effective & Engaging Presentation Slide Like a PRO Workshop”, January 23  
2016 “Communicating Logically, Empathically and Responsively (CLEAR) Workshop”, November 9  
2016 “Using Technology to Engage & Gamify Learning Workshop”, November 8
- Human Resource Development, Management Services Division (MSD), IIUM, Malaysia  
2016 “Case Study Workshop 2016”, August 29 and 30  
2016 “Ta’aruf & Intellectual Discourse (TIDE)”, August 1 to 4  
2016 “Technology Enhanced Active Learning (TEAL) Workshop”, July 19 and 20  
2016 “Basic Teaching Methodology Course (BTMC)”, June 13 to 16
- Centre for Professional Development (CPD), IIUM, Malaysia  
2015 “Student Centered Learning Workshop”, November 20  
2015 “Scholarship of Teaching & Learning (SoTL) Workshop”, November 17  
2015 “Professional Learning Facilitator Workshop”, August 11-13  
2015 “Constructive Alignment Workshop”, August 3-5
- Taibah University, Al-Madinah Al-Munawwarah, KSA  
2011 Seminar on “Measurement of Learning Outcomes”, December 12, 2011  
2011 Seminar on “Effective Teaching”, December 3, 2011

## HVAC

- Bangladesh Energy and Power Research Council (EPRC)  
September 5, 2018 - “Distributed Cold Storage: Harnessing the Power of Low Grade Thermal Energy”

## Green Building

- Ahsanullah University of Science and Technology, Dhaka, Bangladesh  
August 4, 2018 - “LEED Certification for Green Buildings and Factories” delivered by Professor MUHAMMAD RIAZUL HAMID Ph.D., USGBC Faculty, LEED AP BD+C

## Research Related

- IIUM, Malaysia  
2016 IIUM - Research Professional Online Training, August 15, 2016

## Professional Skills / English Proficiency

- University of Calgary  
2014 Presentation Skills (2-Part Course), June 25, 2014 and July 2, 2014

## Workplace Related

- University of Calgary  
2014 Enhancing a Culture of Respect - Schulich School of Engineering, Facilitated by Britta Valeske, June 4.

## Energy / Power Plant Engineering Related

- United Nations Industrial Development Organization / International Centre on Small Hydro Power, Hangzhou, China  
2002 5-day long Workshop on “Cooperation for Small Hydro Power Development in Developing Countries”.
- Centre for Energy Studies, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh, 2002  
2002 5-day International Training Program on “Practical Training for Energy Manager from Industry”. The training program was sponsored by United Nations Economic and Social Commission, Asia (UN-ESCAP). The program focused on Energy Efficiency and Energy Conservation in different sectors with special emphasis on Energy Audit in the industrial sector.
- EBV Group of Companies, Oldenburg, Germany, 2001  
2001 8-week long practical training performed as a student of the “Post-graduate Program on Renewable Energy“, University of Oldenburg, Germany. The practical training focused on “Investment Opportunities for Renewable Energy Technologies in Selected Countries” along with field supervisions.
- Bangladesh Centre for Advanced Studies & Local Government Engineering Department  
1997 3-day international workshop on “Dissemination of Solar Photovoltaic Energy in Bangladesh”. The workshop focused on prospect and utilization of solar photovoltaic energy in Bangladesh.
- Centre for Energy Studies, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh  
4-day international short course on “SMALL HYDRO POWER”. Objective of the training was to disseminate different aspects of small hydro power.
- Regional Training Center, Bangladesh Power Development Board, Tongi, Dhaka, Bangladesh  
1995 6-week Induction training on Power generation and distribution system. The training was concerned with the administration and technology management of Bangladesh Power Development
- Kaptai Engineering Academy, Bangladesh Power Development Board, Chittagong, Bangladesh  
1995 6-week Induction training on Power generation and distribution system. The training was concerned with the administration and technology management of Bangladesh Power Development Board.
- Siddhirganj Power Station, Bangladesh Power Development Board, Narayanganj, Bangladesh  
1993 4-week Industrial Training Course on the subject “Power Plant Engineering and Management”.

## Environment/Sustainability Related

- Murdoch University, Australia / International University Business Agriculture Technology, Bangladesh  
2002 2-day long Short Course on “Sustainability”. The course gave basics of Sustainability (Environmental, Social and Economic), Sustainable Development and Environmental Management.
- Global Environment Facility (GEF) / UNDP / Ministry of Environment and Forest, Government of Bangladesh  
2002 3-day long participatory “Country Dialogue Workshop” in Bangladesh. The workshop highlighted United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological Diversity (CBD), POPs Convention, GEF mission, strategy, policies and showed procedures for accessing different types of funds from GEF with hands on training.

## Computer / ICT Related

- The Institution of Engineers, Bangladesh  
2000 2-week long training programme on “Computer Networking”
- Electrical Engineering Division, The Institution of Engineers, Bangladesh  
1999 6-week long training programme on “Computer Networking : LAN, WAN and Intranet”
- Mechanical Engineering Division, The Institution of Engineers, Bangladesh  
1999 3-week long training programme on “Advanced Engineering Management with Computer Applications”
- Concept Computer Network, Dhaka, Bangladesh  
1994 5-week training course titled “Computer Aided Design” using AutoCAD.

## GIS Related

- International Computer Connections (ICC), Dhaka, Bangladesh  
2000 6-week long training programme on “Geographic Information System (GIS) with ArcInfo and ArcView”
- Asian Institute of Technology & Local Government Engineering Department  
1998 1-week long Caravan Training Program on “Flood Disaster Mitigation Using Remote Sensing and GIS”.

## Committee Membership & Special Responsibilities

- Member of the Technical Committee of the “Third International Conference on Renewable Energy For Sustainable Development (ICRES-03)”, 2-4 October, 2003, Dhaka, Bangladesh.
- Member of “Solar Committee” of Bangladesh Power Development Board (BPDB) for executing the “Chittagong Hill Tracts Solar Photovoltaic Electrification Project” from September 2001 to April 2003.
- Member, Expert Committee for Wind Energy Data, UNEP/GEF funded “Solar and Wind Energy Resource Assessment (SWERA) Project”, executed by Renewable Energy Research Centre of Dhaka University, in 2003.
- Member, Technical Committee of “Promotion of Renewable Energy, Energy Efficiency and Greenhouse Gas Abatement (PREGA)” Project, funded by Asian Development Bank, during 2002-2003.
- Member, Technical Committee for implementing Design and implementation of Micro-hydro Power Plant Project, funded by UNDP, at Bamer Chara, Chittagong, Bangladesh. 2003.
- Assisted LGED during formulation of Project Concept and Project Brief on “Bangladesh: Removing Barriers to Offshore Islands Renewable Energy Technology Applications (OIRETA)” to be funded by the Global Environment Facility (GEF) & United Nations Development Program (UNDP) in 2003.
- Assisted UNIDO during formulation of Project Concept, Project Brief and PDF document on “Renewable energy powered Community Development Centres in off grid areas for ICT connectivity for improving the health sector and vocational training” to be funded by the Global Environment Facility (GEF) & UNIDO in 2002.
- Member of Joint Working Group of Ministry of Energy and Mineral Resources (MEMR) and Ministry of Water Resources (MWR) for “Feasibility of Micro Hydro Power in Bangladesh” in 2002.
- Worked jointly with the Power Cell of the Ministry of Energy and Mineral Resources, Government of Bangladesh on “Draft Renewable Energy Policy of Bangladesh” in 2002.

## Significant Voluntary Activities

- President, Student Chapter of American Society of Heating, Refrigeration & Air-Conditioning (ASHRAE), University of Windsor, Canada from July 2003 to June 2004. The chapter became the “Best Student Branch of the Year in Region II”.
- Developed and launched the first dedicated energy related web site of Bangladesh called “Shakti” (URL: <http://shakti.hypermart.net>). This voluntary web site provided energy & environment related information of Bangladesh between 1997 and 2003.
- Developed and launched a website for disseminating information related to Outcome-Based Education mainly for the faculty members of AUST (URL: <https://sites.google.com/aust.edu/obe/>).

## Publications in Journals

### A. Journals - Web of Science & SCOPUS indexed

1. Farah Aqilah, **Mazharul Islam**, Franjo Juretic, Joel Guerrero, David Wood, and Farid Nasir Ani. 2018. Study of Mesh Quality Improvement for CFD Analysis of an Airfoil. *IIUM Engineering Journal* (ISSN: 1511-788X), Vol 19, No 2, pp 203-212. DOI: <https://doi.org/10.31436/iiumej.v19i2.905>
2. **Mazharul Islam**, Felix Langfeldt, Jiří Fürst, and David H Wood. 2017. CFD Analysis of a SD 7003 Airfoil with a Local Correlation Based Transition and Turbulence Model. *IOP Conference Series: Materials Science and Engineering* 184 (ISSN: 1757-8981). DOI: <https://doi.org/10.1088/1757-899X/184/1/012067>
3. **Mazharul Islam**, M. Ruhul Amin, and F. N. Ani. 2014. Evaluation of the Prospects of Using Solar Thermal Air-Conditioning Systems in Saudi Arabia. *Applied Mechanics and Materials* (ISSN: 1660-9336). vol. 554, pp. 271-275. DOI: <https://doi.org/10.4028/www.scientific.net/AMM.554.271>
4. **Mazharul Islam**, Amir Fartaj and Rupp Carriveau. 2011. Design Analyses of a Smaller-Capacity Straight-Bladed VAWT with an Asymmetric Airfoil. *International Journal of Sustainable Energy* (Online ISSN: 1478-646X). 30(03), pp. 179 - 192. DOI: <http://doi.org/10.1080/1478646X.2010.509496>
5. **Mazharul Islam**, Amir Fartaj and Rupp Carriveau. 2008. Analysis of the Design Parameters related to a Fixed-pitch Straight-Bladed Vertical Axis Wind Turbine. *Wind Engineering* (ISSN 0309-524X). v32, n5, pp 491-507. DOI: <https://doi.org/10.1260/030952408786411903>
6. **Mazharul Islam**, David S-K Ting and Amir Fartaj. 2008. Aerodynamic Models for Darrieus-type Straight-bladed Vertical Axis Wind Turbines. *Renewable & Sustainable Energy Review* (ISSN: 1364-0321). v12, n4, pp 1087-1109. DOI: <https://doi.org/10.1016/j.rser.2006.10.023>
7. **Mazharul Islam**, David S-K Ting and Amir Fartaj. 2007. Design of a Special-purpose Airfoil for Smaller-Capacity Straight-Bladed VAWT. *Wind Engineering* (ISSN 0309-524X). v31, n6, pp 401-424. DOI: <https://doi.org/10.1260/030952407784079780>
8. **Mazharul Islam**, David S-K Ting and Amir Fartaj. 2007. Desirable Airfoil Features for Smaller-Capacity Straight-Bladed VAWT. *Wind Engineering* (ISSN 0309-524X). v31, n3, pp 165–196. DOI:
9. A.K.M. Sadrul Islam, **Mazharul Islam** and Tazmilur Rahman. 2006. Effective Renewable Energy Activities in Bangladesh. *Renewable Energy* (ISSN: 0960-1481), Elsevier. v31, pp 677–688. DOI: <https://doi.org/10.1260/030952407781998800>
10. **Mazharul Islam**, Amir Fartaj, David S-K. Ting. 2004. Current Utilization and Future Prospects of Emerging Renewable Energy Applications in Canada. *Renewable & Sustainable Energy Review*, Elsevier (ISSN: 1364-0321), v8/6, pp 493-519. DOI: <https://doi.org/10.1016/j.renene.2005.08.004>



## B. Journals - SCOPUS indexed

1. Zambri Harun, Tajul Ariffin Norizan, Shahrir Abdullah, and **Mazharul Islam**. 2020. Subsurface Vortex Control Parametric Study at Submersible Pump Intake Using Plate-Type Floor Splitters. *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences* (ISSN: 2289-7879), Vol 75, Issue 3 (2020) 73-80. DOI: <https://doi.org/10.37934/arfmts.75.3.7380>
2. Ali Said , **Mazharul Islam** , Mohiuddin A.K.M and Moumen Mohammed Idres. 2019. Performance Analysis of a Small Capacity Horizontal Axis Wind Turbine using QBlade. *International Journal of Recent Technology and Engineering* (ISSN: 2277-3878), Vol 7, Issue-6S, pp 153-157. URL: <https://www.ijrte.org/wp-content/uploads/papers/v7i6s/F02310376S19.pdf>
3. **Mazharul Islam**, Jiří Fürst, and David Wood. 2017. CFD Analysis of SD 7003 Airfoil at Low Reynolds Number with a Laminar Kinetic Energy based Transition Model. *ARPJ Journal of Engineering and Applied Sciences* (ISSN: 1819-6608). v 12, no 10, pp 3112-3117. URL: [http://www.arpnjournals.org/jeas/research\\_papers/rp\\_2017/jeas\\_0517\\_6018.pdf](http://www.arpnjournals.org/jeas/research_papers/rp_2017/jeas_0517_6018.pdf)
4. **Mazharul Islam**, Jiří Fürst, David Wood and Farid Nasir Ani. 2016. Analysis of an Airfoil using a Transition and Turbulence Model. *Applied Mechanics and Materials* (ISSN: 1660-9336), Vol. 819 (2016) pp 356-360. DOI: <https://doi.org/10.4028/www.scientific.net/AMM.819.356>
5. **Mazharul Islam**. 2013. Analysis of Plug-in Hybrid Electric Vehicle for the Future Smart Grid of Canada. *International Journal of Environmental Studies: Monograph on Smart Grid* (ISSN: 0020-7233). vol. 70, no. 5, pp. 733–743. DOI: <https://doi.org/10.1080/00207233.2013.798498>
6. **Mazharul Islam** and M. Ruhul Amin. 2012. Renewable Energy Education for Mechanical Engineering Undergraduate Students. *International Journal of Mechanical Engineering Education* (ISSN: 0306-4190). vol. 40, no. 3, pp. 207–219. DOI: <https://doi.org/10.7227/IJMEE.40.3.5>
7. **Mazharul Islam**, Rupp Carriveau and Amir Fartaj. 2012. Performance Analysis of a Fixed-Pitch Straight-Bladed VAWT with Selected Low Reynolds Number Airfoils. *International Journal of Environmental Studies* (ISSN: 0020-7233), Special Issue: Energy Conservation, Conversion and Storage, v69, n2, April, pp 289-298. DOI: <https://doi.org/10.1080/00207233.2012.663226>
8. **Mazharul Islam**, David S-K Ting and Amir Fartaj. 2007. Assessment of the Small-Capacity Straight-bladed VAWT for Sustainable Development of Canada. *International Journal of Environment Studies* (ISSN: 0020-7233). v64, n4, August 2007, pp 489–500. DOI: <https://doi.org/10.1080/00207230701382149>

## C. Journals - Google Scholar indexed

1. Badhan Saha, Mazharul Islam, Khondoker Nimul Islam, Jubair Naim, MD Shahriar Farabi. 2021. The Performance Analysis of a Low Head Water Vortex Turbine. *MIST International Journal of Science and Technology* (ISSN: 2224-2007 [Print] & E-ISSN: 2707-7365 [Online]). DOI: [https://doi.org/10.47981/j.mijst.09\(02\)2021.297\(31-36\)](https://doi.org/10.47981/j.mijst.09(02)2021.297(31-36))
2. Anas Khan, An Najmus Sakib, Refayat Hossain, Mazharul Islam, Farid Nasir Ani\*. 2021. Design and Analysis of a Solar Dryer for the Rural Areas of Bangladesh. *Advances in Engineering Research*, v207, 400-406. DOI: <https://dx.doi.org/10.2991/aer.k.211106.064>
3. Tauqir Khan, Moinul Mohsin Asif, Hasib Ahmed, Mazharul Islam, and Zambri Harun. 2021. Design and Development of a Vortex Turbine for the Hilly Regions of Bangladesh. *Advances in Engineering Research*, v207, 290–297. DOI: <https://dx.doi.org/10.2991/aer.k.211106.046>
4. Nahin Abedin, Taybul Alam Aupo, Jahidul Hossain Piash, Ishrak Sarwar, Md. Ehasanul Haque\*, Mazharul Islam, Farid Nasir Ani. 2021. Design of an Absorber Plate for Solar Air Dryer Using Nickel Oxide Nano Particle Coating. *Advances in Engineering Research*, v207, 208-215. DOI: <https://dx.doi.org/10.2991/aer.k.211106.032>

5. Azizul Hoque, Md. Ektiyer Saki, Tafsir Mehedi, Sk. Hasan Tanvirul Islam, Mazharul Islam and Zambri Harun\*. 2021. Design and Development of a Small-Capacity Tesla Turbine for Rural Applications. *Advances in Engineering Research*, v207, 362-368. DOI: <https://dx.doi.org/10.2991/aer.k.211106.058>
6. Ishrak Sarwar\*, Munna Das, Mahzuzah Zahan, Mazharul Islam, Farid Nasir Ani. 2021. A Computational Model for Performance Optimization of a Stepped Solar Still. *Advances in Engineering Research*, 137-144. DOI: <https://dx.doi.org/10.2991/aer.k.211106.022>
7. Faysal Ahmmad, Md. Sohel, **Mazharul Islam**, Farid Nasir Ani, and Tahzinul Islam. 2020. Development of a Pelletizing Process to Improve the Properties of Biomass Pellets. *Advances in Engineering Research*, v198, 337-343. DOI: <https://dx.doi.org/10.2991/aer.k.201221.056>
8. A.K.M. Sadrul Islam and **Mazharul Islam**. 2005. Status of Renewable Energy Technologies in Bangladesh. *ISESCO Science & Technology Vision*. v1, 51–60.
9. **Mazharul Islam** and A.C. Mandal. 2000. Performance Characteristics of VAWT with Blade Pitching Including the Dynamic Stall and Flow Curvature Effects. *Journal of Mechanical Engineering (ISSN 0379-4318)*, v28, n1&2, pp 31-43. December.
10. **Mazharul Islam** and A.C. Mandal. 1999. A Comparative Study of Design between Overhang And Simple Supported Straight-bladed Vertical Axis Wind Turbine. *Journal of Energy and Environment (ISSN: 1563-1362)*, v1, n1, pp 37-40. November.

#### Publications in Book Chapters

1. **Mazharul Islam**. 2014. Design of Darrieus-Type Wind Turbines (Chapter 3). *Small-Scale Wind Power: Design, Analysis, and Environmental Impacts*, Momentum Press, New York, USA. Print ISBN: 9781606504840, pp 45-63. (Invited)
2. Julia Aman, Firoz Uddin Ahmed and **Mazharul Islam**. 2004. Prospects of Renewables for Rural Electrification in Bangladesh. *Renewables and Rural Electrification*. pp 139-149. ISBN 3-8142-0928-1. Postgraduate Program Renewable Energy, University of Oldenburg, Germany.
3. **Mazharul Islam**. 2002. Renewable Energy Scenario: Bangladesh Perspective, *Renewable Energy for Sustainable Development*, pp 30-51. ISBN 3-8142-0837-4. Postgraduate Program Renewable Energy, University of Oldenburg, Germany.

#### Publications in Review/Magazines/Souvenir

1. **Mazharul Islam**. 2002. “Anthropogenic Climate Change”, Souvenir of 46th Convention, The Institution of Engineers, Bangladesh. pp 24-29. March 10-13.
2. **Mazharul Islam**. 2003. The Climate Change Convention: Bangladesh Perspective. *Projukti Special Edition*, Bangladesh Institution of Engineers, Dhaka Center, Bangladesh. January. pp 24-29.
3. **Mazharul Islam**. 1999. “Energy Roundup”, *The Bangladesh Review*, A Commonwealth Communication Review - 1999, Published by Commonwealth Communications, London, England. pp 86-87. (Invited)
4. **Mazharul Islam**. 1999. “Renewable Energy Sources”, *Engineering News*, Institution of Engineers, Dhaka, Bangladesh, August-September.
5. **Mazharul Islam**. 1999. “The Internet”, *Engineering News*, Institution of Engineers, Dhaka, Bangladesh. pp 46-50. March.

## Publications/Presentations Selected Conferences, Workshops and Symposiums

1. Faysal Ahmmad, Md. Sohel, **Mazharul Islam\***, Farid Nasir Ani, and Tahzinul Islam. 2020. Development of a Pelletizing Process to Improve the Properties of Biomass Pellets. International Seminar of Science and Applied Technology 2020 - Engineering (ISSAT 2020), 24-25 Nov.
2. F. Aqilah, **M. Islam**, J. Furst, F. Juretic. 2019. CFD ANALYSIS AROUND AHMED BODY USING A LAMINAR KINETIC ENERGY BASED TRANSITION AND TURBULENCE MODEL, Topical Problems of Fluid Mechanics 2019, Prague, February 20-22, 2019. DOI: <http://doi.org/10.14311/TPFM.2019.001>
3. Ali Said, **Mazharul Islam**, A K M Mohiuddin, Moumen Mohammed Idres. 2018. Performance Analysis of a Smaller Capacity Horizontal Axis Wind Turbine using QBlade. 4th International Conference on Mechanical, Automotive and Aerospace Engineering 2018, September 19-20, IIUM, Kuala Lumpur, Malaysia.
4. **Mazharul Islam**, Farah Aqilah, Franjo Juretic, Joel Guerrero, David Wood, and Farid Nasir Ani. 2017. Study of Mesh Quality Improvement for CFD Analysis of an Airfoil. The 9th International Meeting on Advances in Thermofluids (IMAT), January 25, 2017, UTM, Johor, Malaysia.
5. Muhammad Anas Bin Sahazubira and **Mazharul Islam**. 2017. Analysis on Vertical Axis Wind Turbine Using Qblabe. First Biannual Engineering Conference on Undergraduate Research. January 17, IIUM, Kuala Lumpur, Malaysia.
6. Muhammad Hafizuddin Bin Ismail and **Mazharul Islam**. 2017. CFD Analysis Of Low Reynolds Number Airfoils Using SU2. First Biannual Engineering Conference on Undergraduate Research. January 17, IIUM, Kuala Lumpur, Malaysia.
7. Amirul Hakim Bin Zuhdi and **Mazharul Islam**. 2017. Performance Analyses Of Horizontal Axis wind Turbines Using QBlade. First Biannual Engineering Conference on Undergraduate Research. January 17, IIUM, Kuala Lumpur, Malaysia.
8. **Mazharul Islam**, Felix Langfeldt, Jiří Fůrst, and David H. Wood. 2016. CFD Analysis of a SD 7003 Airfoil with a Local Correlation Based Transition and Turbulence Model. International Conference on Mechanical, Automotive and Aerospace Engineering 2016, July 25-27, IIUM, Kuala Lumpur, Malaysia.
9. **Mazharul Islam**, Jiří Fůrst, and David Wood. 2015. CFD Analysis of SD 7003 Airfoil at Low Reynolds Number with a Laminar Kinetic Energy based Transition Model. International Conference on Computational Fluid Dynamics in Research & Industry 2015. Kuala Lumpur, Malaysia, 17-19 August.
10. **Mazharul Islam**, Felix Langfeldt, Franjo Juretic, Joel Guerrero and David H. Wood. 2015. CFD Analysis of NACA4415 Airfoil with  $\gamma-Re_{\theta}$  Model considering Natural Transition. NAWEA 2015 Symposium, 9-11 June, Virginia Tech, USA. (<https://vtechworks.lib.vt.edu/handle/10919/54667>)
11. Jiří Fůrst, **Mazharul Islam**, Jaromír Příhoda, and David Wood. 2015. Modifications to the k-kL- $\omega$  Transition Model based on Pohlhausen and Falkner-Skan Profiles. NAWEA 2015 Symposium, 9-11 June, Virginia Tech, USA. (<https://vtechworks.lib.vt.edu/handle/10919/54694>)
12. Fůrst J., **Islam M.**, Příhoda J., Wood D. 2015. Towards Pressure Gradient Sensitive Transitional k-kL- $\omega$  Model: The Natural Transition for Low-Re Airfoils, Proceedings of Topical Problems of Fluid Mechanics 2015, Prague, February 11-13, 2015, pp: 65-70, ISBN 978-80-87012-55-0, ISSN 2336-5781 (<http://www.it.cas.cz/fm/im/im/proceeding/2015/9>)
13. **Mazharul Islam**, Jiří Fůrst, David Wood, and Farid Nasir Ani. 2014. Analysis of an Airfoil using a Transition and Turbulence Model. International Conference on Energy and Thermal Sciences. Virtual Conference. 15th September.

14. **Mazharul Islam**, M. Ruhul Amin, and F. N. Ani. 2014. Evaluation of the Prospects of Using Solar Thermal Air-Conditioning Systems in Saudi Arabia. World Virtual Conference on Advanced Research in Mechanical and Materials Engineering, 18-22 March, Kuala Lumpur, Malaysia.
15. **Mazharul Islam**. 2010. "Fixed-Pitch Straight-Bladed Vertical Axis Wind Turbine: Design Challenges and Prospective Applications". US NSF Sponsored International Workshop on Wind Energy Development. Cairo, Egypt. March 22-24.
16. Yasir M. Shariff and **Mazharul Islam**. 2010. Thermal Design Correlations for Single- and Two-Phase flow in Meso-Scale Heat Exchangers. Fifth International Conference on Thermal Engineering: Theory and Applications, May 10-14, 2010, Marrakesh, Morocco.
17. Kais Hbaieb and **Mazharul Islam**. 2010. Could Saudi Arabia have a major contribution in renewable energy in the near-to-long term future?. Proceedings of the International Engineering Conference on Hot Arid Regions, Challenges, Technologies and Opportunities, Al-Ahsa, Kingdom of Saudi Arabia, 2010, Edited by Bilal A. Akash and Ahmad M. Abu Abdo. pp 41-45.
18. **Mazharul Islam**, M. Ruhul Amin and Yasir M. Shariff. 2010. Investigation of Smaller-Capacity Fixed-pitch SB-VAWT for Urban Rooftops. 7th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, Antalya, Turkey, 19-21 July, pp 1927-1932.
19. **Mazharul Islam**, M. Ruhul Amin and Yasir M. Shariff. 2009. Computational Analysis of a High-Lift and Low Reynolds Number Airfoil at Turbulent Atmospheric Conditions. IMECE 2009: Proceedings of the ASME International Mechanical Engineering Congress and Exposition, Florida, USA, Vol 9, Pts a-C, pp 867-874.
20. **Mazharul Islam**, Khaled M. ALMohammadi and Yasir M. Shariff. 2009. Analysis of Three Selected Design Parameters related to a Fixed-pitch Straight-Bladed Vertical Axis Wind Turbine. 3rd International Conference on Sustainable Energy & Environmental Protection (SEEP). Dublin City University in Dublin, Ireland. Aug 11-15. pp 183-188.
21. **Mazharul Islam**, M. Ruhul Amin, Rupp Carriveau and Amir Fartaj. 2009. Investigation of Low Reynolds Number Airfoils for Fixed-pitch Straight-bladed VAWT. The 28th ASME Wind Energy Symposium / 47th AIAA Aerospace Sciences Meeting January 5-8, 2009 in Orlando, Florida, USA.
22. **Mazharul Islam**, M. Ruhul Amin, David S-K. Ting and Amir Fartaj. 2008. Selection of Airfoils for Straight-Bladed Vertical Axis Wind Turbines Based on Desirable Aerodynamic Characteristics. IMECE 2008: Proceedings of the ASME International Mechanical Engineering Congress and Exposition - 2008, Vol 8, Pages 3-12, USA.
23. **Mazharul Islam**, Firoz Uddin Ahmed, David S-K. Ting and Amir Fartaj. 2008. Design Analysis of Fixed-pitch Straight-bladed Vertical Axis Wind Turbines with an Alternative Material. 7th Annual World Wind Energy Conference, June 24-26, 2008. Kingston, Ontario, Canada.
24. **Mazharul Islam**, M. Ruhul Amin, David S-K. Ting and Amir Fartaj. 2008. A New Airfoil for the Supporting Struts of Smaller-capacity Straight-Bladed VAWT. 12th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, 10 - 12 September, Victoria, British Columbia, Canada.
25. **Mazharul Islam**, M. Ruhul Amin, Rupp Carriveau, and Amir Fartaj. 2008. Designing Straight-Bladed Vertical Axis Wind Turbine using the Cascade Theory. 12th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, 10 - 12 Sep 2008, Victoria, British Columbia, Canada.
26. **Mazharul Islam**, M. Ruhul Amin, David S-K. Ting and Amir Fartaj. 2008. Performance Analysis of a Smaller-capacity Straight-bladed VAWT with Prospective Airfoils. 46th AIAA Aerospace Sciences Meeting and Exhibit, 7 - 10 Jan 2008, Reno, Nevada, USA. AIAA-2008-1333.

27. **Mazharul Islam**, M. Ruhul Amin, David S-K. Ting and Amir Fartaj. 2007. Aerodynamic Factors Affecting Performance of Straight-bladed Vertical Axis Wind Turbines. Proceedings of the ASME International Mechanical Engineering Congress and Exposition 2007, Vol 6: Energy Systems: Analysis, Thermodynamics and Sustainability, USA, Pages 331-340.
28. **Mazharul Islam**, M Ruhul Amin and A.K.M. Sadrul Islam. 2006. Renewable Energy powered Rural Community Development Centres in the Developing Countries. Proceedings of the 2006 ASME Power Conference, Paper No. PWR2006-88085, Atlanta, GA, USA, 2-4 May,
29. **Mazharul Islam**, M Ruhul Amin and A.K.M. Sadrul Islam. 2005. Prospects of Solar Energy Applications In The Off-Shore Islands Of Bangladesh. The 30th Annual Conference of the Solar Energy Society of Canada. Jointly organized by the Solar Energy Society of Canada and British Columbia Institute of Technology, Vancouver, Canada. 20-24 August.
30. Firoz Uddin Ahmed, Julia Aman and **Mazharul Islam**. 2005. Photovoltaic For Sustainable Livelihoods In The Off-Grid Areas Of Bangladesh. 2005 Solar World Congress. Florida, USA. August 6-12.
31. **Mazharul Islam**, V. Esfahanian, David S-K. Ting and Amir Fartaj. 2005. Applications of Vertical Axis Wind Turbines for Remote Areas. 5th Iran National Energy Conference, organized by World Energy Council, Tehran, Iran.
32. **Mazharul Islam**, A.K.M. Sadrul Islam and M Ruhul Amin. 2005. Small-scale Decentralized Renewable Energy Systems for the Remote Communities of the Developing Countries. Proceedings of the ASME Power Conference, Part B, pp. 879-890, Chicago, USA, April 5-7.
33. Julia Aman, Firoz Uddin Ahmed and **Mazharul Islam**. 2004. Solar Energy Options for the Off-grid Areas in the LDCs. SESCOI 2004 Conference, jointly organized by the Solar Energy Society of Canada and University of Waterloo, Canada, August 21-25.
34. A.K.M. Sadrul Islam and **Mazharul Islam**. 2004. Status of Renewable Energy Technologies in Bangladesh. Proceedings of 3rd International Conference on Fuel Conservation in Buildings and South/South Network and Cooperation on Renewable Energy. pp 26- 49. February 15-18, Tehran, Iran.
35. **Mazharul Islam**, Amir Fartaj, David S-K. Ting. 2003. "Vertical Axis Wind Turbines: Past Initiatives & Future Prospects", SESCOI 2003 Conference, jointly organized by the Solar Energy Society of Canada and Queen's University, Kingston, Ontario, Canada, August 18 to 20.
36. **Mazharul Islam**. 2003. "Renewable Energy Resources for Sustainable Development of Bangladesh", International Conference on "Natural Resources for Sustainable Development", jointly organized by Bangladesh Geological Survey, January 17-21, Dhaka, Bangladesh.
37. **Mazharul Islam**. 2002, "Renewable Energy Prospects & Trends in Bangladesh", 2nd International Conference On Bangladesh Environment, ICBEN-2002, Dhaka, Bangladesh. December 19-21.
38. **Mazharul Islam**. 2002. "Proposal for a Micro Hydro Power Plant at Teesta Canal In Bangladesh", UNIDO IC-SHP Workshop on Cooperation For Small Hydro Power Development in Developing Countries, Hangzhou, China, June 19-23.
39. **Mazharul Islam**. 2002. "Energy Efficiency Potentials in the Power Sector of Bangladesh", National workshop on launching of "Promotion of Renewable Energy, Energy Efficiency and Greenhouse Gas Abatement (PREGA)", Dhaka, Bangladesh, March 28.
40. **Mazharul Islam** and Zakir Hossain. 2002. "Energy Audit of Ashuganj Power Station Complex", UNESCAP sponsored International Training Program on Practical Training for Energy Manager from Industry, Dhaka, Bangladesh, March 27.

41. **Mazharul Islam** and Detlev Heinemann. 2002. “Satellite Remote Sensing Applications for Renewable Energy Technologies”, Proceedings of International Conference on Renewable Energy for Rural Development, Dhaka, Bangladesh. pp 269-273. January 19-21.
42. **Mazharul Islam**. 2000. “Solar PV Program of Bangladesh Power Development Board”, National Dissemination Seminar on “Renewable Energy Technologies in Asia: Bangladesh Activities” jointly organized by Grameen Shakti, CMES and Bangladesh Institute of Technology, Khulna, Bangladesh, January 20.
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### External Examination of Ph.D. Dissertation

- May 2019 - “Three-dimensional Transient Heat Transfer Characterization of Crossflow Minichannel Heat Exchanger Apparatus” by Mohammed Ismail, University of Windsor, Canada (<https://scholar.uwindsor.ca/etd/7709/>)

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2. **Mazharul Islam.** 2010. “The Role of Renewable Energy Technologies in Global Energy Markets”. 9th Biweekly Seminar, College of Engineering, Taibah University, KSA.
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