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Dr. Md. Saiful Islam

Assistant Professor, Department of Civil Engineering

ROOM: 735 (B) PABX: 7202 Email: saiful@ce.uiu.ac.bd Room No: 735 B * [Home](#) * [Faculty Profiles](#)

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Biography

Dr. Md Saiful Islam is a Civil Engineer holding a PhD in Civil Engineering from the University of Alberta, where his doctoral research focused on the development of a novel light-frame wood panelized roof system under the supervision of Dr. Ying Hei Chui. He also earned an MSc in Construction Engineering and Management from the same institution, investigating the effect of open space distribution on urban spatial accessibility and park management costs. Earlier in his academic journey, Dr. Islam obtained an MSc in Environmental Engineering from the Bangladesh University of Engineering and Technology (BUET), where he researched the potential for arsenic accumulation in rice field soils. He also holds a BSc in Civil Engineering from BUET. Dr. Islam has 7 years of international expertise in the structural design of wood and engineered wood products. He has published 4 soups-indexed journals and 3 international conference proceedings articles on engineering design of light-frame wood structure topics. Mr. Islam has developed a novel light-frame panelized roof system for the North American prefab construction industry, which is currently implemented in Canada. Currently serving as Assistant Professor of the Civil Engineering Department at United International University (UIU), Dhaka, Bangladesh. Before joining, he had served as Chairman of the Civil Engineering Department of Uttara University (UU). After completing PhD he joined the Military Institute of Science and Technology (MIST) as an Assistant Professor. Before joining the Military Institute of Science and Technology (MIST) as an Assistant Professor, he was an Assistant Lecturer at the University of Alberta, Canada. He has over 7 years of research experience as a Research Assistant. After completing a BSc in Civil Engineering, he joined the Civil Engineering department of Ahsanullah University of Science and Technology (AUST) as a Lecturer. Later, he was promoted to Assistant Professor in the same department. In his academic role as of now, he has authored 8 journal papers and 14 international conference papers. Professionally, Dr. Islam is an Engineer In Training (EIT) with The Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) and holds memberships in the Canadian Society for Civil Engineering (CSCE), the American Society of Civil Engineers (ASCE), and The Institution of Engineers, Bangladesh (IEB). He possesses a strong command of various software relevant to his field, including structural analysis, project management, CADD, and GIS tools, as well as programming languages such as C# and Python. Beyond his academic and professional pursuits, Dr. Islam has actively engaged in community involvement, volunteering with student associations and community programs.

EDUCATION

2017 – 2023 PhD in Civil Engineering

University of Alberta, AB, Canada

Thesis: “Development of a novel light-frame wood panelized roof system”

Supervisor: Dr. Ying Hei Chui 2013 – 2015 MSc in Construction Engineering and Management

University of Alberta, AB, Canada

Thesis: “Effect of Open Space Distribution on Spatial Accessibility and Park

Management Costs in the Context of Urban Neighbourhoods”

Supervisor: Dr. Ahmed Bouferguene 2007-2012 MSc in Environmental Engineering

Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

Thesis: “Assessment of the potential for arsenic accumulation in rice field

soils in Bangladesh and its implication on rice yield”

Supervisor: Dr. Muhammad Ashraf Ali 2002 – 2007 BSc in Civil Engineering

Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

PUBLICATIONS

Journals

1. Islam, M. S., Chui, Y. H. (2024). Finite element analysis of a light-frame wood panelized gable roof. Elsevier Journal: Engineering Structures 2024;302:117333. (Q1 Journal) <https://doi.org/https://doi.org/10.1016/j.engstruct.2023.117333>
Journal Impact Factor: 5.5; Cite Score in 2022: 9.2; SJR index in 2022: 1.60; SNIP in 2022: 2.177. See details <https://www.sciencedirect.com/journal/engineeringstructures/about/insights>
2. Islam, M. S., Chui, Y. H., Altaf, M. S. (2023). Novel Panelized Roof Design for Offsite Fabrication of Light-Frame Wood Residential Homes. ASCE Journal of Practice Periodical on Structural Design and Construction 2024;29:4023071. (Q2 Journal) <https://doi.org/10.1061/PPSCFX.SCENG-1405>.
Impact Factor: 1.9; Cite Score: 2.9 See details <https://ascelibrary.org/journal/ppscfx>
Cite Score in 2022: 2.9; SJR Index in 2022: 0.416; SNIP in 2022: 0.890
See details <https://www.scopus.com/sourceid/16906>
3. Islam, M. S., Chui, Y. H., and Chen, Z. (2022). Novel Apex Connection for Light Wood Frame Panelized Roof. MDPI Journal of Materials 15, no. 21: 7457. (Q2 Journal) <https://doi.org/10.3390/ma15217457>
Impact Factor: 3.4; Cite Score: 5.2 See detail at <https://www.mdpi.com/journal/materials/indexing>
Cite Score in 2022: 5.2; SJR Index in 2022: 0.563 SNIP in 2022: 1.067 See details at <https://www.scopus.com/sourceid/76627>
4. Islam, M. S., Chui, Y. H., Altaf, M. S. (2022). Design and Experimental Analysis of Connections for a Panelized Wood Frame Roof System. MDPI Journal of Buildings 12(6): 847. (Q2 Journal) <https://doi.org/10.3390/buildings12060847>
Impact Factor: 3.8; Cite Score: 5.2 See details at <https://www.mdpi.com/journal/buildings/indexing>
Cite Score in 2022: 3.1; SJR Index in 2022: 0.605; SNIP in 2022: 1.343 See details at <https://www.scopus.com/sourceid/26980>
5. Pervin, L., Gan, T. Y., Scheepers, H., Islam, M. S. (2021) Application of the HBV model for the future projections of water levels using dynamically downscaled global climate model data. IWA Journal of Water and Climate Change 12 (6): 2364–2377. (Q2 Journal) <https://doi.org/10.2166/wcc.2021.302>
Impact Factor: 2.8 See details at <https://iwaponline.com/jwcc>
Cite Score 2022: 3.9 SJR Index in 2022: 0.579 SNIP in 2022: 0.883 See details at <https://www.scopus.com/sourceid/21100205753>
6. Islam, M.S., Chen, Y., Ahmed, B., Al-Hussein, M. (2019). Rethinking urban open space distribution for municipal financial sustainability. ASCE Journal of Computing in Civil Engineering, 33(3): 04019012 (Q1 Journal) [https://doi.org/10.1061/\(ASCE\)CP.1943-5487.0000818](https://doi.org/10.1061/(ASCE)CP.1943-5487.0000818)
Impact Factor: 6.9; Cite Score: 5.2 See details at <https://ascelibrary.org/journal/jccee5>
Cite Score 2022: 12.1 SJR Index in 2022: 1.349 SNIP in 2022: 1.893 See details at <https://www.scopus.com/sourceid/18643>
7. Pervin, L., Islam, M. S. (2015). System dynamics approach for modelling of sugar beet yield considering the effects of climatic variables. Wiley Journal of the Science of Food and Agriculture, 95(3): 515–521 (Q1 Journal) <https://doi.org/10.1002/jsfa.6762> Impact Factor: 4.1; Cite Score: 8.2 See details at <https://onlinelibrary.wiley.com/journal/10970010/journal-metrics>

Cite Score 2022: 8.2 SJR Index in 2022: 0.747 SNIP in 2022: 1.240 See details at

<https://www.scopus.com/sourceid/33928>

8. Islam, M.S, Al-Muyeed., A., Pervin. L (2012). Vehicular Emission Due to Increased

Traffic of Dhaka City. Journal of Environ Tech & Construction Engg-Peer Reviewed

journal of ICETCESD 01(01): 88-97. **Conferences** 1. Islam, M. S., Chui, Y. H. (2024). Panelized Light-Frame Wood Roof as a

Potential Housing Solution for Northern Canada. Canadian Society of Civil Engineering Annual Conference 2024, Jun 4-7,

Canada. 2. Islam, M. S., Chui, Y. H. (2023). Numerical Investigation of Timber Screw Connection for Panelized Light Wood

Frame Roof. Proceedings of the Canadian Society of Civil Engineering Annual Conference 2023 (CSCE 2023), May 24-26,

Canada. 3. Islam, M. S., Chen, Y., Chui, Y. H. (2022). An In-Depth Review to Establish Guidelines for A New Light Frame

Panelized Roof Manufacturing with High Thermal Performance. 6th International Conference on Civil Engineering for

Sustainable Development (ICCESD 2022). 10-12 February 2022. Khulna, Bangladesh. 4. Islam, M. S., Chui, Y. H., Al-

Hussein, M., Altaf, M. S. (2021). A New Panelized Roof Design Approach for Offsite Fabrication of Light-Frame Wood

Residential Construction Projects. Proceedings of the Canadian Society of Civil Engineering Annual Conference 2021 (CSCE

2021), May 26-29, Canada. 5. Islam, M. S., Chui, Y. H., Altaf, M. S. (2021). A holistic design approach for innovative panelized

light-wood frame roof construction. World Conference on Timber Engineering (WCTE2021), Aug. 9-12, Santiago de Chile,

Chile. 6. Islam, M.S., Chui, Y.H., Altaf, M. S., (2019). A Holistic Design Approach for Innovative Panelized Roof for Light Wood

Frame House. 5th Annual Structures Graduate Students Conference (SGSC), 06 September, Edmonton, AB, Canada. 7.

Islam, M.S., Olearczyk, Al-Hussein, M., Buferguene, A. (2018). VR-based crane operation planning using a head-mounted

display. 1st International Conference on New Horizon in Green Civil Engineering (NHICE-01), April 25-27, Victoria, BC,

Canada. 8. Islam, M.S., Ahmed, B., Al-Hussein, M. (2015). Impact of Open Space Distribution on the Property Value in

Neighborhood Subdivision and Design. 2015 Spaces and Flows Conference: Decline Belt Cities and Places: Prospects,

Problems, Possibilities - A Common Ground Conference, 15-16 October 2015, Chicago, Illinois, United States of America.

9. Islam, M.S., Ahmed, B., Al-Hussein, M. (2014). Municipal Reserve by-law and neighborhood design. Presented in Faculty

of Engineering Graduate Research Symposium, June 17-19, University of Alberta, Edmonton, Canada. 10. Islam, M.S, Al-

Muyeed, A., Pervin, L., Hasan, T. (2012). A GIS-based approach to combine the waterway and road network for the solid

waste management of Dhaka city. International Conference on Civil Engineering for Sustainable Development, 23-25

March, Khulna, Bangladesh. 11. Pervin, L., Islam, M.S. (2012). Shifting of Rainfall Intensity Duration Frequency Curves (IDF)

of Dhaka City. International Conference on Civil Engineering for Sustainable Development, 23-25 March, Khulna,

Bangladesh. 12. Rahman, M.H., Al-Muyeed, A., Islam, M. S. (2011). Water Supply in Dhaka Mega City: A Strategic View.

World water week in Stockholm, 21-27 August, Stockholm. 13. Islam, M. S., Al-Muyeed, A. (2011). Vehicular Emission due to

Increased Traffic of Dhaka City. International Conference on Environmental Technology and Construction Engineering for

Sustainable Development (ICETCESD), 10-12 March, SUST, Sylhet, Bangladesh. 14. Islam, M. S., Al-Muyeed, A. (2011).

Examination of Household Composting Technologies for Sub-Urban Areas of Bangladesh. WasteSafe - 2nd International

Conference on Solid Waste Management in the Developing Countries, 13-15 February, Khulna, Bangladesh. **Technical**

Report 1. Chui, Y. H., Spencer, J., Islam, M. S., Joyce, T., Daneshvar, H., Niederwestberg, J., Spasojevic, M. (2019) Survey to

Identify Mass Timber Research Needs and Priorities. Report submitted to Natural Resources Canada (NRCan), 580 Booth

Street, Ottawa, Ontario K1A 0E4.

ENGINEERING COURSE INSTRUCTION EXPERIENCE

GRADUATE COURSE CIV E 662- Structural Timber Design- offered at University of Alberta **UNDERGRADUATE COURSE** 1. CIV E 479- Structural Design III (Capstone project)- offered at the University of Alberta

2. CIV E 474- Structural Design-II-Behaviour and Design of reinforced concrete structures- offered at University of Alberta

3. CIV E 372- Structural Analysis I -offered at the University of Alberta

4. CIV E 265-Engineering Drawing and Computer Graphics-offered at the University of Alberta

5. CIV E 250- Plane Surveying - offered at the University of Alberta

6. ENGG 130- Engineering Mechanics - offered at the University of Alberta

7. GERM 352-Fundamentals of Research Methodology- offered at Military Institute of Science and Technology (MIST)

8. EWCE 433-Solid Waste Management offered at Military Institute of Science and Technology (MIST)

9. CE 211-Mechanics of Solids - I -offered at Ahsanullah University of Science and Technology (AUST)

10. CE 431 Environmental Engg- III -offered at Ahsanullah University of Science and Technology (AUST)

PROFESSIONAL EXPERIENCE

TEACHING EXPERIENCE * Assistant Professor, Department of Civil Engineering, United International University (UIU) *

Chairman, Department of Civil Engineering, Uttara University * Assistant Professor, Department of Environmental, Water

Resources and Coastal Engineering (EWCE), Military Institute of Science and Technology (MIST), Bangladesh * Assistant

Lecturer, Department of Civil and Environmental Engineering, University of Alberta, Canada * Teaching Assistant,

University of Alberta, Canada * Assistant Professor, Department of Civil Engineering, Ahsanullah University of Science and

Technology (AUST), Bangladesh * Lecturer, Department of Civil Engineering, Ahsanullah University of Science and

Technology (AUST), Bangladesh

RESEARCH EXPERIENCE Research Assistant, University of Alberta November 2015 – July 2023 * Developed a novel light-frame wood panelized roof * Supervised a team of five undergraduate students to develop a virtual reality platform to design seniors’ housing suitable for people with dementia, resulting in enhanced mobility for the residents * Coded a crane simulation program to train crane operators compatible with the HTC Vive headset * Developed a virtual mock-up testbed to analyze infrastructure planning options

Research Assistant, University of Alberta August 2013 – October 2015 * Investigated drainage maintenance operation and developed simulation model resulting in improved sewerage network management of the City of Edmonton * Analyzed residential lot grading plans to determine the effect of local road width on runoff generation. * Reviewed land-use bylaws in collaboration with the Urban Development Institute-Edmonton Region and submitted three technical reports on the improvement of land development policy * Collected survey and geomatics data relating to parks infrastructure assets of 63 neighbourhoods of Edmonton and developed a GIS-based simulation model for park maintenance * Programmed a statistical model to analyze residential lots value resulting in enhanced park accessibility * Designed a GIS model using Python and ArcGIS with an Access database background and improved Edmonton’s residential lot subdivision planning policy

PROFESSIONAL CERTIFICATIONS

- Continuing Education Certificate on Designing Mass Timber for the 21st Century Canadian Wood Council (CWC) October 2022
- ESRI Certification on Creating and Sharing, ESRI online education July 2016
- Locator Packages in ArcGIS 10 .1, ESRI online education July 2016
- Alberta OH&S Legislation Awareness, Alberta Construction Safety Association (ACSA) July 2016
- Standard First Aid-Level C (CPR and AED)
- Second Chance CPR and First Aid, Edmonton May 2016

SOFTWARE AND PROGRAMMING SKILLS

- Finite Element Analysis Program: ABAQUS, SAP 2000, Robot Structural Analysis, ETABS, OpenSees, S-Frame, STAAD Pro
- Project Management and Construction Simulation Program: Simphony.NET, Primavera P6, MS Project, RS Mean, Weka, Cyclone, Vensim
- CADD and GIS software: AutoCAD, Revit, 3DS Max, Unity, SketchUp, Autodesk Stingray, ArcGIS, AutoCAD Civil 3D
- Programming language: C#, Python, Visual Basic, Wolfram, Mathcad
- Office Application: MS Word, Excel, Access, Visio, PowerPoint, Microsoft Publisher and Google Applications

PROFESSIONAL MEMBERSHIPS

- Engineer In Training (EIT) with The Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) – member no. 35957
- Canadian Society for Civil Engineering (CSCE)
- American Society of Civil Engineers (ASCE)
- The Institution of Engineers, Bangladesh (IEB)

COMMUNITY INVOLVEMENT

- Volunteered to maintain the website ARTS group and Nasser School of Building Science and Engineering, University of Alberta
- Volunteered as President of the Bangladeshi Student Association University of Alberta
- Organized ARTS group booth at Wood Solutions Conference – Edmonton
- Coordinated the WE CAN Food Basket program and community gardening programs for graduate students at Michener Park residence
- Facilitated industry tour for attendees of the 2015 Modular and Offsite Construction Summit
- Arranged and managed presentation facilities for the 2014 Faculty of Engineering Graduate Research Symposium

Research Interest

i) Structural performance of Bio-based construction materials ii) Structural system designed for off-site construction iii) AI application in sustainable construction iv) Construction operation simulation

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