



## NOTABLE HONORS & AWARDS

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- Outstanding Student Presentation Award, International Workshop for mid-latitude air-sea interaction, **2021**, Sapporo, Japan (online).
- Oral Presentation Prize, Early Career Technical Conference, **2019**, UAB, Birmingham, AL, USA.
- University Merit Scholarship, Chittagong University of Engineering & Technology (CUET), Bangladesh, **2011-2014**.
- 2nd Runner-up in ‘Project Show’ competition in Dhaka University IT fest **2013**, Dhaka, Bangladesh.
- Board Scholarship in Dhaka division, Bangladesh, based on the result in Secondary School Certificate (SSC) Exam, **2008**.

## TECHNICAL SKILLS

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Programming & Data Analysis	: Python, Fortran, Matlab, Bash, R (Basic)
Post Processing	: CDO, NCview, Tecplot, Paraview
Climate Modeling & Multi-physics Simulation	: CESM, Ansys Fluent, OpenFOAM, Comsol
Application	: L <sup>A</sup> T <sub>E</sub> X , Microsoft Office
Operating System	: MacOS, Linux, Windows
Computer Aided Design	: SOLIDWORKS, AutoCAD

## SCIENTIFIC PRESENTATIONS

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- The Linkage Between Anomalous Wind-Driven Ocean Circulation and Hadley Circulation, **Poster**, *MEAS 2<sup>nd</sup> Annual Symposium*, 2023, North Carolina State University, Raleigh, NC, USA
- Future changes in the role of Ekman heat flux on SST variability, **Oral**, *AGU Fall Meeting 2022*, Chicago, IL, USA.
- Future changes in the role of Ekman heat flux on Pacific SST variability, **Oral**, *NCAR Climate Variability and Change Working Group, CESM Annual workshop*, 2022, Online.
- Future changes in the role of Ekman heat flux on Pacific SST variability, **Oral**, *3rd ESOM Symposium, George Mason University*, 2022, Fairfax, VA, USA.
- Air-sea interaction plays a different role in North Pacific turbulent heat flux exchange in summer versus winter, **Poster**, *AGU Fall Meeting 2021*, New Orleans, LA (Online).
- The seasonally varying relationship between air-sea fluxes and large-scale SST in a coupled model hierarchy, **Oral**, *International Workshop for Midlatitude Air-Sea Interaction*, 2021, Sapporo, Japan (Online).
- Control of flow separation on a hump model using a dielectric barrier discharge plasma actuator, **Oral**, *Early Career Technical Conference*, 2019, UAB, Birmingham, AL, USA.
- Investigation of stratified Kelvin-Helmholtz instability by Integro-Differential scheme, **Poster**, *8th Annual COE Poster Presentation*, 2019, North Carolina A&T State University, Greensboro, NC, USA

## PUBLICATIONS

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### In Progress:

Fahad, A., **Hasan, M.**, and others, Climate Change Quadruple Flood Causing Extreme Monsoon

Rainfall Events in Bangladesh & Northeast India, *Quarterly Journal of the Royal Meteorological Society*, submitted.

#### Peer-Reviewed:

**Hasan, M.**, Larson, S., McMonigal, K., Hadley Cell Edge Modulates the Role of Ekman Heat Flux in a Future Climate, *Geophysical Research Letters*, 49(17), 2022, <https://doi.org/10.1029/2022GL100401>.

**Hasan, M.**, Atkinson, M., Investigation of a Dielectric Barrier Discharge Plasma Actuator to Control Turbulent Boundary Layer Separation, *Applied Sciences Journal*, MDPI, 2020, 10(6), 1911, doi: 10.3390/app10061911.

**Hasan, M.**, Atkinson, M., Control of Flow Separation on A Hump Model Using A Dielectric Barrier Discharge Plasma Actuator, *Journal of UAB ECTC*, 18, 148-154, Nineteenth Early Career Technical Conference, University of Alabama, Birmingham2020.

**Hasan, M.**, Control of Separated Flow Using a Dielectric Barrier Discharge Plasma Actuator, *Master's Thesis*, 2019, North Carolina A&T State University.

**Hasan, M.**, Kabir, A., Akib, Y., Dynamic Stall investigation of Two-Dimensional Vertical Axis Wind Turbine Blades Using Computational Fluid Dynamics, AIP Conference Proceedings 2121, 120003, 2019, doi: 10.1063/1.5115940.

Kabir, A., Akib, Y., **Hasan, M.**, Islam, J., Comparison of the Aerodynamic Performance of NACA 4415 and KFM based Stepped Airfoils, *3rd International Conference on Mechanical Engineering*, ICME 2019, Bangladesh.

Akib, Y., Kabir, A., **Hasan, M.**, Critical Assessment of Altitude Adaptive Dual Bell Nozzle Using Computational Fluid Dynamics, *International Journal of Engineering Materials and Manufacture* 4(1) 15-21, 2019, doi: 10.26776/ijemm.04.01.2019.02

Akib, Y., Kabir, A., **Hasan, M.**, Characteristics Analysis of Dual Bell Nozzle Using Computational Fluid Dynamics, *3rd International Conference on Mechanical Industrial and Materials Engineering (ICMIME)*, 2017, Rajshahi, Bangladesh.

## WORKSHOPS & TRAINING ATTENDED

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- NCAR CESM Tutorial Workshop, August 2021, National Center for Atmospheric Research, Online.
- Python for Climate and Meteorology, March 2021, American Meteorological Society, Online.

## PROFESSIONAL MEMBERSHIP

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- American Geophysical Union (AGU), Member
- American Meteorological Society (AMS), Member
- Society for Industrial and Applied Mathematics (SIAM), Member