

Md. Zahangir Hossain

Lecturer

Department of Mathematics & Physics

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Objective

- I like to enjoy all kinds of productive, innovative and challenging works.

Research Interest

- Computational Fluid Dynamics (CFD)
- Nanofluids
- Fluid Dynamics of the Atmosphere & Ocean
- Newtonian & Non-Newtonian Flows
- Laminar & Turbulent Flows
- Natural & Mixed Convection Flows

Education

- Master of Science** in Computational Fluid Dynamics (CGPA 3.80 out of 4.00) 2012
Memorial University, NL, Canada
Thesis: "Towards the development of a multi-scale model for thermally driven circulations"
- Master of Science** in Mathematics (first class fourth position) 2007
Jahangirnagar University, Savar, Dhaka, Bangladesh
- Bachelor of Science** in Mathematics (first class first position) 2005
Jahangirnagar University, Savar, Dhaka, Bangladesh

Work Experience

- Lecturer, North South University, Dhaka, Bangladesh May 2013–present
- Graduate Teaching and Research Assistant, Memorial University, NL Sep 2009–Dec 2011
- Lecturer, Presidency University, Dhaka, Bangladesh Jan 2008–Aug 2009
- Lecturer, IBAIS University, Dhaka, Bangladesh Sep 2007–Jan 2008

Professional Activities

- Member, American Mathematical Society(AMS)
- Member, Canadian Applied and Industrial Mathematics Society(CAIMS)
- Member, Bangladesh Mathematical Society(BMS)
- Member, Jahangirnagar University Alumni Association of Mathematics(JUAAM)

Professional Development and Training

- **Professional Skills Development Program (PSDP)** 2012
Certificate program for international students, Memorial University, NL
- **Graduate Program in Teaching (GPT)** 2011
Certificate program for graduate students, Memorial University, NL
- **Faculty Development Program** 2008
Presidency University, Bangladesh

Computer Proficiencies

- **Operating Systems:** LINUX & Windows
- **Programming Language:** Fortran 90 & C
- **Software Package:** Matlab, Maple, FFT, FFTW & PETSc

Awards

- Graduate Fellowship from School of Graduate Studies, 2009-2011, Memorial University, NL
- Graduate Teaching and Research Assistantship, 2009-2011, Memorial University, NL
- Bangladesh Government Scholarship for outstanding results of B.Sc. (Honors) and M. Sc. degrees, 2004, Department of Mathematics, Jahangirnagar University, Savar, Dhaka, Bangladesh
- Bogra District Association Scholarship, 2004, Dhaka, Bangladesh
- Merit Scholarship, every year at undergraduate level (B.Sc.), Department of Mathematics, Jahangirnagar University, Savar, Dhaka, Bangladesh

Research

Manuscripts:

- Md. Zahangir Hossain, Md. Mamun Molla & Md. Sahadet Hossain ; *Numerical Simulation of Natural Convection Flow of Nanofluid in a Skewed Cavity*(in progress).
- Md. Zahangir Hossain, Md. Mamun Molla, Md. Sahadet Hossain & Mustak Mia; *Laminar-to-Transitional Flow and Heat Transfer through Nanofluid in a Square Cavity with Localized Heating from Below*(accepted).

Publications in Referred Journal:

- Jahrul M Alam, Nicholas K. -R Kevlahan, Oleg V. Vasilyev & Zahangir Hossain; *A multi-resolution model for the simulation of transient heat and mass transfer*. Numerical Heat Transfer, Part B(61), 1-24(2012).
- M Abdur Rab, Jasmin Akhter & Md. Zahangir Hossain; *Analytical Study of Electric Delay line Function*, Journal of Mathematics & Mathematical Sciences, Vol. 24, 63-69(2009).

Non-Referred Contributions:

- Md. Zahangir Hossain, Md. Mamun Molla, Md. Sahadet Hossain & Mustak Mia; *Laminar-to-Transitional Flow and Heat Transfer through Nanofluid in a Square Cavity with Localized Heating from Below*, 11th International Conference on Mechanical Engineering, ICME 2015, Dec 18-20, 2015 in Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh (oral presentation).
- Md. Zahangir Hossain & Jahrul Alam; *The study for assessment of an adaptive mesh Computational Fluid Dynamics model*, 17th Mathematics Conference, Dec 22-24, 2011 in Jahangirnagar University, Savar, Dhaka, Bangladesh (oral presentation).
- Md. Zahangir Hossain & Jahrul Alam; *An adaptive mesh model for thermally forced flows*, The 11th Bluenose Computational and Applied Mathematics Day, June 17, 2011 in Saint Mary's University, Halifax, Nova Scotia, Canada (oral presentation).
- Mo. Rokibul Islam, Md. Zahangir Hossain, Jahrul Alam, Nicholas Kevlahan & Oleg Vasilyev; *An adaptive wavelet collocation method for Fluid Dynamics*, 31st annual meeting of the CAIMS, July 17-20, 2010 in Sheraton Hotel Newfoundland, St. John's, NL, Canada (poster presentation).

Course Reports:

List of reports submitted to fulfill the course requirements at the Dept. of Mathematics, MUN.

- Sea-breeze Model (MATH-6119, Winter 2011).
- Generalization of Polya's Fundamental Theorem in Enumerative Combinatorial Analysis (MATH-6342, Fall 2010).
- Simultaneous Space-Time Finite Difference Method for Parabolic Equation (MATH-6210, Winter 2010).
- Existence and Uniqueness of Periodic Solution of the Nonlinear Pendulum with Constant Forcing (MATH-6100, Fall 2009).

References

Available upon request