Prof. Md. Mamun Molla, Ph.D.

Associate Fellow, Bangladesh Academy of Science (BAS)

Personal information

Nationality: Bangladeshi by birth
Date of Birth: 21 October 1974
Marital Status: Married

Home Address

Flat : 3B
House:313, Road-12, Block-C
Bashundhara R/A, Dhaka-1229, Bangladesh
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Work Address

Professor
Dept. of Mathematics & Physics
North South University
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Postdoctoral Experience:

Sep 2009- to Aug 2011	Postdoctoral Research Associate University of Manitoba Dept. of Mechanical & Manufacturing Engineering Winnipeg, R3T 3M2, Manitoba, Canada

Educational Background

June 2009	University of Glasgow Department of Mechanical Engineering Glasgow, UK PhD in Computational Fluid Dynamics (CFD) Successfully Completed
Nov 2003	Bangladesh University of Engineering & Tech, Bangladesh MPhil in Applied Mathematics (Thesis in CFD) Successfully Completed

Sep 2001	University of Dhaka, Bangladesh MSc in Applied Mathematics (Thesis in CFD) First Class
June 1999	University of Dhaka, Bangladesh BSc (Hons.) in Mathematics First Class

Awards Received

- NSU Excellent Research Award 2021-2022.
- NSU Excellent Research Award 2018-2020.
- European Union (**Marie-Curie**) scholarship for attending to the 7th EUROMECH Fluid Mechanics Conference (EFMC7), Manchester University, UK, 14-18 September 2008.
- **ORS** (Overseas Research Scholarship), University of Glasgow, UK, 2005-2008.
- **Faculty of Engineering Scholarship**, University of Glasgow, UK, 2005-2008.
- A **Gold Medal** for the best presentation in the **3rd International Conference on Applied Mathematics & Mathematical Physics,** Shahjalal University of Science & Technology, Bangladesh, 2005.
- National Science and Technology Fellowship, Bangladesh, 2000-2003.
- Best award for the reading book competition, World Literature Centre, Bangladesh, 1993.

Grant Received

- Ministry of Science and Technology (MOST) Research Grant (EAS/SRG-222427)-Tk-600,000.0 ($6000), 2022-2023.
- NSU faculty research grant (CTRG-22-SEPS-09) Tk-500,000.00(~$5000.0), 2022-2023.
- Ministry of Science and Technology (MOST) Research Grant (EAS-474)-Tk-350,000.0 ($4000), 2021-2022.
- NSU faculty research grant (CTRG-21-SEPS-12)Tk-500,000.00(~$6000.0), 2021-2022.
- Ministry of Science and Technology (MOST) Research Grant (EAS-441)-Tk-400,000.0 ($5000), 2020-2021.
- NSU faculty research grant (CTRG-20-SEPS-15)Tk-500,000.00(~$6000.0), 2020-2021.
- Higher Education Research Grant (MS20191054)-Tk1200000.0 (~$14000.0), 2020-2022 (BANBEIS, Ministry of Education, Bangladesh)
- NSU faculty research grant (CTRG19/SEPS/09)Tk-490,000.00(~$6000.0), 2019-2020.
- NSU faculty research grant (No. NSU-RP-18-067) Tk-400,000.00(~$5000.0), 2018-2019.
- NSU faculty research grant Tk- 295,000.00, 2016-2017.

- NVIDIA Tesla k40 GPU card grant from NVIDIA Corporation, USA, 2016 ($5000)
- NSU research grant Tk- 75,000.00, 2013-2014.
- NSU research grant Tk- 300,000.00, 2012-2013.

Computing Knowledge

- GPU computing using CUDA C/C++ and OpenACC
- LINUX, OpenFoam
- PARRALELL COMPUTING: MPI , OpenMP
- C, C++ , FORTRAN-77, 90
- MATLAB
- MATHEMATICA
- TECPLOT-10, 360

Teaching Experience

- From May 2019 to date, Professor, School of Engineering & Applied Science, Dept. Mathematics & Physics, North South University, Dhaka, Bangladesh.
- From Feb 2016 to 30 April 2019, Associate Professor, School of Engineering & Applied Science, Dept. Mathematics & Physics, North South University, Dhaka, Bangladesh.
- From Oct 2015- Feb 2016, Assistant Professor, School of Engineering & Applied Science, Dept. Mathematics & Physics, North South University, Dhaka, Bangladesh.
- From Sep 2011- Oct2015, Assistant Professor, School of Engineering & Applied Science, Dept. Electrical & Computer Engineering, North South University, Dhaka, Bangladesh.

- Oct 2005-May 2008 University of Glasgow, UK
  Instructor (for problem solving class) in Mathematics, Fluid Dynamics and Thermodynamics.
- From Dec-04 to Sep-05, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh
  Lecturer in Mathematics.
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- April 2002-Nov 2004 Bangladesh University of Engineering & Technology, Dhaka, Bangladesh
  Full-time visiting Lecturer in Mathematics.

Research Activities

- **PhD Thesis (2009)**: "LES of transition-to-turbulent pulsatile flow in the models of arterial stenosis and aneurysm",

- **MPhil Thesis (2003)**: "Natural convection flow with temperature dependent viscosity and thermal conductivity along a vertical wavy surface and a horizontal circular cylinder".

- **MSc Thesis (2001)**: "Natural convection flow along a vertical wavy surface with uniform surface temperature and heat flux in presence of heat generation/absorption".

Graduate Thesis Supervision:

1. Numerical simulation of non-Newtonian fluid flow and heat transfer in a lid-driven skewed cavity using finite volume method, *PhD thesis* (2019) (Joint program with the Bangladesh University of Engineering and Technology)
2. Turbulent flow and dispersion simulation in a canyon street using RANS, *PhD thesis* (2019) (Joint program with the Dhaka University of Engineering and Technology)
3. Turbulent indoor air flow simulation using large-eddy-simulation in lattice Boltzmann method using GPU computing, *MSc thesis* (2018)
4. Natural convention flow of nanofluid along a vertical complex wavy surface with uniform heat flux, *MPhil thesis*(2017)) (Joint program with the Bangladesh University of Engineering and Technology)
5. Lattice Boltzmann Simulation of Airflow and Heat Transfer in a General Ward of Hospital, *BSc thesis* (2016)
6. Numerical simulation of non-Newtonian blood flow through a model arterial aneurysm with moving wall, *BSc thesis* (2015)
7. Finite volume simulation of nanofluid in a wavy channel, *MSc thesis* (2014)
8. Buoyancy Driven Natural Convection Flow in an Enclosure with Two Discrete Heating from Below, *BSc thesis* (2014)
9. Biomegnatic fluid flow in a model arterial aneurysm using finite volume method, *BSc thesis* (2013)
10. Numerical simulation of blood flow through a model arterial stenosis with complaint wall, *BSc thesis* (2012)

Numerical Method Proficiency with FORTRAN-77 and 90 Codes

- CUDA C code of Lattice Boltzmann method for GPU computing
- High performance computing, parallel programming (using MPI and OpenMP) in DNS, LES, hybrid RANS/LES techniques
- OpenMP code of Direct Numerical Simulation (DNS) and Large Eddy Simulation (LES) techniques based on the Cartesian curvilinear coordinates for incompressible fluid flow and thermal flow.
- 3D grid generation code using transfinite interpolation.

- Single-Relaxation and Multiple-Relaxation-time based Lattice Boltzmann methods (LBM).
- Explicit and implicit finite difference and volume method for the Navier-Stokes equation using velocity-pressure correction technique with different solvers.
- Upwind explicit finite difference method for the Navier-Stokes equation in the velocity-vorticity formulation.
- Alternating Direction Implicit (ADI) finite difference method together with Successive over relaxation (SOR) scheme for the Navier-Stokes equation.
- Explicit method for Darcy's law for porous media coupled with the energy equations.
- Implicit finite difference method together with Keller box scheme (Cebeci and Bradshaw, Springer 1984) for the boundary layer equations.
- Marching order implicit finite difference method together with double sweep technique for the parabolic boundary value problem.
- Nachtsheim-Swigert iteration technique together with 6th order Runge-Kutta method (Nachtsheim and Swigert, NASA TN- D30041965).
- Local non-similarity method for the boundary layer equations.

Reviewer of the Journals:

1. Physics of Fluids
2. International Journal of Heat and Fluid Flow
3. Applied Mathematics and Computation
4. Applied Mathematical Modeling
5. ASME Journal of Heat Transfer
6. ASME Journal of Fluid Engineering
7. Non-linear Analysis: Modeling and Control
8. International Journal of Numerical Heat Transfer
9. International Journal of Thermal Science
10. International Journal of Energy and Technology
11. Chemical Engineering Communication
12. Engineering Application of Computational Fluid Dynamics
13. Progress in Computational Fluid Dynamics: An International Journal
14. Mecanica
15. Journal of Thermophysics and Heat Transfer
16. Central European Journal of Physics
17. Heat and Mass Transfer
18. Nonlinear Engineering – Modeling and Application
19. International Journal of Computer Mathematics
20. Int. Journal of Heat and Mass Transfer
21. Int. Journal of Non-Newtonian Fluid Mechanics
22. Many others.

Conferences and Workshops Attended

1. **Plenary Speaker**, "Bangladesh Academy of Science (BAS)" February 11, 2023

2. **Keynote Speaker** "Improved Lattice Boltzmann Simulation of Newtonian and non-Newtonian Fluid flows and Convective Heat Transfer using the GPU Computing" A F Mujibur Rahman-Bangladesh Mathematical Society National Mathematics Conference 2022, Jahangirnagar University, January 13-14, 2023
3. **Session Chair "**5th Young Scientist Congress", Bangladesh Academy of Science (BAS), 25-27 November, 2022
4. **Invited Speaker** "cascaded Lattice Boltzmann Simulation of Convective Heat Transfer and Entropy Production using the GPU Computing", 1st International Conference on Frontier in Sciences (ICFC-2022), 11-12 November 2022, Bangladesh University of Engineering and Technology (BUET), Dhaka-1000, Bangladesh.
5. **Invited Speaker** "Improved Lattice Boltzmann Simulation of Convective Heat Transfer and Entropy Production using the GPU Computing", 1st International Conference of Physical Sciences 2022 (ICPS-2022), 21-23 October, 2022 at Shahjalal University of Science and Technology, Sylhet, Bangladesh..
6. **Invited Speaker** "Introduction to High-Performance Parallel Computing: Applications in Computational Fluid Dynamics", A day Long Seminar "Mathematics for a Better Life" , 24 July 2022, Department of Mathematics, Jahangirnagar University.
7. **Invited Speaker** "Computational Fluid Dynamics with Different Applications", A day Long Seminar in, 28 June 2022, Cumilla University Cumilla, Bangladesh.
8. **Invited Speaker** "Computational Fluid Dynamics with Different Applications", A day Long Seminar in, 28 June 2022, Cumilla University Cumilla, Bangladesh.
9. **Invited Speaker** "Simulation of Air Flow and Pollutant Dispersion in a Model Street Canyon Intersection of a City", 22nd International Mathematics Conference, 10-11 December 2021, Dhaka, Bangladesh.
10. **Invited Speaker** "*Discussion on High-Performance Parallel Computing Using Cluster CPU and GPU*", Seminar on Modeling and Simulation, Dept. of Applied Mathematics, University of Dhaka, 26 September 2018, Dhaka, Bangladesh.
11. **Invited Speaker** "*Multiple-relaxatiom-time Lattice Boltzmann Simulation of Non-Newtonian Fluids using GPU Computing*", Bangladesh Academy of Science (BAS) 3rd Young Scientist Congress on 14-15 September 2018, Dhaka, Bangladesh.
12. **Invited Speaker** "*High-Performance Scientific Simulation by Using Graphics Card: GPU Computation*", International Conference on Nanotechnology and Condensed Matter Physics (ICNCMP 2018) on 11-12 January 2018, Dhaka, Bangladesh.
13. Speaker "*Lattice Boltzmann Simulation of Airflow and Passive Scalar in different Model Geometry using GPU Computing*", Seminar on NSU "Faculty Research Grant 2016-2017"on 17 September 2018, Dhaka Dhaka, Bangladesh.
14. Presented a talk in biweekly seminar on " Application of *Computational Fluid Dynamics in Real Life Problem*" 2016, Dept. of Mathematics & Physics, North South University, Dhaka Dhaka, Bangladesh.
15. **Invited speaker** " *Recent Developments of the Computational Fluid Dynamics in Bangladesh*" one day seminar on Recent developments of the Applied Mathematics Research in Bangladesh, 25 April 2014, Dhaka University of Engineering &Technology (DUET), Dhaka, Bangladesh.

16. Presented a paper entitle, "*Natural convection flow in a rectangular enclosure with two discrete heating from bellow*" 5th BSME Conference, December 21-23, 2012, IUT, Gazipur, Bangladesh.
17. Presented a paper entitle, "*Large eddy simulation of pulsatile flow in a constricted pipe*" 19th Bangladesh Mathematics Conference, December 18-21, 2011, IUT, Gazipur, Bangladesh.
18. Attended on a workshop " High Performance Computing" July12-15, 2010, University of Manitoba, Canada
19. Presented a paper entitled, "*Large eddy simulation of physiological Pulsatile flow based on dynamic nonlinear subgrid scale stress model*", ASME 2011 9th International Confernce on Nanochanel, Microchannels and Minichannels-ICNMM2011, June 19-22, 2011, Edmonton, Canada.
20. Presented a paper entitled, *"LES of Physiological Pulsatile flow in a model stenosis*", 7th EUROMECH Fluid Mechanics Conference, University of Manchester, UK, 14-18 September 2008
21. Presented a paper entitled, "*Physiological flow in a model of arterial stenosis*", 16th Congress European Society of Biomechanics, Lucerne, Switzerland, 6-9 July 2008.
22. Presented a paper entitled, "*Large Eddy Simulation for the pulsatile flow in a model arterial stenosis*", Faculty of Engineering Postgraduate Conference, University of Glasgow, UK, 30 April-01 May 2007.
23. Presented a poster entitled, "*Transitional blood flows modeling in an arterial stenosis using Large Eddy Simulation*" British Applied Mathematics Colloquium (BAMC), Keele University, UK, 24-27 April 2006.
24. Presented a paper entitled, "*Pulsatile flow in a model arterial stenosis using Large Eddy Simulation*" Colloquium of the Department of Mechanical Engineering, University of Glasgow, UK, June 2006.
25. Presented a paper entitled "*Natural convection flow over a vertical permeable cone with uniform heat flux in presence of temperature dependent viscosity*" 3rd International Conference on Applied Mathematics & Mathematical Physics, Shahjalal University of Science & Technology, Bangladesh, January 06-09, 2005.
26. Presented a paper entitled "*Natural convection flow from an isothermal horizontal circular cylinder with temperature dependent viscosity*", 14th Mathematics Conference, University of Dhaka, Bangladesh, December 27-29, 2003.
27. Presented a paper entitled "*Natural convection flow along a vertical wavy surface with uniform surface temperature in presence of heat generation/absorption*", 2nd International Conference on Applied Mathematics & Mathematical Physics, Shahjalal University of Science & Technology, Bangladesh, September 11-15, 2000.
28. Presented a paper entitled "*Natural convection flow along a vertical wavy surface with temperature dependent viscosity and thermal conductivity*", 2nd BSME-ASME International Conference on Thermal Engineering, Bangladesh University of Engineering &Technology, Bangladesh.
29. Workshop on the "Perturbation Theory" November 1999, University of Dhaka, Bangladesh.
30. 12th Bangladesh Mathematics Conference, University of Chittagong, Bangladesh, November 17-19, 1999.

Professional Memberships

- Associate Fellow, Bangladesh Academy of Science (BAS)
- Life member of the Bangladesh Mathematical Society (Member No: 749).

Personal Interest

- Traveling, Reading books, Watching TV, Swimming, Playing Badminton, Squash, Football and Cricket.

List of Publications:

Given in the bottom.

References

Professor Bing-Chen Wang
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Professor Dr. Amirul I Khan
School for Civil Engineering
University of Leeds,
Leeds, UK
Email: a.khan@leeds.ac.uk

Peer-reviewed Published Articles (SJR= Scimago Journal Rank)

1. S, Siddiqa, S. V. Naqvi, M. Azam, **M. M. Molla** (2022): Large-Eddy Simulation of Fluid Flow Around a Cluster of Buildings using OpenFOAM, Engineering Science and Technology, an International Journal (Elsevier) (Scopus). (SJR:Q1) (IF:) (Under Review)
2. M, Junnut, A. Hossian, S. Thohura, **M. M. Molla,** (2022): Free Convective Flow with Radiation Effect of Non-Newtonian Nanofluids over a Frustum of Wavy Cone, Pramana(springer) (Scopus). (SJR:Q2) (IF:1.958) (under review)
3. M. Kamrujjaman**, M. M. Molla (2022)**, Predators threat to prey species depletion and extinction: Analyis of a Biological system, Chaos, Solitons and Fractals: the interdisciplinary journal of Nonlinear Science, and Nonequilibrium and Complex Phenomena (Elsevier) (SJR:Q1) (submitted)
4. Md. Kamrujjaman; Md. Mashih Ibn Yasin Adan; Md. Mamun Molla; Muhammad Mohebujjaman; Clarisa Buenrostro (2022) Interplay between the harvesting and growth rate for spatially diversified populations" Journal of Mathematical Biology (springer)

2023

1. M. Kamrujjaman; M. M. I. Yasin Adan; **M. M. Molla**; M. Mohebujjaman; C. Buenrostro (2023) The interplay of harvesting and growth rate for spatially diversified populations and testing of a decoupled scheme" **Mathematical Biosciences and Engineering** (American Institute of Mathematical Science) (**IF:2.194**) (SJR=Q2)

2. S, Siddiqa, S. V. Naqvi, M. Azam, A. M. Aly, **M. M. Molla** (2023): Large-eddy-simulation of Turbulent Buoyant Flow and Conjugate Heat Transfer in a Cubic Cavity with Fin Ribbed Radiators, **Numerical Heat Transfer: Part A** (Taylor & Francis) (Scopus). (SJR:Q2) (**IF:2.928**) https://doi.org/10.1080/10407782.2022.2157351

3. I, Mashnoon, F, Hasan, S. Bhowmick, M Kamrujjaman, **M. M. Molla,** (2023): Meso-Scale Simulation of Free Convection and Entropy Generation of Non-Newtonian Power-law Nanofluids in a Porous Enclosure, **Int. J. Ambient Energy** (Taylor & Francis) (Scopus). (SJR:Q2) (**IF:2.326**) https://doi.org/10.1080/01430750.2022.2160811
4. E, Ali, F, Hasan, S. Siddiqa, **M. M. Molla,** M. N. Akther (2023): FVM-RANS Modeling of Air Pollutants Dispersion and Traffic Emission in Dhaka City on a Suburb Scale, **Sustainability** (MDPI) (Scopus). (SJR:Q1) (**IF:3.889**) https://doi.org/10.3390/su1010000
5.

2022

6. A. Hossian, P. Nag, **M. M. Molla,** (2022): Mesoscopic Simulation of MHD Mixed Convection of Non-Newtonian Ferrofluids with a Non-uniformly Heated Plate in an Enclosure, **Physica Scripta**, 98, 015008 (IOP Publication, UK) (Scopus). (SJR:Q2) (IF:1.958) https://doi.org/10.1088/1402-4896/aca56c
7. M. A.Taher, S. Siddiqa, M. Kamrujjaman, **M. M. Molla**, (2022): Free Convection of temperature-dependent thermal conductivity based Ethylene Glycol-Al2O3 Nanofluid in an Open Cavity with Wall Heat Flux, ***Int. Communications Heat and Mass Transfer,*** 138, November 2022, 106379 **(Elsevier)** (Scopus) (SJR:Q1). (IF= **5.683**) https://doi.org/10.1016/j.icheatmasstransfer.2022.106379

8. A, Rahman, P. Nag, **M. M. Molla** (2022): Non-Newtonian Effects on MHD Thermosolutal Free Convection and Entropy Production of Nanofluids in a Rectangular Enclosure using the GPU based Mesoscopic Simulation, ***Waves in Random Complex Media***. (**Taylor and Francis**) (Scopus). (SJR:Q2) (IF:3.27) https://doi.org/10.1080/17455030.2022.2119303

9. M. S. Mahmud, M. Kamrujjaman, M. M. I. Y. Adan, M. A..Hossain, M. M. Rahman, M. S. Islam, M. Mohebujjaman, **M. M. Molla** (2022) Vaccine efficacy and SARS-CoV-2 control in California and U.S. during the session 2020–2026: A modeling study Infectious Disease Modelling, Infectious Disease Modelling (Elsevier) (SJR:Q1) **(I.F=2.24)** ***Infectious Disease Modelling*** 7 (2022) 62e81 https://doi.org/10.1016/j.idm.2021.11.002

10. S. Hassan, P. Nag, **M. M. Molla**, A. Khan, M. F. Hasan (2022): Large Eddy Simulation of Atmospheric Flow and Pollutant Dispersion in a Model Urban Street Intersection, ***Atmosphere*** 2022, 13, 1028 **(MDPI)** (Scopus) (SJR:Q2). https://doi.org/10.3390/atmos13071028

11. S. Bhowmic, Fang Xu, **M. M. Molla**, S. C. Saha, (2022): Chaotic Phenomena of Free Convection of Water in a V-shaped Enclosure**, *Int. Journal Thermal Science***, 176 (2022) 107526 **(Elsevier)** (Scopus) (SJR: Q1). https://doi.org/10.1016/j.ijthermalsci.2022.107526 (**IF:3.744**)
12. A, Rahman, D. A. Redwan**,** S. Thohura, M. Kamrujjaman, **M. M. Molla** (2022): Natural Convection and Entropy Generation of non-Newtonian Nanofluids with Different Angles of External Magnetic Field using GPU Accelerated MRT-LBM, ***Case Studies in Thermal Engineering***, 30 (2022) 101769 **(Elsevier**) (Scopus). (SJR:Q1) (**IF:4.724**) https://doi.org/10.1016/j.csite.2022.101769

13. P. Nag, **M. M. Molla**, M. A. Hossain (2021): Non-Newtonian effect on mixed convection flow over an elliptical cylinder with uniform heat flux, ***International Journal of Applied and Computational Mathematics*** (Springer Nature) (Scopus) (SJR:Q3) (IF=0.33) 8(75), p-120 https://doi.org/10.1007/s40819-022-01279-4
14. F, Hasan, **M. M. Molla,** M Kamrujjaman, Sadia Siddiqa (2022): Natural convection flow over a vertical permeable circular cone with uniform surface heat flux in temperature-dependent viscosity with three-fold solutions within the boundary layer, **Computations** (MDPI) *10*, 60 (**2022**,). https://doi.org/10.3390/computation10040060 (Scopus). (SJR:Q2) (IF:2.62)

2021

15. S. Afsana**, M. M. Molla**, P. Nag, L. K. Saha, S. Siddiqa(2021): Natural Convection and Entropy Generation of non-Newtonian Ferrofluid in Wavy Enclosure, ***International Journal of Mechanical Science***, 198, 15 May 2021, 106350 (**Elsevier**) (Scopus) (SJR:Q1) https://doi.org/10.1016/j.ijmecsci.2021.106350 **(IF=4.631)**
16. S. Hassan**, M. M. Molla**, P. Nag, M. N. Akhter, A. Khan, (2021): Unsteady RANS simulation of Wind Flow Around a Building Shape Obstacle, ***Building Simulation*** **(Springer)** (Scopus)(SJR:Q1) https://link.springer.com/article/10.1007/s12273-021-0785-8 (IF= **3.751**)
17. S, Afsana, A. Parvin, P. Nag, **M. M. Molla** (2021): Investigation of MHD Free Convection of Power-law Fluids in a Sinusoidally Heated Enclosure using the MRT-LBM, ***Heat Transfer***. P-1-22 (Jhon Wiley and Sons) (Scopus). (SJR:Q2) (IF: 2.42) https://doi.org/10.1002/htj.22310
18. M, Islam, S. A. Hai, P. Nag, **M. M. Molla,** (2021): Multiple-relaxation-time Lattice Boltzmann Simulation of Free Convection and Irreversibility of Nanofluid with variable Thermophysical Properties, *Physica Scripta*, 96 (2021) 125031 (IOP, Publishing, UK) (Scopus). (SJR:Q2) (**IF:2.54**). https://doi.org/10.1088/1402-4896/ac3c5a
19. P. Nag**, M. M. Molla**, (2021): Numerical simulation on double-diffusive natural convection of non-Newtonian nanofluid conceding thermal dispersion of nanoparticles within a vertical wavy enclosure, ***AIP Advances*** (Scopus) (SJR:Q2). https://doi.org/10.1063/5.0058405 **(IF= 1.579)**
20. S. Siddiqa, **M. M. Molla**, S. V. Naqvi, Carreau Ferrofluid Flow with Inclined Magnetic Field in an Enclosure Having Heated Cylinder, *Physica Scripta*, (Scopus) (SJR:Q2) (IOP Publishing, UK) https://doi.org/10.1088/1402-4896/ac0fd3 **(IF= 2.54)**
21. M. N. Akhter, M. E. Ali, M. M. Rahman, M. N. Hossain, **M. M. Molla**, Simulation of air pollution dispersion in Dhaka City Street Canyon,

AIP Advances, 11, 065022 (**American Institute of Physics**), (SJR:Q2) https://doi.org/10.1063/5.0033948 **(IF= 1.579)** (Scopus)

22. S, Thohura, **M. M. Molla**, M. M. A. Sarker, M.C. Paul (2021): Study of Mixed Convection flow of Power-law Fluids in a Skewed Lid-Driven Cavity, *Heat Transfer*. (Jhon Wiley and Sons) (Scopus) . (SJR:Q2) https://onlinelibrary.wiley.com/doi/10.1002/htj.22174 (IF: 2.42)

23. J. Q. Yuki, I. Sen, M. M. Q. Sakib, P. Nag, **M. M. Molla** (2021): Multiple-Relaxation-Time Lattice Boltzmann Simulation of Magnetic Field Effect on Natural Convection of Non-Newtonian Nanofluids in Rectangular Enclosure, ***Advances in Applied Mathematics and Mechanics, 13,*** 1142-1168 **(Global Science Press)** (Scopus) (SJR:Q2) https://global-sci.org/intro/article_detail/aamm/19257.html

24. S. Hassan**,** D. A. Redwan**, M. M. Molla**, S. Thohura, M. A. Taher, S. Siddiqa (2021): A Study on Heat Transfer Enhancement through Various Nanofluids in a Square Cavity with Localized Heating, ***Energy Engineering,*** Vol.118, No.6, 2021, pp.1659-1679 (Scopus) (**Tech Science Press**) (SJR:Q4). DOI: 10.32604/EE.2021.017657, https://www.techscience.com/energy/v118n6/44512 (IF=0.21).

25. S. C. Saha, A. M. Sefidan, A. Sojoudi, **M. M. Molla** (2021): Transient Free Convection and Heat Transfer in a Partitioned Attic-Shaped Space under Diurnal Thermal Forcing, ***Energy Engineering,*** *118(3),* 487–506 (Scopus) (**Tech Science Press**) (SJR:Q4) https://www.techscience.com/energy/v118n3/41880 (IF=0.21)

26. M. Tasmin, P. Nag, Z. T. Hoque, **M. M. Molla**, (2021): Non-Newtonian Effect on Heat Transfer and Entropy Generation of Natural Convection Nanofluid Flow inside a Wavy Porous Enclosure, **SN Applied Sciences, Vol. 3:299** (**Springer Nature**) (Scopus) https://doi.org/10.1007/s42452-021-04157-8

27. A. Rahman, P. Nag, **M. M. Molla** (2021): Lattice Boltzmann Simulation of MHD Non-Newtonian Power-law Nanofluid in A Rectangular Enclosure Using GPU Computing, AIP Conference Proceedings **2324**, 040010 (2021); (Scopus). https://doi.org/10.1063/5.0037570 (IF=0.4)

28. M. Islam, P. Nag, **M. M. Molla** (2021): GPU Accelerated Lattice Boltzmann Simulation of Non-Newtonian Power-Law Fluid in a Porous Enclosure, AIP Conference Proceedings **2324**, 040011 (2021); https://doi.org/10.1063/5.0037577 (Scopus) (IF=0.4)

29. S. Afsana, P. Nag, **M. M. Molla,** S. Thohura (2021): Natural convection of nanofluids over horizontal circular cylinder with uniform heat flux, AIP Conference Proceedings **2324**, 050024 (2021); https://doi.org/10.1063/5.0037580 (, Scopus) (IF=0.4)

30. P. Nag, **M. M. Molla** (2021): Non-Newtonian Effect on Double Diffusive Natural Convection of Nanofluid within a Square Cavity, AIP Conference Proceedings **2324**, 050030 (2021); https://doi.org/10.1063/5.0037581 (Scopus) (IF=0.4)

2020

31. A. Rahman**,** P. Nag, **M. M. Molla**, S. Hassan, (2020): Magnetic field effects on Natural convection and Entropy Generation of non-Newtonian fluids using Multiple-relaxation-time lattice Boltzmann method, 32(1) 2021,2150015, ***Journal of Modern Physics* C (World Scientific)** (Scopus) DOI:10.1142/S0129183121500157 (SJR:Q3)

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