Professor Md. Mamun Molla, Ph.D.

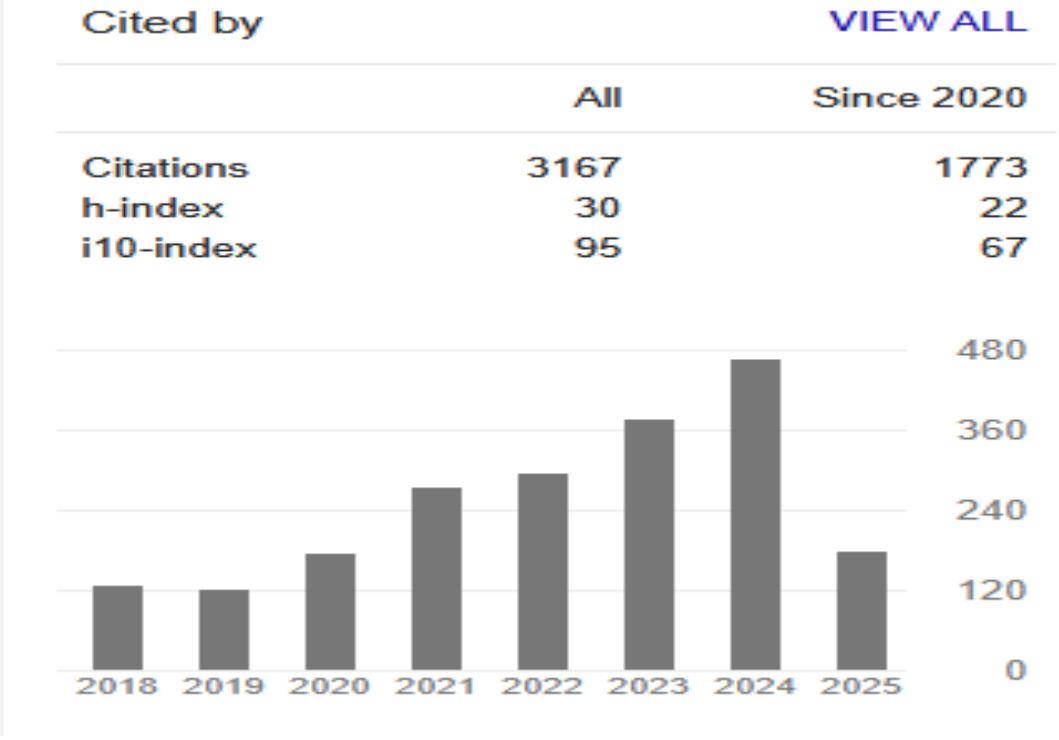
Associate Fellow, Bangladesh Academy of Science (BAS)

Personal information

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

Google Scholar profiles: Google scholar citations 3167

https://scholar.google.com/citations?hl=en&user=n8j355gAAAAJ&view_op=list_works&sortby=pubdate



Home Address
Flat : 3B
House:313, Road-12, Block-C
Bashundhara R/A, Dhaka-1229, Bangladesh
Tel: +8801748037172
Email: mmamun@gmail.com

Work Address
Professor & Chairman
Dept. of Mathematics & Physics
North South University (NSU)
Dhaka,Bangladesh
Tel: +880255668200, Ext. 1503
Email: mamun.molla@northsouth.edu

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 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 (SRG-242294)-Tk-350,000.0 ($3000), 2024-2025
- NSU faculty research grant (CTRG-24-SEPS-05) Tk-750,000.00(~$6500.0), 2024-2025.
- Ministry of Science and Technology (MOST) Research Grant (EAS/SRG-232406)-Tk-450,000.0 ($4500), 2023-2024.
- NSU faculty research grant (CTRG-23-SEPS-11) Tk-500,000.00(~$5000.0), 2023-2024.
- 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-July 2009 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.
  .
- 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".

Post-doctoral supervision:

Now supervising a UGC Postdoctoral Fellow Dr. Sharaban Thohura, Professor, Department of Mathematics, Jagannath University.

Graduate Thesis Supervision:

1. Turbulent flow and dispersion simulation in a canyon street using RANS, *PhD thesis* (2023) (Joint program with the Dhaka University of Engineering and Technology)
2. Convective Heat transfer of Hybrid Nanofluids in a Chamber with two heated Rotating cylinders, *PhD thesis* (2022) (Joint program with the Jahangirnagar University)
3. Conduction-Convection Interaction of MHD Water-Cu Nanofluid Flow along a Vertical Surface using the Finite Difference Method, *PhD thesis* (2020) (Joint program with the Jahangirnagar University)
4. 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)
5. 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)
6. Turbulent indoor air flow simulation using large-eddy-simulation in lattice Boltzmann method using GPU computing, *MSc thesis* (2018)
7. 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)
8. Lattice Boltzmann Simulation of Airflow and Heat Transfer in a General Ward of Hospital, *BSc thesis* (2016)
9. Numerical simulation of non-Newtonian blood flow through a model arterial aneurysm with moving wall, *BSc thesis* (2015)
10. Finite volume simulation of nanofluid in a wavy channel, *MSc thesis* (2014)
11. Buoyancy Driven Natural Convection Flow in an Enclosure with Two Discrete Heating from Below, *BSc thesis* (2014)
12. Biomegnatic fluid flow in a model arterial aneurysm using finite volume method, *BSc thesis* (2013)
13. 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/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. **Invited Speaker**, "Mesoscopic Simulation of non-Newtonian experimental data based copper-alumina-ethylene glycol hybrid nanofluid with a central radiator by machine learning validations of D3Q27 MRT-LBM" International Conference on Physics (ICP-2024), 09-11 May 2024, Bangladesh Atomic Energy Commission, Bangladesh
2. **Plenary speaker**, "Science Olympiad 2024" Organized by the Bangladesh Academy of Science (BAS), 9 March 2024.
3. **Invited Speaker**, "Large-Eddy Simulation of Turbulent Air Flow and Pollutant Dispersion in a Model Street Canyon and Urban Area" ADVNCED MATHEMATICAL MODELING: APPLICATION TO BIOMEDICAL ENGINEERING, 13 December 2023, Jashore University of Science and Technology, Jashore Bangladesh
4. **Invited Speaker**, "Large-Eddy Simulation of Air Flow and Pollution Dispersion from a Ground-level Point-source in a Model Urban Area" 1st National Conference on Advances in Science and Technology (NCAST), 7 - 8 December, 2023, BUET, Dhaka-1000, Bangladesh
5. **Invited Speaker**, "Computational Fluid Dynamics By High-Performnace Parallel Computing" "Department of Mathematics, Jashore University of Science and Technology, Jashore, 26 August 2023
6. **Invited Speaker**, "Research Collaboration between NSU and Nippon-Koei Japan" "Nippon-Koei Japan RND center, Tokyo & Sucuba, Japan 08 May 2023.
7. **Plenary Speaker**, " Weakness and overcome of mathematical education in Bangladesh" "Bangladesh Academy of Science (BAS)" February 11, 2023
8. **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
9. **Session Chair "**5th Young Scientist Congress", Bangladesh Academy of Science (BAS), 25-27 November, 2022
10. **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.
11. **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 (SUST), Sylhet, Bangladesh..
12. **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.

13. **Invited Speaker** "Computational Fluid Dynamics with Different Applications", A day Long Seminar in, 28 June 2022, Cumilla University Cumilla, Bangladesh.
14. **Invited Speaker** "Computational Fluid Dynamics with Different Applications", A day Long Seminar in, 28 June 2022, Cumilla University Cumilla, Bangladesh.
15. **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.
16. **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.
17. **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.
18. **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.
19. 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.
20. 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.
21. **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.
22. 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.
23. 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.
24. Attended on a workshop " High Performance Computing" July12-15, 2010, University of Manitoba, Canada
25. 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.
26. 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
27. Presented a paper entitled, "*Physiological flow in a model of arterial stenosis*", 16th Congress European Society of Biomechanics, Lucerne, Switzerland, 6-9 July 2008.
28. 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.

29. 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.
30. 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.
31. 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.
32. 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.
33. 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.
34. 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.
35. Workshop on the "Perturbation Theory" November 1999, University of Dhaka, Bangladesh.
36. 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
Department of Mechanical and Manufacturing Engineering
University of Manitoba
Winnipeg, Manitoba
R3T 5V6, Canada
Tel: +1 204 474 9305

Email: bc_wang@umanitoba.ca

Dr. Manosh C Paul
Professor
Department of Mechanical Engineering
University of Glasgow, G12 8QQ, UK
Email: Manosh.Paul@glasgow.ac.uk

Professor D Andrew S Rees
Department of Mechanical Engineering
University of Bath
Bath BA2 7AY, UK
Tel: +44(0)122 538 6775
Email: D.A.S.Rees@bath.ac.uk

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= Scopus Journal Rank) (IF=impact factor)

2025

1. Z. Akter, P. Nag, H. Akter, **M. M. Molla,** G. Saha: Assessing thermal and hydrodynamic performance of non-Newtonian nano-coolant flow through a porous backward-facing step channel with non-Darcian effects, ***Results in Engineering*** (2025) (Elsevier) (SCOPUS). (**IF:7.9**) (SJR:Q1) (accepted for publication on 29 June 2025)
2. S. Thohura, **M. M. Molla;** Thermophoresis Effects on Double-Diffusive Convection and Entropy in a Wavy Enclosure with NEPCM, ***Case Studies in Thermal Engineering*** (2025) (Elsevier) (SCOPUS). (**IF:6.4**) (SJR:Q1) (Accepted on 17 June 2025 for Publication)
3. M. M. U Chowdhury; **M. M. Molla,** J. I Ahad, P. Nag, A. Rahman; CFD and Machine Learning-Based Predictive Modeling of Natural Convection in Non-Newtonian Nano-Encapsulated Phase Change Material within an Enclosure with a Corrugated Heated Cylinder**, Applied Thermal Engineering (**2025) (Elsevier) (Scopus). (SJR:Q1) (**IF:.6.9**). https://doi.org/10.1016/j.applthermaleng.2025.127240

4. Saiful Islama, Goni Mollab, Badhan Neogia, Muhammad Faiaza, B.M. Jewel Ranac, Md. Mamun Molla,Sensitivity Analysis on Mag-

netohydrodynamic Mixed Convective Trapezoidal Heat Exchanger Containing Hybrid Nanofluid: Numerical and Statistical Approach, Archives of Thermodynamics, Springer (Scopus) (SJR:Q2), (IF=0.8), (Polish Academy of Science)05.05. 2025 (Accepted)

5. A. Khanom, M. N. Sohel, R. Biswas, M. M. Molla, and M. A. Taher; LBM Simulation for Analyzing the Performance of Sawtooth Microchannels with Positive and Negative Ramps**, Journal of Engineering Thermophysics,** 2025, Vol. 34, No. 2, pp. 1–13. (Pleiades Publishing) (Scopus). (SJR:Q3) (**IF:0.6**). DOI: 10.1134/S1810232825020018
6. S. Siddiqa; K. Chang; S. B. Naqvi; **M. M. Molla**; K. H. Nguyen; M. Azam, Leveraging Transfer Learning for Data-Driven Proton Exchange Membrane Fuel Cells Using Surrogate Models**, Fuel**, 398 (2025) 135409 (Elsevier) (Scopus). (SJR:Q1) (**IF:.7.5**). https://doi.org/10.1016/j.fuel.2025.135409

7. S. Akter, A. T. Meem, Hasina Akter, **M. M. Molla,** S. Souia S. Islam (2025): Thermophoretic Effects on Thermosolutal Natural Convection in Concentric Cylindrical Systems, **Chinese Journal of Physics** (Elsevier) (Scopus). (SJR:Q2) (**IF:4.6**). (Accepted on 17 March 2025 for Publication) (Manuscript ID: CJPHY-D-24-02892R2) https://doi.org/10.1007/s41939-024-00653-7
8. **M. M. Molla**, M. M. Islam (2025) Three-dimensional D3Q27 Multiple-relaxation-time Lattice Boltzmann Simulation of Herschel-Bulkley Viscoelastic Fluids in a Cubic Cavity with Top Lid Driven Diagonally, **Mathematics and Computers in Simulation** 234 (2025) 419—437 (**SJR:Q1**) (Elsevier). Cite score:8.9, (IF=4.4) https://doi.org/10.1016/j.matcom.2025.03.015
9. M. M. Hossain, R. Nasrin, **M. M. Molla** (2025):Surface Couple Stress, Thermal Transfer, Skin Friction, and Material Transport by Micropolar Binary Mixture: An In-Depth Computational Analysis, **Arabian Journal for Science and Engineering, (Springer Nature)** (**SJR:Q1**) (IF=2.9) https://doi.org/10.1007/s13369-025-10107-y
10. **M. M. Molla**, M. F. Hasan, M. M. Islam (2025) Elucidating thermal phenomena by experimental data of non-Newtonian copper-alumina-ethylene glycol hybrid nanofluid in a central radiator by machine learning validations of D3Q27 MRT-LBM, **International Journal of Thermofluids** 26 (2025) 101033 (**SJR:Q1**) (Elsevier). Cite score:10.4 https://doi.org/10.1016/j.ijft.2024.101033

11. **M. M. Molla**, A Hossain, M. M. Islam (2025) GPU-Accelerated Lattice Boltzmann Simulations of Power-Law Non-Newtonian Fluid

Flow in a Diagonally Driven Cavity Using D3Q27 MRT-LBM**, Engineering Report**s (2025) (**SJR:Q2**) (Weily). (SCOPUS) (**IF=2.**). https://doi.org/10.1002/eng2.70047.

12. A. J. Meem, M. Z. Hossain, **M. M. Molla** (2025) Bio-Magnetic Field Effects on Pulsatile Non-Newtonian Blood Flow with Gold Nanoparticles in a Bifurcated Artery in Presence of Aneurysm**, Paraman-Journal of Physics** (2025) (**SJR:Q2**) (Springer). (SCOPUS) (**IF=2.8**) https://doi.org/10.1007/s12043-025-02930-7
13. Ayesha Aktar, **Z. Mahmud,** M. Z. Hossain, **M. M. Molla** (2025): Bio-Magnetic Field Effects on Pulsatile Blood Flow with Gold Nanoparticles through Bifurcated Artery with Stenosis and Aneurysm, **Multidiscipline Modeling in Materials and Structures** (Emerald) (Scopus). (SJR:Q2) (**IF:1.7**). DOI 10.1108/MMMS-08-2024-0236
14. Ayesha Aktar, S. Thohura**, M. M. Molla** (2025): Magnetic Field Effects on Convective Heat Transfer of Ferrofluid from a Heated Sphere in Porous Media, **Journal of Heat and Mass Transfer Research** 12(1), pp. 177-192 (2025) (Semnan University Press) (Scopus). (SJR:Q2) (**IF:0.64**). https://doi.org/10.22075/JHMTR.2024.33841.1554.
15. J. I Ahad**, M. M. Molla,** S, Siddiqa, S. V. Naqvi (2025): Machine Learning-Driven Predictive Modeling of Magnetohydrodynamic Double Diffusion of Non-Newtonian Hybrid Ferrofluids with variable thermophysical properties within Corrugated Cylinders, ***Engineering Applications of Artificial Intelligence*** 141 (2025) 109455 (Elsevier) (Scopus). (**IF:8.0**) (**Cites Score:9.6**) (SJR:Q1) https://doi.org/10.1016/j.engappai.2024.109455
16. S. Akter, Hasina Akter, M. M. Islam, **M. M. Molla,** (2025): Magnetohydrodynamic Natural Convection and Sensitivity Analysis of Heat and Mass Transfer of Non-Newtonian Fluid in Concentric Cylinders with Wall Heat and Mass Flux, ***Multiscale and Multidisciplinary Modeling, Experiments and Design*****, 8(55)** (2025) (Springer Nature) (Scopus). (**IF:1.9**) (SJR:Q2) https://doi.org/10.1007/s41939-024-00653-7
17. S, Siddiqa, S. V. Naqvi, M. Azam, **M. M. Molla,** (2025): Mixed Convection in Bingham Fluids: A Comprehensive Analysis of Yielded and Unyielded Regions and Their Heat Transfer Implication using OpenFOAM, ***International Journal of Modern Physics B,*** (2025) (World Scientific Publishing) (Scopus). (**IF:1.7**) (SJR:Q2) https://doi.org/10.1142/S0217979225501644
18. M. N. A. Siddiki, S. Islam, M. U. Ahmed, M. F. Hasan, **M. M. Molla** (2025): A study of forced convection in non-Newtonian hybrid nanofluids embedded in a heated cylinder within a hexagonal enclo-

sure by finite element method, **Mathematics, 2025, 13, 445** (MDPI) (SRJ=Q2) (IF=2.2) , https://doi.org/10.3390/math13030445

19. S. Thohura, **M. M. Molla** (2025): Double-Diffusive Mixed Convection and Entropy Generation of Fe3O4−CoFe2O4 Water Hybrid Nanofluid in an Enclosure with a Heated Wavy Cylinder, ***Results in Engineering*** (2025) (Elsevier) (SCOPUS). (**IF:7.9**) (**Cites Score:5.6**) (SJR:Q1) https://doi.org/10.1016/j.rineng.2025.104345

20. S. Thohura, A. Hossain, **M. M. Molla** (2025): Numerical Simulation of Thermosolutal Natural Convection of Power-law Non-Newtonian Fluids in a Parallelogram with Sensitivity Analysis by Response Surface Methodology, ***Numerical Heat Transfer: Part A Applications, 86(9)***(2025), Pages 3004-3032, (**Taylor & Francis**) (Scopus). (SJR:Q2) (IF=2.8)
https://doi.org/10.1080/10407782.2023.2298679

2024

21. M. M. Islam, **M. M. Molla,** (2024): Mixed Convection and Sensitivity Analysis of Impinging Jet Flow of Engine Oil on Rotating Heated Cylinder with high Prandtl numbers, ***Case Studies in Thermal Engineering*** (2024) (Elsevier) (Scopus). (SJR:Q1) (IF=6.4) https://doi.org/10.1016/j.csite.2024.105375

22. Israt Jahan Supti, **M. M. Molla,** P. Nag, S. Siddiqa, S. Souai (2025): Magnetohydrodynamic effects on double diffusion of non-Newtonian hybrid nanofluid in circular eccentric annuli, **Engineering Reports** (2024) (Weily) (Scopus). (SJR:Q2) (**IF :2.3**)
https://doi.org/10.1002/eng2.13072J

23. M. M. U Chowdhury, M. M. Islam, M. Z. Hossain, **M. M. Molla,** (2024): Magnetohydrodynamics Mixed Convection and Sensitivity Analysis of Non-Newtonian Power-law Fluid in a Ventilated Cavity with a Rotating Heated Cylinder, ***Journal of Taibah University for Science*** (2024) (Taylor & Francis) (Scopus). (SJR:Q2) (IF= **2.4092**)
https://doi.org/10.1080/16583655.2024.2427386

24. S. Souia**, M. M. Molla,** S. Garrouri1, S. Trabelsi1, E. Sediki1 (2024): Lattice Boltzmann simulation of magnetohydrodynamic double-diffusive convection hybrid nanofluid flow through solid blocks in a porous H-shaped enclosure, ***Journal of the Taiwan Institute of Chemical Engineers*** (2024) (Elsevier) (Scopus). (Cite score: 9.1) (**IF:6.3**) (SJR:Q1) https://doi.org/10.1016/j.jtice.2024.105807

https://doi.org/10.1016/j.jtice.2024.105807

25. **M. M. Molla,** M. M. Islam, A. Hossain (2024): Cascaded Lattice Boltzmann Simulation of Newtonian and non-Newtonian Mixture Nanofluids with Variable Themophysical Properties in a Cavity with Vertical Heat Radiator, ***International Journal of Thermofluids*** (2024) (Elsevier) (Scopus). (**Cite Score:10.2**) (SJR:Q1) https://doi.org/10.1016/j.ijft.2024.100865

26. M. Kamujjajamn, **M. M. Molla** (2024): Analysis of a data driven vector-borne dengue transmission model for a tropical environment in Bangladesh, **International Journal of Differential Equations**, Weily (SJR:Q3) (IF=1.5) https://doi.org/10.1155/2024/2959770

27. K. Suchana, **M. M. Molla** (2024): Magnetohydrodynamic Double Diffusion Natural Convection of Power-law Non-Newtonian Nano-Encapsulated Phase Change Materials in a Trapezoidal Enclosure, **International Journal for Numerical Methods in Heat and fluid Flow, 4 (Emerald**) (**IF:5.184**) (SRJ:Q1), DOI 10.1108/HFF-02-2024-0170

28. T. Mahmud, T. Chowdhury, P. Nag, **M. M. Molla,** (2024) Entropy production associated with coupled heat and mass transfer during the MHD natural convection of non-Newtonian MWCNT-SiO2-EG hybrid nano-coolant, **Heliyon** (SJR:Q1) **(IF=3.6)** (Elsevier). https://doi.org/10.1016/j.heliyon.2024.e35523

29. S. V. Naqvi, S, Siddiqa, M. Matyka, R.S. R, Gorla, **M. M. Molla** (2024): Enhancing Crossflow Dynamics through the Gas Injection from Multiple Cylinders, **International Journal of Heat and Mass Transfer (Elsevier**) (**IF:5.8**) (SRJ:Q1) https://doi.org/10.1016/j.ijheatmasstransfer.2024.125977

30. S, Siddiqa, S. V. Naqvi, M. Azam, **M. M. Molla** (2024): Large-Eddy Simulation of Turbulent Airflow and Pollutant Dispersion from a Ground-level Point-Source in a model urban area**. Arabian Journal for Science and Engineering (Springer**) (**IF:2.9**) (SJR: Q1) https://doi.org/10.1007/s13369-024-09371-1

31. I. J. Shupti, M. J. Anee, **M. M. Molla**, P. Nag (2024): Multiple-relaxation-time Lattice Boltzmann Simulation of Natural Convection of Ethylene Glycol -Al2O3 Power-law Non-Newtonian Nanofluid in an Open Enclosure with Adiabatic Fins, ***South African Journal of Chemical Engineering***, (2024) (Elsevier) (Scopus). (SJR:Q1) (Cite Score=8.4) https://doi.org/10.1016/j.sajce.2024.06.002

32. T. Mahmud, P. Nag., **M. M. Molla,** S. C. Saha (2024): Convective heat transfer efficacy of an experimentally observed non-Newtonian MWCNT-Fe3O4-EG hybrid nanofluid in a driven enclosure with a heated cylinder, **Int. J. Thermal Science**, (2024) (Elsevier) (Scopus). (SJR:Q1) (**IF=5.0**)
https://doi.org/10.1016/j.ijthermalsci.2024.109203

33. M. Z. Mahmud., **M. M. Molla** (2024): Natural Convection and Heat Transmission of Two-phase Bingham Fe3O4-CoFe2O4-water Hybrid nanofluid Flow in an Enclosure with a Corrugated Heated Cylinder, ***Physica Scripta***, 99, 065267 (2024) (Institute of Physics, UK) (Scopus). (SJR:Q2) (IF=2.6) https://doi.org/10.1088/1402-4896/ad4c1b

34. S.Siddiqa, K. Chang, S. Naqvi, M. Azam, **M. M. Molla,** K. H. Nguyen (2024): AI-Assisted Proton Exchange Membrane (PEM) Fuel Cell Performance Prediction using CFD and Data-Driven Surrogate Models**, International Communications in Heat and Mass Transfer**, (2024) (Elsevier) (Scopus). (SJR:Q1) (**IF=6.4**)
https://doi.org/10.1016/j.icheatmasstransfer.2024.107616

35. S. Akter, M. M. Islam, A. Hossain, **M. M. Molla** (2024): Finite Difference Simulation of Natural Convection of Two-phase Hybrid Nanofluid along a Vertical Heated Wavy Surface, **Journal of Taibah University for Science**, (2024) (Taylor & Francis) (Scopus). (SJR:Q2) (IF= **2.4092**) https://doi.org/10.1080/16583655.2024.2358548

36. M. Z. Mahmud., M. I. Munna, **M. M. Molla,** M. F. Hasan, S. Siddiqa (2024): Multiple-Relaxation-Time Lattice Boltzmann Simulation of Viscoplastic Bingham Nanofluids in a Suddenly Expanded Channel: A Systematic Numerical Study**, Pramana-Journal of Physics**, (2024) (Springer) (Scopus). (SJR:Q2) (IF=2.8)
https://doi.org/10.1007/s12043-024-02795-2

37. J. I. Ahad., A. Hossain, A. Parvin, **M. M. Molla** (2024): Magnetohydrodynamics thermosolutal convection of hybrid MWCNT-Fe3O4-water nanofluid along a vertical wavy surface with wall heat and mass flux, **Partial Differential Equations in Applied Mathematics**, (2024) (Elsevier) (Scopus). (SJR:Q2) (Cite Score= 6.2)
https://doi.org/10.1016/j.padiff.2024.100667

38. M. N. A. Siddiki, S. Islam, M. U. Ahmed, **M. M. Molla** (2024): Numerical simulation of a non-Newtonian nanofluid on mixed convection in a rectangular enclosure with two rotating cylinders, **International Journal of Ambient Energy**, (2024) (Taylor & Francis) (Scopus). (SJR:Q2) (IF=2.539) https://doi.org/10.1080/01430750.2024.2332525

39. U. H. Akhter, M.F. Hasan, **M. M. Molla** (2024): A parallel computational study of power-law non-Newtonian nanofluid in a C-shaped enclosure by multiple-relaxation-time lattice Boltzmann simulation,

International Journal of Modelling and Simulation, (2024) (Taylor & Francis) (Scopus). (SJR:Q2) (IF=3.1) https://doi.org/10.1080/02286203.2024.2334978

40. S.C. Saha, I. Francis, G. Saha, X. Huang, **M. M. Molla** (2024), Hemodynamic Insights into Abdominal Aortic Aneurysms: Bridging the Knowledge Gap for Improved Patient Care, **Fluids** 2024, 9(2), 50;. (MDPI) (SJR:Q2) (IF=1.9) https://doi.org/10.3390/fluids9020050

41. M, Junnut, M.F. Hasan, S. Siddiqa, **M. M. Molla** (2024): MHD Natural Convection and Sensitivity Analysis of Ethylene Glycol Cu-Al2O3 Hybrid Nanofluids in a Chamber with Multiple Heaters: A Numerical Study of Lattice Boltzmann Method, ***International Journal of Energy Research*** (2024) (**Wiley & Sons**) (Scopus). (SJR:Q1) (**IF=4.2**) https://doi.org/10.1155/2024/5521610

42. M. Mazumder, M. U. Ahmed, S. Thohura, M. F. Hasan, **M. M. Molla** (2023): Implicit Finite Difference Simulation of Non-Similar Conduction-Convection Interaction of Magnetohydrodynamics Water-Cu Nanofluid Flow along a Vertical Surface, ***Numerical Heat Transfer: Part B Fundamental*** (2023) (**Taylor & Francis**) (Scopus). (SJR:Q2) (IF=1.7) https://doi.org/10.1080/10407790.2023.2298243

43. I. Jahan, N. J. Asha, **M. M. Molla** (2023): Mesoscoping Simulation of Viscoelastic Hybrid Nanofluid having Variable Thermophysical Properties in an inverted T-shaped Enclosure with a Localized Heater, ***Case Studies in Thermal Engineering Volume 53, January 2024, 103900*** (2023) (Elsevier) (Scopus). (SJR:Q1) (IF=6.4) https://doi.org/10.1016/j.csite.2023.103900

44. K. Suchana, M. I. Munna, **M. M. Molla** (2023): Lattice Boltzmann Simulation of Cross Diffusion via Soret and Dufour Effects on Natural Convection of Experimental Data Based MWCNTs-H2O Nanofluids in an L-shaped Enclosure, ***International Journal of Thermofluids*** Volume 53, January 2024, 103900 (Elsevier) (Scopus). (SJR:Q1) https://doi.org/10.1016/j.csite.2023.103900

45. M. F. Hasan, **M. M. Molla,** S. Siddiqa, A. I Khan (2023): Mesoscopic CUDA 3D MRT-LBM simulation of natural convection of power-law fluids in a differentially heated cubic cavity with a machine learning cross-validation, **Arabian Journal for Science and Engineering, Vol. 49, p 10687–10723, (2024) (Springer) (IF:2.9)** (SRJ:Q1) https://link.springer.com/article/10.1007/s13369-023-08464-7

2023

46. K. Mashiyat, A. Hossain, A. Parvin**, M. M. Molla** (2023): Implicit Finite Difference Simulation of Hybrid Nanofluid along a Vertical Thin Cylinder with Sinusoidal Wall Heat Flux under the Effects of Magnetic Field, ***Advances in Mathematical Physics*** Volume 2023, Article ID 6699888, 18 pages (Hindawi)(Scopus). (SJR:Q2) (IF=1.2) https://doi.org/10.1155/2023/6699888

47. N. J. Asha, **M. M. Molla** (2023): MRT-Lattice Boltzmann Simulation of MHD Natural Convection of Bingham Nanofluid in a C-shaped Enclosure with Response Surface Analysis, ***Heliyon*** (2023) (Elsevier)(Scopus). (SJR:Q1) (IF=4.0) https://doi.org/10.1016/j.heliyon.2023.e22539

48. M. I. Munna, M. F. Hasan, **M. M. Molla** (2023): Multiple-relaxation-time lattice Boltzmann Simulation of Soret and Dufour Effects on Thermo-solutal Natural Convection of Nanofluid in a U-shaped Porous Enclosure, ***Energies*** **(**MDPI) **(IF:3.252)** (SRJ:Q1) https://www.mdpi.com/1996-1073/16/21/7229

49. M. I. Munna, **M. M. Molla,** Sadia Siddiqa, M. A. Sheremet (2023): MRT-LB Simulation and Response Surface Analysis of Natural Convection of Non-Newtonian Ferrofluid in an Enclosure with Non-uniformly Heated Radiator through GPU Computing, ***Engineering Analysis with Boundary Elements*** (Elsevier) (SRJ:Q1) (IF=3.3) https://doi.org/10.1016/j.enganabound.2023.09.003

50. S. Ahmed, A. Hossian, M. Z. Hossain, **M. M. Molla,** (2023): Forced Convection of Non-Newtonian Nanofluid in a Sinusoidal Wavy Channel with Response Surface Analysis and Sensitivity Test, ***Results in Engineering*** (Elsevier) (Scopus). (SJR:Q1) (IF:5.0) 101360,: https://doi.org/10.1016/j.rineng.2023.101360

51. A. Hossian, **M. M. Molla,** (2023): MHD Mixed Convection of Non-Newtonian Power-law Ferrofluid in a Wavy Enclosure, ***J. Therm. Analysis and Calorimetry*** (springer) (Scopus). (SJR:Q2) (IF:4.4) https://doi.org/10.1007/s10973-023-12485-7

52. M, Junnut, S. Siddiqa, M.F. Hasan, **M. M. Molla,** (2023): Lattice Boltzmann simulation of natural convection of ethylene glycol-alumina nanofluid in a C-shaped enclosure with MFD viscosity through a parallel computing platform and quantitative parametric assessment, ***Physica Scripta*** 98 (9) (IOP Publication, UK) (Scopus). (SJR:Q2) (IF:3.08) https://iopscience.iop.org/article/10.1088/1402-4896/ace704

53. A. Hossian, M, Junnut, S. Thohura, **M. M. Molla,** (2023): Free Convective Flow with Radiation Effect of Non-Newtonian Nanofluids over a Frustum of Wavy Cone, **Pramana: Journal of Physics**,

97:168 (springer) (Scopus). (SJR:Q2) (IF:1.958) https://doi.org/10.1007/s12043-023-02642-w

54. A. Hossian, **M. M. Molla**; M. Kamrujjaman; M. Mohebujjaman, S. C. Saha; (2023) MHD Mixed Convection of Non-Newtonian Bingham Nanofluid in a Wavy Enclosure with Temperature-Dependent Thermophysical Properties: A Sensitivity Analysis by Response Surface Methodology" ***Energies*** **(**MDPI) (**IF:3.252**) (SJR=Q1), https://www.mdpi.com/1996-1073/16/11/4408

55. N. J. Asha, P. Nag, M. N. Akhter, **M. M. Molla** (2023): MRT-Lattice Boltzmann Simulation of Magnetic Field Effects on Heat Transfer from a Heater in a C-shaped Cavity Filled with Non-Newtonian Hybrid Nanofluids, **International Journal of Thermofluids** 18 (2023) 100345 (Elsevier)(Scopus). (SJR:Q1**)** https://doi.org/10.1016/j.ijft.2023.100345

56. T. A., Himika, F, Hasan, **M. M. Molla,** A.I. Khan (2023): LBM-MHD data-driven approach to predict Rayleigh-Bénard convective heat transfer by Levenberg–Marquardt algorithm, **Axioms 2023**, 12, 199 (MDPI) (Scopus). (SJR:Q2) **(IF= 1.824)** https://doi.org/10.3390/axioms12020199

57. M. I. Munna, M. F. Hasan, **M. M. Molla** (2023): Analysis of heat transfer characteristics of MHD ferrofluid by implicit finite difference method at temperature-dependent viscosity along a vertical thin cylinder, **Iranian Journal of Science and Technology, Transactions of Mechanical Engineering** (Springer Nature) (Scopus). (SJR:Q2) (IF:1.596) https://link.springer.com/article/10.1007/s40997-023-00656-8 https://doi.org/10.1007/s40997-023-00656-8

58. S, Siddiqa, S. V. Naqvi, M. Azam, **M. M. Molla** (2023): Large-Eddy Simulation of Fluid Flow Around a Cluster of Buildings using OpenFOAM, **Journal of Mechanical Sciences, Part C**, pp. 1-17 (SEGA) (Scopus). (SJR:Q2) (IF:2.07) DOI: 10.1177/09544062231172666

59. M. Kamrujjaman; M. M. I. Yasin Adan; **M. M. Molla**; M. Mohebujjaman; C. Buenrostro (2023) Interplay of harvesting and the growth rate for spatially diversified populations and the testing of a decoupled scheme " **Mathematical Biosciences and Engineering**, 2023 Feb 1;20(4):6374-6399. (**American Institute of Mathematical Science**) (**IF:2.194**) (SJR=Q2), DOI: 10.3934/mbe.2023276

60. 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

61. 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

62. E, Ali, F, Hasan, S. Siddiqa, **M. M. Molla,** M. N. Akhter (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

2022

63. 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:3.081) https://doi.org/10.1088/1402-4896/aca56c

64. 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

65. 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

66. 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

67. 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

68. 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**)

69. 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

70. 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:Q2) (IF=0.33) 8(75), p-120
https://doi.org/10.1007/s40819-022-01279-4

71. 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

72. 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)**

73. 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**)

74. 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

75. 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:Q1) (**IF:3.081**). https://doi.org/10.1088/1402-4896/ac3c5a

76. 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)**

77. 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:Q1) (IOP Publishing, UK) https://doi.org/10.1088/1402-4896/ac0fd3 **(IF= 3.081)**

78. 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)

79. 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)

80. 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

81. 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).

82. 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)

83. 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 Enclo-

sure, **SN Applied Sciences, Vol. 3:299** (**Springer Nature**) (Scopus) https://doi.org/10.1007/s42452-021-04157-8

84. 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)

85. 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)

86. 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)

87. 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

88. 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)

89. T. A. Hamika, **S**. Hassan, F. Hasan, **M. M. Molla**, A. Taher, S. C Saha (2020): Lattice Boltzmann Simulation of Magnetic Field Effect on Electrically Conduction Fluids at Inclined Angles in Rayleigh-Benard Convection, ***Energy Engineering*** (Scopus), Vol. 118 (1), pp. 15-36, https://techscience.com/energy/v118n1/40566 (SJR:Q4)

90. **M. M. Molla**, P. Nag, S. Thohura, A. Khan (2020): Graphics Process Unit based Multiple-Relaxation-Time Lattice Boltzmann Simulation of Non-Newtonian Fluid Flows in a Backward Facing Step, Computation, (MDPI) 8(83) p.1-24 (Scopus) DOI: 10.3390/computation8030083 (SJR:Q2)

91. S. K. Saha, S. K. Bala, N. C. Roy, **M. M. Molla** (2020): Numerical Simulation of Natural Convection of Dusty nanofluids within Curved Shaped Enclosure, AIP Advances 10, 105304 **(American Institute of Physics**) (Scopus), DOI: org/10.1063/5.0022892 (SJR:Q2)

92. T. A. Hamika, R. Sasan, F. Hasan, **M. M. Molla**, (2020): Lattice Boltzmann Simulation of MHD Rayleigh-Benard Convection in porous media, *Arabian Journal for Science and Engineering* (Spring-

er Nature) (Scopus),Vol. 45 pp.9527-9547 DOI: 10.1007/s13369-020-04812-z (SJR:Q1)

93. M. J. Haque, **M. M. Molla**, M. A. I. Khan (2020): Graphics Process Unit Accelerated Lattice Boltzmann Simulation of Indoor Air flow: Effects of Sub grid-scale Model in LES, *Part C: J. Mechanical Engineering Science* Vol. 234(20) (SAGE) (SJR Q2) (Scopus) https://doi.org/10.1177/0954406220919780

94. S. Hassan**,** T. A. Hamika, **M. M. Molla**, F. Hasan, (2020): Lattice Boltzmann Simulation of fluid flow and heat transfer trough partially filled in porous media, *Journal of Computational Engineering and Physical Modeling* , Vol. 2 (4), pp 21-30, DOI: 10.22115/cepm.2020.200817.1070 (Google scholar)

95. K. M. Z. Rahim. J. Ahmed., P. Nag, **M. M. Molla** (2020) Lattice Boltzmann simulation of natural convection and heat transfer from multiple heated blocks, , Heat Transfer (Jhon Wiley and Sons), (Scopus) (IF=2.42) 49, 1877–1894 DOI: 10.1002/htj.21698 (SJR:Q2)

96. P. Nag, **M. M. Molla**, M. A. Hossain (2020): Non-Newtonian effect on natural convection flow over cylinders of elliptic cross section, *Applied Mathematics and Mechanics*, **41**, 361–382https://doi.org/10.1007/s10483-020-2562-8 (Springer Nature) (Scopus) (SJR Q2)

97. S. Thohura, **M. M. Molla**, M. M. A. Sarker (2020): Bingham Fluid Flow Simulation in a Lid-Driven Skewed Cavity using Finite Volume Method, *International Journal of Computer Mathematics*, 97:6, 1212-1233, DOI:10.1080/00207160.2019.1613527 (Taylor & Francis) (Scopus) (SJR Q2)

98. S. Bhowmick, M. M. Molla, R. N. Mondal (2020): Natural Convective Flow along a Vertical Flat Plate with Sinusoidal Surface Heat Flux Case, Jangannath University Journal of Science, Vol. 7 (1), pp-58-62, https://jnu.ac.bd/journal/portal/archives/science/7/1.jsp, ISSN 2224-1698.

99. M. M. Haque, S. Bhowmick, M. M. Molla (2020): Mixed Convective Non-Newtonian Flow along an Isothermal Sphere, Jangannath University Journal of Science, Vol. 7 (1), pp-1-8, https://jnu.ac.bd/journal/portal/archives/science/7/1.jsp, ISSN 2224-1698.

2019

100. S, Thohura, **M. M. Molla**, M. M. A. Sarker (2019): Numerical Simulation of Non-Newtonian Power-law Fluid Flow in a Lid-driven Skewed Cavity, Mathematics and Computers in Simulation, *International Journal of Applied and Computational Mathematics, Vol. 5(14) pp.1-29*, https://doi.org/10.1007/s40819-018-0590-y (Springer Nature) (Scopus) (SJR Q3)

101. M. J. Haque, **M. M. Molla**, M. N. Akter , S C Saha (2019): Multiple-relaxation-time lattice Boltzmann simulation of natural convection flow in a partitioned cavity using GPU computing, AIP Conference Proceedings **2121**, 030017 (2019); https://doi.org/10.1063/1.5115862 (Web of Science, Scopus)

102. S. Thohura, **M. M. Molla**, **M.** M. A. Sarker (2019): Natural Convection of non-Newtonian Shear-Thinning Fluid Flow inside a Skewed Cavity, AIP Conference Proceedings **2121**, 030014 (2019); https://doi.org/10.1063/1.5115862 (Web of Science, Scopus)

103. P. Nag, **M. M. Molla**, M. A. Hissain (2019): Effect of non-Newtonian shear thinning fluid on the natural convection flow over an horizontal elliptical cylinder, AIP Conference Proceedings **2121**, 030015 (2019); https://doi.org/10.1063/1.5115860 (Web of Science, Scopus)

104. S.C Saha, M. S. Islam, M. R. Gorgi, **M. M. Molla**, (2019):Aerosol particle transport and deposition in CT-scan based mouth through model, AIP Conference Proceedings **2121**, 040011 (2019); https://doi.org/10.1063/1.5115882(Web of Science, Scopus)

2018

105. **M. M. Molla**, M. J. Haque, M. A. I Khan, S C Saha (2018): GPU Accelerated Multiple-Relaxation-Time Lattice Boltzmann Simulation of Convective Flows in a Porous Media, *Frontiers in Mechanical Engineering--Thermal and Mass Transport, November 5, 2018, Vol 4:15*, doi:10.3389/fmech.2018.00015

106. A. Rahman, **M. M. Molla**, S. Thohura (2018): Natural convection flow along a vertical cone with uniform surface heat flux and temperature dependent viscosity, Heat *and Mass Transfer Research Journal, Vol 2: 2,pp.60-72*

107. S. Thohura, **M. M. Molla**, M. M. A Sarker (2018): Numerical Simulation of Bingham Fluid Flows in a Lid-driven Skewed Cavity, AIP Conference Proceedings **1980**, 040022, https://doi.org/10.1063/1.5044332 (Web of Science, Scopus)

108. M. N. A.Siddiki, **M. M. Molla**, S. Thohura, S. C. Saha (2018): Lattice Boltzmann Simulation of Non-Newtonian Power-law Fluid Flows in a Bifurcated Channel, AIP Conference Proceedings **1980**, 040023, https://doi.org/10.1063/1.5044333 (Web of Science, Scopus)

2017

109. S. P. Shupti, **M. M. Molla,** M. Mia (2017): Pulsatile non-Newtonian Fluid Flows in a Model Aneurysm with Oscillating Wall, Frontiers *in Mechanical Engineering Applications, Vol 3(12), pp. 1-15* doi: 10.3389/fmech.2017.00012

110. M. F. Hasan, T. A. Himika, **M. M. Molla** (2017): Lattice Boltzmann Simulation of Airflow and Heat Transfer in a Model Ward of Hospital, *J. Thermal Science and Engineering Applications,Vol.9, 011011-1, March 2017* (ASME), doi: 10.1115/1.4034817 (Web of Science, Scopus)

111. M. S. Islam. S. C. Saha, E. Sauret, Y. T. Gu, **M. M. Molla** (2017): Numerical Investigation of diesel exhaust particle transport and deposition in the CT-scan based lung airway, AIP

Conf. Proc. 1851, 020092 (2017); doi:10.1063/1.4984721 (Web of Science, Scopus)

112. **M. M. Molla**, **M**. C. Paul (2017): "Large-Eddy Simulation of Pulsatile Flow through a Channel with Double Constrictions", *Fluids, Vol 2017 (2) pp. 1-19*. doi:10.3390/fluids2010001 (MDPI)

2016

113. **M. M. Molla**, S. G. Moulic, L-S Yao, (2016): "Prediction of Heat Transfer to Fully-Developed Pipe Flows with Modified Power-law Viscosity Model Fluid", *Journal of Mechanics*, Vol. 1(1), pp.1-47. (Science Research Association)

114. T. A. Himika, M. F. Hasan, **M. M. Molla** (2016): Lattice Boltzmann simulation of airflow and mixed convection in a general word of hospital, *J. Engineering Computation*, Vol. 2016, Article ID 5405939, 15 pages (Hindawi)
http://dx.doi.org/10.1155/2016/5405939(Web of Science, Scopus)

115. F. Habiba, **M. M. Molla**, M. A. H. Khan (2016) Natural convection flow of Nanofluid along a vertical wavy surface, AIP Conf. Proc. 1754, 050018 (2016); http://dx.doi.org/10.1063/1.4958409 (Web of Science, Scopus)

116. M. N. A. Siddiki, **M. M. Molla,** S. C. Saha (2016): "Natural convection flow in porous enclosure with localized heating from below with heat flux, AIP Conf. Proc. 1754, 050016 (2016); http://dx.doi.org/10.1063/1.4958407 (Web of Science, Scopus)

117. S. Thohura, **M. M. Molla, M. M. A. Sarker**(2016): "Natural convection of non-Newtonian fluid along a vertical thin cylinder using modified power-law model, AIP Conf. Proc. 1754, 040021 (2016); http://dx.doi.org/10.1063/1.4958381 (Web of Science, Scopus)

118. F. Hassan, T. Himika, **M. M. Molla** (2016): "Large-eddy-simulation of air flow and heat transfer in general ward of hospital using lattice Boltzmann method, AIP Conf. Proc. 1754, 050022 (2016); http://dx.doi.org/10.1063/1.4958413 (Web of Science, Scopus)

119. S. P. Shupti, M. G. Rabby, **M. M. Molla,** (2015): Rheological Behavior of Physiological Pulsatile flow through a Model of Arterial Stenosis with Moving Wall, *Journal of Fluids*, Vol. 2015, ID 546716, 22 pages. (Hindawi) http://dx.doi.org/10.1155/2015/546716

120. M. G. Rabby, S. P. Shupti, **M. M. Molla,** (2014): "Laminar Blood Flow through a Model of Arterial Stenosis with Oscillating Wall", *International Journal of Fluid Mechanics Research*, Vol. 41(5), pp. 417-429 . (Begell House) **DOI:** 10.1615/InterJFluidMechRes.v41.i5.30. (Web of Science, Scopus)

121. S. Bhowmik, **M. M. Molla**, M. M. Mia, S. C. Saha (2014): Non-Newtonian mixed convection flow from an isothermal circular cylinder with Uniform Heat Flux, *Procedia Engineering*, Vol. 90, pp.510-516. (Elsevier) (Web of Science, Scopus)

122. S. Bhowmik, **M. M. Molla**, L. S. Yao (2014): Non-Newtonian mixed convection flow from an isothermal circular cylinder, *Numerical Heat Transfer: Part A*, Vol. 66(5), pp. 509-529. (Taylor & Francis) (Web of Science, Scopus)

123. M. G. Rabby, S. P. Shupti, **M. M. Molla,** (2014): "Pulsatile Laminar Non-Newtonian Blood Flows through Double Stenoses", *Journal of Fluids, Vol. 2014,* 757902, pp. 1-13. (Hindawi Publishing Corporation) https://www.hindawi.com/journals/fluids/2014/757902/(Web of Science, Scopus)

124. **M. M. Molla**, A. Biswas, A. A. Mamun, M. A. Hossain, (2014): Natural Convection Flow Along an Isothermal Vertical Flat Plate with Temperature Dependent Viscosity and Heat Generation, *Journal of Computational Engineering*, Vol. 2014, 712147, pp. 1-13. (Hindawi Publishing Corporation) http://dx.doi.org/10.1155/2014/712147(Web of Science, Scopus)

125. **M. M. Molla** (2014): "Letter to the Editor" *Open journal of Modelling & Simulation*, Vol. 2, pp.1-2, http://dx.doi.org/10.4236/ojmsi.2014.21001

126. S. P. Shupti, R. Sultana, M. G. Rabby, **M. M. Molla,** (2013): "Pulsatile Laminar Flows in a Dilated Channel using Cartesian curvilinear coordinates.", *Universal Journal of Mechanical Engineering*, Vol. 1(3), pp.97-107. (Horizon)

127. L-S Yao, **M. M. Molla,** S. G. Moulic (2013): "Fully-Developed Circular-Pipe Flow of a Non-Newtonian Pseudoplastic Fluid", *Universal Journal of Mechanical Engineering*, Vol. 1(2), pp.26-31. (Horizon)

128. S. Bhowmick, **M. M. Molla,** M. A. Hossain (2013): "Non-Newtonian natural convection flow along a horizontal circular cylinder with uniform surface heat flux", *Advances in Mechanical Engineering*, Vol.2013, pp.1-8. (Hindawi) (Web of Science, Scopus)

129. S. Bhowmick, **M. M. Molla,** S. C Saha (2013): "Non-Newtonian natural convection flow along an isothermal horizontal circular cylinder using modified power-law model", *American. J. Fluid Mechanics*, Vol. 2(3), pp. 20-30.

130. F. Z. Sadekin, T. S. Turja, **M. M. Molla** (2013): "Buoyancy driven natural convection flow in an enclosure with two discrete heating from below" *Procedia Engineering*, Vol. 56, pp. 104-111. (Elsevier) (Web of Science, Scopus)

131. M. G. Rabby, A. Razzak, **M. M. Molla** (2013): "Pulsatile non-Newtonian blood flow through a model of arterial Stenosis" *Pro-*

cedia Engineering, Vol. 56, pp.225-231. (Elsevier) (Web of Science, Scopus)

Before NSU:

132. **M. M. Molla,** B-C Wang, D. C. S Kuhn (2012): "Numerical study of pulsatile flows undergoing transition triggered by a modeled stenosis" *Physics of Fluids,* Vol. 24, 121901 (2012). (American Institute of Physics) (Web of Science, Scopus)

133. **M. M. Molla,** A. Hossain, B-C Wang, D. C. S Kuhn (2012): "Large eddy simulation of pulsatile non-Newtonian flow based on dynamics nonlinear subgrid stress model" *Progress in Computational Fluid Dynamics, An Int. Journal,* Vol.12(4), pp.231-242. (Inder Science) (Web of Science, Scopus)

134. S. C. Saha, Y. T. Gu, **M. M. Molla,** S. Siddiqa, M. A. Hossain (2012): "Natural convection from a vertical plate embedded in a stratified medium with uniform heat source" *Desalination and Water Treatment,* Vol.44, pp. 7-14. (Taylor & Francis) (Web of Science, Scopus)

135. **M. M. Molla,** M. C. Paul**,** (2012): "LES of non-Newtonian physiological blood flow in a model of arterial stenosis" *Medical Engineering & Physics,* Vol. 34 pp. 1079-1087. (Elsevier) (Web of Science, Scopus)

136. **M. M. Molla,** S. C. Saha, M. A. I. Khan (2012): "MHD natural convection flow from an isothermal circular cylinder under consideration of temperature dependent viscosity" *Engineering Computations: Int. J. computer-Aided Engineering & Software,* Vol. 29(8), pp.875-887. (Emerald) (Web of Science, Scopus)

137. M. C. Paul, **M. M. Molla,** (2012): "Investigation of physiological pulsatile flow in a model arterial stenosis using large-eddy and direct numerical simulation" *Applied Mathematical Modeling,* Vol.36(9), pp.4393-4413. (Elsevier) (Web of Science, Scopus)

138. **M. M. Molla,** S. C. Saha, M. A. I. Khan (2012): "Natural convection flow in a porous enclouser with localized heating from below" *JP J. Heat Mass Transfer,* Vol. 6, pp.1-16.

139. **M. M. Molla, S**. C. Saha, M. A. Hossain (2012): "The effect of temperature dependent viscosity on MHD natural convection flow from an isothermal sphere" *J. Appl. Fluid Mech*. IF=1.2 Vol.5 No.2(10) , pp.25-31.

140. **M. M Molla,** S. C. Saha, M.A. Hossain (2011): "Radiation effect on free convection laminar flow along a vertical flat plate with streamwise sinusoidal surface temperature" *Mathematical and Computer Modelling*, Vol. 53(5-6) 1310-1319. (Elsevier) (Web of Science, Scopus)

141. **M. M. Molla,** S. C. Saha, M. A. I. Khan, M. A. Hossain (2011): "Radiation effect on free convection laminar flow from a horizon-

tal circular cylinder" *Desalination and Water Treatment,* Vol. 30, 89-97. (Taylor & Francis) (Web of Science, Scopus)

142. **M. M. Molla,** M. A. Hossain, S. Siddiqa (2011): "Radiation effect on free convection laminar flow from an isothermal sphere" *Chemical Engineering Communication*, Vol. 198(12), 1483-1496. (Taylor & Francis) (Web of Science, Scopus)

143. A. Rahman, **M. M. Molla,** M. M. A. Sharker (2011): "Natural convection flow along a vertical wavy cone in case of uniform surface heat flux where viscosity is an exponential function of temperature" *Int. Commun. Heat Mass Transfer* Vol. 38 , 774-780. (Elsevier)

144. A. Rahman, **M. M. Molla,** M. M. A. Sharker, S Thohura (2011): "Effects of temperature dependent viscosity on natural convection flow along a vertical wavy cone with heat flux" *Int. J. Energy & Technology,* Vol.3 (8), 1-10

145. S. C. Saha, Feng Xu, **M. M. Molla,** (2011): "Scaling analysis of the unsteady natural convection boundary layer adjacent to an inclined plate for Pr >1 following instantaneous heating" *ASME J. Heat Transfer,* Vol. 133, 112501-1. (American Society of Mechanical engineers)

146. **M. M. Molla,** M. C. Paul, G. Roditi (2010): "Large Eddy Simulation for the additive and non-additive pulsatile flow in a model arterial stenosis" *Computer Methods in Biomechanics and Biomedical Engineering*, Vol. 13(1) pp 105-120. (Taylor & Francis)

147. **M. M. Molla,** M. C. Paul, G. Roditi, (2009): **"**Large Eddy Simulation of pulsatile blood flow" *Medical Engineering & Physics,* Vol.31 153-159. (Elsevier)

148. **M. M. Molla,** M. A. Hossain, R. S. R. Gorla (2009): "Natural convection laminar flow with temperature dependent viscosity and thermal conductivity along a vertical wavy surface", *Int. J. Fluid Mechanics Res.* Vol. 36 (3), pp. 272-288. (Begell House)

149. **M. M. Molla**, L. S. Yao (2009): "Non-Newtonian natural convection flow along a vertical flat plate with a uniform heat flux", *AIAA J. Thermophysics & Heat Transfer,* Vol. 24(1), pp.176-185. (American Institute of Aeronautics & Astronautics)

150. **M. M. Molla,** L. S. Yao (2009): "The flow of non-Newtonian fluids on a flat plate with a uniform heat flux", *ASME J. Heat Transfer* Vol. 131, pp. 011702-1-6 . (American society of Mechanical Engineers)

151. **M. M. Molla**, L. S. Yao (2009): "Mixed convection of non-Newtonian fluids along a heated vertical flat plate", *Int. J. Heat and Mass Transfer*, Vol. 52, pp. 3266-3271. (Elsevier)

152. **M. M. Molla,** S. C. Paul, M. A. Hossain, (2009): "Natural convection flow from a horizontal circular cylinder with uniform heat flux in presence of heat generation" *Applied Mathematical Modelling,* Vol. 33, pp. 3226-3236 . (Elsevier)

153. **M. M. Molla**, L. S. Yao (2009): "Non-Newtonian natural convection along a vertical heated wavy surface using modified power-law viscosity model", *ASME J. Heat Transfer,* Vol. 131, pp. 012501-1-6. (American society of Mechanical Engineers)

154. L. S. Yao, **M. M. Molla** (2008): "Forced convection of non-Newtonian fluids on a heated flat plate", *Int. J. Heat and Mass Transfer,* Vol. 51, pp. 5154-5159. (Elsevier)

155. L. S. Yao, **M. M. Molla** (2008): "Flow of non-Newtonian fluids on a flat plate: I. Boundary-layer", *AIAA J. Thermophysics & Heat Transfer,* Vol. 22(4), pp. 758-761. (Q2)

156. **M. M. Molla,** L. S. Yao (2008): "Flow of non-Newtonian fluids on a flat plate: II. Heat transfer", *AIAA J. Thermophysics & Heat Transfer,* Vol. 22(4), pp. 762-765 . (Q2)

157. A. A. Mamun, Z. R. Chowdhury, M. A. Azim, **M. M. Molla** (2008): "MHD-conjugate heat transfer analysis for a vertical flat plate in presence of viscous dissipation and heat generation", *Int. Commun. Heat Mass Transfer*, Vol. 35, pp. 1275-1280 . (Elsevier)

158. **M. M. Molla,** M. A. Hossain, R. S. R. Gorla (2008): "The effect of radiation on natural convection flow over a vertical frustum of wavy cone", *Proc. IMechE, Part C: J. Mechanical Engineering Science* Vol. 223,pp. 1605-1614. (UK)

159. **M. M. Molla**, M. C. Paul, Roditi, Giles, (2008). "Physiological Pulsatile flow in a model arterial stenosis ", *Journal of Biomechanics*, vol. 41, pp. S243. (Elsevier)

160. **M. M. Molla,** M. A. Hossain, L. S. Yao (2007): "Natural convection flow along a vertical complex wavy surface with uniform heat flux", *J. Heat Transfer*, Vol. 129, pp. 1403-1407. (American Society of Mechanical Engineers)

161. A. Hey, **M. M. Molla,** M. A. H. Khan (2007): "Chemical reaction on natural convection flow across an isothermal circular cylinder" *Non-linear Analysis; Modeling and Control*, Vol. 12(2), pp. 191-202, ISSN: 1392-5113. (LANA)

162. **M. M. Molla,** M. A. Hossain (2007): "Radiation effect on mixed convection flow along a vertical wavy surface" *Int. J. Thermal Science*, Vol. 46(9), pp. 926-935. (Elsevier)

163. **M. M. Molla,** M. A. Hossain (2006): "Effects of chemical reaction, heat and mass diffusion in natural convection flow from an isothermal sphere with temperature dependent viscosity" *Engineering Computations: Int. J. computer-Aided Engineering & Software,* Vol. 23(7), pp. 840-867. (Emerald)

164. **M. M. Molla,** M. C. Paul M. A. Hossain, (2006): "Natural convection flow from an isothermal horizontal circular cylinder in presence of heat generation" *Int. J. Engineering Science,* Vol. 44, pp. 949-958. (Elsevier)

165. **M. M. Molla,** M. A. Taher, M. M. K. Chowdhury, M.A. Hossain (2006): "Magnetohydrodynamics natural convection flow from a

sphere with heat generation" *Non-linear Analysis; Modeling and Control*, Vol. 10(4), pp 349-363, ISSN:1392-5113 . (LANA)

166. **M. M. Molla,** M. A. Taher, M.A. Hossain (2006): "Magneto-hydrodynamics natural convection flow on a sphere with uniform heat flux in presence of heat generation" *Acta Mechanica*, Vol.186, pp. 76-86. (Springer)

167. **M. M. Molla,** M. A. Hossain, R. S. R. Gorla (2005): "Natural convection flow from an isothermal horizontal circular cylinder with temperature dependent viscosity" *Heat and Mass Transfer* Vol. 41 pp. 494-498. (Springer)

168. **M. M. Molla,** A. Rahman, L. T. Rahman (2005): "Natural convection flow from an isothermal sphere with temperature dependent thermal conductivity" *J. Naval Architecture and Marine Engineering*, Vol. 2(2) pp. 53-64.

169. **M. M. Molla,** M. A. Hossain, R. S. R. Gorla (2004): "Conjugate effect heat and mass transfer in natural convection flow from an isothermal sphere with chemical reaction", *Int. J. Fluid Mechanics Res.* Vol. 31(4), pp. 319-331. (Begell House)

170. **M. M. Molla,** M. A. Hossain, L. S. Yao (2004): "Natural convection flow along a vertical wavy surface with uniform surface temperature in presence of heat generation/absorption" *Int. J. Thermal Science*, Vol. 43 pp. 157-163 (2004). (Elsevier)

171. T. Himika, F. Hassan, **M. M. Molla** (2016): "Numerical study of fluid flow behavior around bluff body using lattice Boltzmann method, (International Conference on Mechanical Engineering-ICME2015, Dec 19-22, 2016, BUET,Bangladesh.

172. N. U. Ahmed, M. T. Zaman, **M. M. Molla**, Numerical investigation of mixed convection flow of Cu-water nanofluid in a wavy channel, *International conference on Mechanical, Industrial and Enery Engineering 2014*, KUET, Khulna, Bangladesh, 6 pages.

173. M. M. Billah, N. N. Poddar, **M. M. Molla**, Numerical investigation of natural convection flow heat transfer of nanofluids inside a wavy cavity, *International conference on Mechanical, Industrial and Enery Engineering 2014*, KUET, Khulna, Bangladesh, 6 pages.

174. A. Khair, A. Hossain, B.-C. Wang, D. Kuhn and **M. M. Molla**, Direct numerical simulation of physiological pulsatile flow through a stenotic channel, in *7th International Symposium on Turbulence, Heat and Mass Transfer (THMT'12)*, Palermo, Sicily, Italy, 6 pages, 2012.

175. A. Hossain, B.-C. Wang and **M. M. Molla**, Large-eddy simulation of a pulsatile flow in a channel with both-sided constrictions, in *Proc. 20th Annual Conference of the CFD Society of Canada (CFD2012)*, Canmore, Alberta, Canada, 8 pages, 2012.

176. **M. M. Molla**, B. C. Wang, D. C. S Khun, "*Large eddy simulation of physiological pulsatile flow" base on dynamic nonlinear subgrid scale stress model*", ASME 2011 9th International Conference on Nanochannels, Microchannels and minichannels-ICNMM2011, June 19-22, 2011, Edmonton, Canada.

177. **M. M. Molla**, A. Hossain, B. C. Wang, D. C. S Khun, "*Large-eddy simulation of pulsatile non-Newtonian flow based on dynamic non-linear subgrid-scale stress model*", International Conference on Computational Heat and Mass Transfer, July 18-22, 2011, Istanbul, Turkey.

178. **M. M. Molla**,. B. C. Wang, S. C. Saha, "*Large-eddy simulation of Physiological pulsatile non-Newtonian flow in channel with double constriction*", Proceedings of the 13th Asian Congress of Fluid Mechanics, 17-21 December, Dhaka, Bangladesh.

179. **M. M. Molla**, M. C. Paul, "*LES of non-Newtonian physiological blood flow*" 1st International Conference on Mathematical and Computational Biomedical Engineering-CMBE2009, June 29-July 1, 2009, Swansea, UK

180. M. F. Hasan, T. A. Himika, **M. M. Molla** "Large-eddy simulation of turbulent air flow in a newspaper office floor", 19th International Mathematics Conference 2015 , 18-20 December, BRAC University.

181. **M. M. Molla**, M. C. Paul, G. Rodit, "*Physiological flow in a model of arterial stenosis*", 16th Congress European Society of Biomechanics, Lucerne, Switzerland, 6-9 July 2008.

182. **M. M. Molla**, M. A. Hossain "Effects of variable viscosity on natural convective from a thin vertical cylinder", *4th BSME-ASME International Conference on Thermal Engineering*, Dhaka, Bangladesh, 27-29 December 2008.

183. **M. M. Molla**, M. C. Paul, "*LES of physiological pulsatile flow in a model arterial stenosis*", 4th BSME-ASME International Conference on Thermal Engineering, Dhaka, Bangladesh, 27-29 December 2008.

184. **M. M. Molla**, M. C. Paul, "*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

185. **M. M. Molla,** M. M. A. Sarker, "*Natural convection flow in a square cavity with temperature dependent heat generation*", 3rd BSME-ASME International Conference on Thermal Engineering, 20-22 Dec., 2006, Dhaka, Bangladesh, Contributed papers: Heat Transfer II, paper BA 158.

186. **M. M. Molla,** M. A Hossain: "*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, (2005).

187. M. A. Taher, **M. M. Molla,** "*Natural convection boundary layer flow on a sphere in presence of heat generation*", 5th ICME and 10th Annual Meeting, 30 Sep-2 Oct., (2005), Dhaka, Bangladesh.

188. A. A. Mamun, **M. M. Molla** , M. A. Maleque, "*Effects of Conduction and Convection on Magneto hydrodynamic Flow from a Vertical Flat Plate",* 5th ICME and 10th Annual Meeting, 30 Sep-2 Oct., (2005), Dhaka, Bangladesh.

189. A. A. Mamun, **M. M. Molla,** M. A. Maleque, "*Effects of Conduction and Convection on Magneto hydrodynamic Flow with Viscous Dissipation from a Vertical Flat Plate"*, Int. Conf. on Mechanical Engineering 2005 (ICME2005), BUET, December 2005, Dhaka, Bangladesh.

190. **M. M. Molla,** M. A. Hossain, M. M. K. Chowdhury, "*Natural convection flow along a vertical wavy surface with temperature dependent viscosity and thermal conductivity*", 2nd BSME-ASME International Conference on Thermal Engineering (2004), BUET, Dhaka, Bangladesh.

191. M. A. Taher, **M. M. Molla**, M. M. K. Chowdhury, "Magnetohydrodynamic natural convection flow on a sphere", 4th ICME and 9th Annual Meeting, 29-31 Dec (2004), Dhaka, Bangladesh.

192. M. A. Hye, **M. M. Molla**, A. H. Khan, "Conjugate effects of heat and mass transfer on natural convection flow across an isothermal circular cylinder with chemical reaction", 4th ICME and 9th Annual Meeting, 29-31 Dec (2004), BUET, Dhaka, Bangladesh.

193. A. Rahman, S. Thohura, M. M. A. Sarker, **M. M. Molla,** "*Natural convection flow along the wavy cone in case of uniform surface heat flux where viscosity is inversely proportional to temperature*", International Conference on Mechanical Engineering (2009) Dhaka, Bangladesh.

194. **M. M. Molla,** A. Rahman, M. M. A. Sarker, "*Radiation effect on natural convection laminar flow along a vertical wavy surface*", International Conference on Mechanical Engineering (2007), BUET, Dhaka, Bangladesh.

195. **M. M. Molla,** M. M. A. Sarker, "*Natural convection flow in a fluid saturated porous medium enclosed by non-isothermal walls*", 3rd BSME-ASME International Conference on Thermal Engineering (2006), BUET, Dhaka, Bangladesh.

196. A. Rahman, M. M. A. Sarker, N. E. Mustafa, **M. M. Molla,** *"Natural convection flow along the wavy cone in case of uniform surface heat flux with temperature dependent viscosity",* 4th BSME-ASME International Conference on Thermal Engineering (2008), BUET, Dhaka, Bangladesh.

197. S. C. Saha, F. Xu, **M. M. Molla,** T. P. Bednarz, *"Scaling nalysis of unsteady natural convection boundary layer for instantaneous*

heating", 13th Asian Congress of Fluid Mechanics (2010) Dhaka, Bangladesh.