

Jamshaid Iqbal

Ph.D. Scholar (Fluid Dynamics)

Department of Mathematics,

COMSATS University Islamabad, Islamabad, Pakistan.



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OBJECTIVE

I would like to explore the bit of knowledge I possess and try to learn as much as possible by putting in the effort and being committed to my work.

Education & Specialization

Doctorate	Ph.D.:	Mathematics
	Result:	3.81 CGPA
	Session:	Spring 2020
	Institute:	COMSATS University Islamabad, Islamabad Campus

Thesis title: “*Heat and Mass Transfer Analysis for Peristaltic Transport of Nanofluids through Curved Channels*”.

Supervisor: Dr. Fahad Munir Abbasi

Major Field: Mathematics (Fluid Mechanics).

Master:	MS	Mathematics
	Result:	3.90 CGPA
	Session:	2017-2019

Institute: COMSATS University Islamabad, Islamabad Campus

Details of Degree: Two years' program which included one-year course work (eight courses of applied mathematics) and one year of research work.

Thesis title: “*Heat Transfer Analysis for Peristalsis of Carreau-Yasuda Fluid through a Curved Geometry with Radial Magnetic Field and Joule Heating*” (year of completion 2019).

Supervisor: Dr. Fahad Munir Abbasi

Major Field: Mathematics (Fluid Mechanics).

Graduation: BS Mathematics

Result: 3.23 CGPA

Session: 2013-2017

Institute: COMSATS Institute of Information Technology

Thesis title: “*Homotopy Methods for Solutions of Ordinary Differential Equations*” (year of completion 2017).

Supervisor: Dr. Fahad Munir Abbasi

Intermediate: DAE (Civil Engineering)

Result: (2730/3350)

Session: 2008-2011

Institute: Punjab Board of Technical Education Lahore (PBTE).

Research Interests

- Fluid mechanics.
- Bio-Fluid mechanics with heat and mass transfer.
- Peristaltic transport of Newtonian and non-Newtonian fluids.
- Nanofluid mechanics.
- Mathematical modeling.
- Boundary Value Problems.
- Numerical simulation.
- Mathematical Physics.

- Analytical and numerical solutions of non-linear equations.
- Aerospace and Technology.
- Hydrogen Energy.

Research Publications

Total Publications	44
Submitted Articles	11
ISI Publications	44
Impact Factor	185.588

Honors and Awards

- **Scholarship Award** in Graduation, from **Department of Mathematics CUI, Islamabad.**
- **Scholarship Award** in Master, from **Punjab Educational Endowment Fund (PEEF).**
- **IRSIP** Scholarship Award for a six-month exchange program at Vanderbilt University in Nashville, TN, USA.

Professional Experience

- One-year research assistant (R. A) at COMSATS University Islamabad, Campus Islamabad, from 30-04-2021 to 29-04 2022.
- Six-month research collaboration at the Center of Applied Mathematics and Bioinformatics (CAMB) at Gulf University of Science and Technology, Kuwait, from 01-02-2024 to 01-07-2024 (Distance learning collaboration).
- Six-month research at Vanderbilt University in Nashville, TN, USA (Continue)

Key Skills Profile

Leadership

- Selected as Class Representative throughout College.

Communication Skills

- Presented on any topics to audience of at least 30 participants.

Team Player

- Comfortable with and productive in group work situations.

Quantitative Skill

- GAT(General) Score 63
- GAT(Subject) Score 70

Hands On Skills

Operating Systems: MS Windows 2000/2007/Xp, Win7, Win8, Win10

Software's: MS Office (Word, Excel, Power Point)
MATHEMATICA, MATLAB, LATEX

Language Skills

Fluent in English (Verbal& Written), Urdu (Verbal& Written), Punjabi (Verbal).

Research Collaborations

1. Dr. Fahad Munir Abbasi (Supervisor)
2. Dr. Sabir Ali Shahzad (Pakistan)
3. Dr. Rab Nawaz (Kuwait)
4. Dr. Yasir Akbar (China)
5. Dr. Saba Khushi (Pakistan)
6. Dr. Muzammil Hussain (AJK-Pakistan)
7. Prof. Dr. Marcelo Mendes Disconzi (TN, USA)

8. Prof. M. M. Alam (Saudi Arabia)
9. Prof. X. Mao (China)

List of Research Publications

1. **J. Iqbal**, F. M. Abbasi and S. A. Shehzad, Heat transportation in peristalsis of Carreau-Yasuda nanofluid through a curved geometry with radial magnetic field. *International Communications in Heat and Mass Transfer*, 117, (2020), 104774. <https://doi.org/10.1016/j.icheatmasstransfer.2020.104774>
2. Y. Akbar, H. Alotaibi, **J. Iqbal**, K. Nisar and K. A. M. Alharbi, Thermodynamic analysis for bioconvection peristaltic transport of nanofluid with gyrotactic motile microorganisms and Arrhenius activation energy. *Case Studies in Thermal Engineering*, 34, (2022), 102055. <https://doi.org/10.1016/j.csite.2022.102055>
3. Y. Akbar, **J. Iqbal**, M. Hussain, H. Khan, and H. Alotaibi, Peristaltic transportation of Carreau–Yasuda magneto nanofluid embedded in a porous medium with heat and mass transfer, *Waves in Random and Complex Media*, (2022), 1-21. <https://doi.org/10.1080/17455030.2022.2036388>
4. **J. Iqbal**, F. M. Abbasi, Analysis of entropy generation for Magnetohydrodynamics peristaltic motion of Carreau-Yasuda nanofluid through a curved channel with variable thermal conductivity and Joule heating. *Waves in Random and Complex Media*, (2022), 1-20. <https://doi.org/10.1080/17455030.2022.2134603>
5. **J. Iqbal**, F. M. Abbasi and S. A. Shehzad, Dynamics of Hall current and entropy generation in peristaltic transport of hybrid nanofluid. *Waves in Random and Complex Media*, (2022), 1-26. <https://doi.org/10.1080/17455030.2022.2133190>
6. **J. Iqbal**, F. M. Abbasi, M. Alkinidri and H. Alahmadi, Heat and mass transfer analysis for MHD bioconvection peristaltic motion of Powell-Eyring nanofluid with variable thermal characteristics, *Case Studies in Thermal Engineering*, (2023), 102692. <https://doi.org/10.1016/j.csite.2022.102692>
7. F. M. Abbasi, M. R. Abidi, **J. Iqbal**, R. Nawaz and S. A. Shehzad, Effects of variable thermal conductivity and curvature parameter on the peristalsis of hybrid nanofluid

- through a curved channel with curvature dependent channel walls, *Journal of Molecular Liquids*, (2023), 123218. <https://doi.org/10.1016/j.molliq.2023.123218>
8. **J. Iqbal** and F. M. Abbasi, Peristaltic transport of hybrid nanofluid under the effects of thermal radiation through asymmetric curved geometry: a numerical approach, *International Journal of Modelling and Simulation*, (2024), 123218. <https://doi.org/10.1080/02286203.2023.2296614>
 9. **J. Iqbal**, F. M. Abbasi and R. Nawaz, Numerical investigation of magnetohydrodynamic bioconvection peristalsis of Powell–Eyring nanofluid. *Numerical Heat Transfer, Part A: Applications*, (2024), 1-22. <https://doi.org/10.1080/10407782.2024.2322102>
 10. **J. Iqbal**, F. M. Abbasi and R. Nawaz, Study of mass and heat transfer for peristaltic transport of cross nanofluid through a curved channel, *ZAMM-Journal of Applied Mathematics and Mechanics* (2024), e202300761. <https://doi.org/10.1002/zamm.202300761>
 11. **J. Iqbal** and F. M. Abbasi, Theoretical investigation of MHD peristalsis of non-Newtonian nanofluid flow under the impacts of temperature-dependent thermal conductivity: Application to biomedical engineering. *ZAMM-Journal of Applied Mathematics and Mechanics* (2024), e202300724. <https://doi.org/10.1002/zamm.202300724>
 12. **J. Iqbal**, F. M. Abbasi and I. Ali, Heat transfer analysis for magnetohydrodynamic peristalsis of Reiner–Philippoff fluid: Application of an artificial neural network, *Physics of Fluids*, 36(4), 041914, April 2024. <https://doi.org/10.1063/5.0207600>
 13. **J. Iqbal**, F. M. Abbasi and R. Nawaz, Peristaltic transport of diethylene glycol-based magnesium aluminate nanofluid under the effects of viscous dissipation and Hall current, *International Journal of Modelling and Simulation*, April 2024, 1-19. <https://doi.org/10.1080/02286203.2024.2345250>
 14. **J. Iqbal** and F. M. Abbasi. Numerical Analysis of Heat and Mass Transfer for Forced Convection Radially Magnetized Williamson Nanofluid Over a Curved Stretching Surface, *Numerical Heat Transfer, Part A: Applications*, April 2024, 1-17. <https://doi.org/10.1080/10407782.2024.2345862>
 15. F. M. Abbasi, **J. Iqbal** and R. Nawaz, Analysis of Thermal Characteristics for MHD Peristaltic Movement of Hybrid Nanofluid with Electro-osmosis, Ohmic Heating and

- Hall Effects, *International Journal of Heat and Fluid Flow*, vol. 107, 109405, April 2024.
<https://doi.org/10.1016/j.ijheatfluidflow.2024.109405>
16. S. N. Kazmi, F. M. Abbasi and **J. Iqbal**, Double-Diffusive Convection for Peristaltic Movement of Carreau Nanofluid with Hall Effects, *Proceedings of the Institution of Mechanical Engineers, Part N: Journal of Nanomaterials, Nanoengineering and Nanosystems*. <https://doi.org/10.1177/23977914241259109>
 17. J. Iqbal, M. Gul and F. M. Abbasi, Thermal Transport of Radially Magnetized Peristalsis of Non-Newtonian Nanofluid Through an Asymmetric Curved Channel, Numerical Heat Transfer, Part B: Fundamentals. <https://doi.org/10.1080/10407790.2024.2365905>
 18. **J. Iqbal**, and F. M. Abbasi, Convective Heat Transfer Analysis for Magnetohydrodynamics Reiner-Philippoff Nanofluid Flow Over a Curved Stretching Surface: Non-Similar Solution, *Multidiscipline Modeling in Materials and Structures*, 2024. <https://doi.org/10.1108/MMMS-07-2024-0200>
 19. Iqbal, J., & Abbasi, F. M. (2024). Integration of artificial neural network computing for radially magnetized bioconvection peristaltic movement of Reiner-Philippoff nanofluid with porous medium. *Journal of Molecular Liquids*, 126783. <https://doi.org/10.1016/j.molliq.2024.126783>
 20. Iqbal, J., Abbasi, F. M., & Alam, M. M. (2024). Thermal Enhancement in Solar Aircraft by Using MHD Carreau-Yasuda Nanofluid with Solar Radiation. *Aerospace Science and Technology*, 109906. <https://doi.org/10.1016/j.ast.2024.109906>
 21. M. Alkinidri, J. Iqbal, F. M. Abbasi, Analysis of Thermal Transport and Wall Stresses for MHD Peristaltic Motion of Reiner-Philippoff Fluid with Viscous Dissipation and Mixed Convection Effects, *ZAMM-Journal of Applied Mathematics and Mechanics* (2024), e202300724. <https://doi.org/10.1002/zamm.202400329>
 22. Iqbal, J., Abbasi, F. M., & Alam, M. M. (2025). Non-Similar Analysis for Magnetohydrodynamic Flow of Hybrid Nanofluid Over a Curved Stretching Surface with Hall Current and Viscous Dissipation Effects, *Modern Physics Letters B*, 2550145. <https://doi.org/10.1142/S021798492550145>
 23. **J. Iqbal**, Y. Akbar, M. M. Alam, Bayesian regularization-based intelligent computing for peristaltic propulsion of curvature-dependent channel walls. *Physics of Fluids*, 37(2), 2025 <https://doi.org/10.1063/5.0254068>

24. **J. Iqbal**, F. M. Abbasi, M. M. Alam, Machine Learning Computations for MHD Bioconvection Peristaltic Transport of Non-Newtonian Nanofluid Flow Containing Gyrotactic Microorganisms with Porous Channel, *Journal of Porous Media* <https://doi.org/10.1615/JPorMedia.2025057165>
25. **J. Iqbal**, F. M. Abbasi, M. M. Alam, Thermal enhancement and energy minimization with dihydrogen oxide-based nanofluids. *International Journal of Hydrogen Energy*, 113, 585-598, (2025). <https://doi.org/10.1016/j.ijhydene.2025.02.454>
26. M. Alkinidri, **J. Iqbal**, F. M. Abbasi. Thermal Transport and Irreversibility Analysis for Radially Magnetized Carreau-Yasuda Nanofluids Flow Over Polished Surfaces, *Modern Physics Letters B*. <https://doi.org/10.1142/S0217984925501672>
27. M. Gul, **J. Iqbal**, F. M. Abbasi, Impact of Variable Thermophysical Properties on Peristaltic Propulsion of Blood Based Casson Ternary Hybrid Nanofluid for Biomedical Applications, *BioNanoScience*, 2025. <https://doi.org/10.1007/s12668-025-01941-3>
28. H. Alahmadi, **J. Iqbal**, F. M. Abbasi, Artificial Neural Network Aided Computing for Two Dimensional Magnetohydrodynamic Peristaltic Movement of Nanofluid with Heat and Mass Transfer, *Engineering Applications of Artificial Intelligence*, 2025. <https://doi.org/10.1016/j.engappai.2025.11099>
29. Y. Akbar, Z. Wang, S. Huang, M. M. Alam, **J. Iqbal**, Thermodynamic analysis of mixed convective peristaltic propulsion of MoS₂ nanomaterials in H₂O-(CH₂OH)₂ hybrid base liquid with variable thermophysical characteristics, *ZAMM-Journal of Applied Mathematics and Mechanics*, Vol 105, no. 05, pp. e70109, 2025. <https://doi.org/10.1002/zamm.70109>
30. **J. Iqbal**, F. M. Abbasi, M. M. Alam. Advanced Cooling and Solar Aircraft Applications Using MHD Carreau Trihybrid Nanofluid with Solar Radiation, *International Journal of Modern Physics B*, 2025. <https://doi.org/10.1142/S0217979225502108>
31. F. Zia, J. Iqbal, N. Naheed and M. M. Alam. AI-Powered Analysis of Thermally Magnetized EMHD Casson Hybrid Nanofluid. *Case Studies in Thermal Engineering*, 106812, (2025). <https://doi.org/10.1016/j.csite.2025.106812>
32. J. Iqbal, F. M. Abbasi, M. M. Alam, Y. Akbar, Thermal and energy optimization of hybrid nanofluid flow in parabolic trough surface collectors (PTSCs) using statistical modeling, neural networks, and sensitivity analysis for solar-powered aircraft. *Physics of Fluids*, 37(8), (2025). <https://doi.org/10.1063/5.0279425>

33. J. Iqbal, F. M. Abbasi, M. M. Alam, Significance of Thermal Transport Analysis through an Artificial Intelligence Stochastic Approach for MHD Peristaltic Propulsion of Reiner-Philippoff Fluid, *Thermal Analysis and Calorimetry*, 2025. <https://doi.org/10.1007/s10973-025-14865-7>
34. Y. Akbar, **J. Iqbal**, Y.U.U.B. Turabi, T. Awar, M. M. Alam, Magneto-Radiative Effects on Thermal Fields and Irreversibility in a Lid-Driven Wavy Square Enclosure with a Central Heater, *Thermal Analysis and Calorimetry*, <https://doi.org/10.1007/s10973-025-14973-4>
35. **J. Iqbal** and F. M. Abbasi, Optimization of heat transfer via response surface methodology (RSM), sensitivity analysis, and application of machine learning for radially magnetized Reiner-Philippoff hybrid nanofluid, *Advances in Heat Transfer*, 2025. <https://doi.org/10.1016/bs.aiht.2025.06.004>
36. **J. Iqbal** and Y. Akbar, Sensitivity analysis of drag reduction and aerothermal heating in Hypersonic Glide Vehicles (HGVs) under magnetic fields and nanofluid coatings, *International Communications in Heat and Mass Transfer*, 171, 110032, (2026). <https://doi.org/10.1016/j.icheatmasstransfer.2025.110032>
37. **J. Iqbal** and Y. Akbar, TensorFlow-based deep learning framework for thermodynamic and entropy generation analysis of dihydrogen oxide-based nanofluids, *International Journal of Hydrogen Energy*, 201, 152947, (2026). <https://doi.org/10.1016/j.ijhydene.2025.152947>
38. **J. Iqbal**, Y. Akbar and M. M. Alam, Enhancement and energy minimization using Powell–Eyring nanofluid flow in PTSC for solar-powered aircraft: a combined RSM, ANN, and sensitivity analysis, *Thermal Analysis and Calorimetry*, <https://doi.org/10.1007/s10973-025-15104-9>
39. Y. Akbar, K. Li, **J. Iqbal**, X. Yang and X. Mao, Thermodynamic analysis of nanofluid with aggregated and non-aggregated nanoparticles. *International Journal of Heat and Fluid Flow*, 118, 110205, 2026. <https://doi.org/10.1016/j.ijheatfluidflow.2025.110205>
40. Y. Akbar, C. Chen, **J. Iqbal** and X. Mao, Intelligent modeling of thermal transport in peristaltic flow of nanofluid through porous media using response surface and neural networks. *International Communications in Heat and Mass Transfer*, 174, 110901, X. (2026). <https://doi.org/10.1016/j.icheatmasstransfer.2026.110901>

41. Y. Akbar, **J. Iqbal** and C. Chen. Numerical and ANN-based prediction of thermal enhancement in PTSC for solar-powered aircraft wings. International Communications in Heat and Mass Transfer, 174, 110933, (2026).
<https://doi.org/10.1016/j.icheatmasstransfer.2026.110933>
42. **J. Iqbal**, F. M. Abbasi, M. M. Alam, Nonlinear Dynamics of Thermally Magnetized Peristaltic Propulsion of Hybrid Nanofluid Using Artificial Neural Networks Approach. Nonlinear Dynamics, <https://doi.org/10.1007/s11071-026-12304-2>
43. **J. Iqbal**, Y. Akbar, F. M. Abbasi, Entropy Generation and Heat Transfer Enhancement of CuO-MgO-GO/Water Ternary Hybrid Nanofluid under Hall Current and Thermal Radiation, Thermal Analysis and Calorimetry, <https://doi.org/10.1007/s10973-026-15394-7>
44. S. Gowroju, K. S. Chatrapati, **J. Iqbal**, S. B. Baluguri, A. Padder and K. Dehingia, A Metaheuristic-Driven Ensemble of CNN and Light-GBM for Multi-Class HER2 Breast Cancer Diagnosis, International Journal of Computational Intelligence Systems, (2026).
<https://doi.org/10.1007/s44196-026-01248-5>

Profile Links

- **Google Profile**

<https://scholar.google.com.pk/citations?user=vtUhz20AAAAJ&hl=en>

- **ResearchGate**

<https://www.researchgate.net/profile/Jamshaid-Iqbal-4>

- **ORCID**

<https://orcid.org/0000-0002-8467-5261>

- **Web of Sciences**

<https://www.webofscience.com/wos/author/record/JCD-8851-2023>

- **Sci Profile**

<https://sciprofiles.com/profile/3102538>

- **Scholar GPS**

<https://scholargps.com/scholars/84972678446210/jamshaid-iqbal>

- **Owlstown**

<https://guest-eumndm0.owlstown.net/>

- **Impactio**

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