

## CURRICULUM VITAE TEMPLATE



Position/Designation: Associate Professor  
 Department: Mathematical and Physical Sciences  
 College: Arts and Sciences  
 University of Nizwa, Sultanate of Oman

### Personal Information

Name: Dr. Muhammad Amer Qureshi  
 Marital Status: Married  
 Email Address: Muhammad.qureshi@unizwa.edu.om  
 Contact Numbers:

### Academic Qualifications

Ph.D: The University of Auckland, New Zealand  
 M.S : Ghulam Ishaq Khan Institute of Engineering and Technology, Pakistan  
 B.S : B. Z. University, Pakistan

### Teaching Activities, Current/Previous Experience

#### Experience:

|   |             |
|---|-------------|
| Associate Professor: University of Nizwa, Nizwa, Oman                                 | 2025 - Date |
| Associate Professor: King Fahd University of Petroleum and Minerals, Saudi Arabia     | 2023 - 2025 |
| Assistant Professor: King Fahd University of Petroleum and Minerals, Saudi Arabia     | 2017 - 2023 |
| Assistant Professor: G.I.K Institute of Engineering Sciences and Technology, Pakistan | 2012 - 2017 |

#### Courses Taught:

- Preparatory Mathematics-I
- Preparatory Mathematics-II
- Single-variable Calculus (Calculus-I)
- Multi-variable Calculus (Calculus-II)
- Differential Equations
- Linear Algebra
- Foundation of Scientific computing
- Numerical Analysis
- Computer Simulation Methods
- Modeling Processes

**Research Activities**

(includes but not limited to research interests, conference attendance, conference presentations and publications: refereed journal, articles, books, etc.)

**Research Interests:**

Numerical techniques for solving Ordinary Differential Equations, Computational Fluid Dynamics, Symmetries in General Relativity.

**Conference Presentations and Attendance:**

- 1st International Conference on Smart Mobility and Logistics Ecosystems (SMiLE) KFUPM, Saudi Arabia, 2024.
- European Symposium on Computer Aided Process Engineering Villa Vittoria Piazza, Florence, Italy, June 2024.
- The 13th AIMS Conference on Dynamical Systems, Differential Equations and Applications University of North Carolina, Wilmington, USA, May 2023.
- International conference on Computational Management and Mathematical Methods in Industry and Economics Technical University, Chemnitz, Germany, May 2019.
- Conference on Gravitation and Cosmology, The University of Punjab, Lahore, Pakistan, 2016
- Australia and New Zealand Industrial and Applied Mathematics conference Warnambool, Australia, 2012.
- NewZealand Mathematical Society colloquium The University of Auckland, New Zealand NewZealand, 2011
- Mathematical Society colloquium, Massey University, Albany, New Zealand, 2010
- International conference on scientific computing and differential equations (SCICADE), Beijing, China, 2009.
- New Zealand Mathematics and Statistics postgraduate conference Palmerston North, New Zealand , 2009
- New Zealand Mathematics and Statistics postgraduate conference Coromandal, New Zealand, 2008
- GLADE conference on numerical methods and related problems Auckland, New Zealand, 2008.
- International conference on Physics and contemporary needs, Nathiagali, Pakistan, 2005

**Publications:**

- M.A.Qureshi “Galerkin Finite Element Technique for Cross-Viscous Fluid Modeling in Non-Linearly Tapering Stenosed Artery ”, Accepted for Publication in ”Numerical Heat Transfer, Part A: Applications”, (2025).
- Xianging Zhou, M.A. Qureshi, N. Khan, W. Jamshed, S. S. Putri, M. is a, N. Balakrishnan, S. M. hussain “Thermo-Solutal Marangoni Convective Flow of MHD Tangent Hyperbolic Nanofluid with Elastic Deformation and Heat Source”, <https://doi.org/10.1515/phys-2024-0082>, ”Open Physics”, (2024).
- S.M.Hussain, K. Ali, S. Ahmad, M.A. Qureshi, W. Jamshed, S. A. Idris, I. Alraddadi “Characterizing Magnetohydrodynamic Effects on Developed Nanofluid Flow in an Obstructed Vertical Duct under Constant Pressure Gradient”, <https://doi.org/10.1515/phys-2024-0070>, ”Open Physics”, (2024).
- S.M.Hussain, R. Parveen, N. M. Katbar, S.Rehman, A.Abd-Elmonem, N.S. E. Abdalla, H. Ahmad, M.A. Qureshi, W. Jamshed, A. Amjad, R.W Ibrahim “Entropy generation analysis of MHD convection

flow of hybrid nanofluid in a wavy enclosure with heat generation and thermal radiation”, *Reviews on Advanced Materials Science*, <https://doi.org/10.1515/rams-2024-0037>, (2024).

• S.M.Hussain, Z. E Shams, Q. Rubbab, N.A.Nasir, A.Elmonem, N.Abdalla, M.A. Qureshi, H. Ahmad “Thermal Case Study of Magnetic Radiative Flow Impacts on Newtonian Nanofluid Over a Stretchable Plate in Absorbent: Box Approach”, *Case Studies in Thermal Engineering*, <https://doi.org/10.1016/j.csite.2024.104539>, (2024).

• M.A. Qureshi, M. rafiq, Y. Bashir and A. Ahmad “Analytical and numerical approach for the analysis of heat transfer of squeezing flow between two parallel plates”, *Case Studies in Thermal Engineering*, <https://doi.org/10.1016/j.csite.2024.103979>, (2024).

• Shafqat Hussain, M. A. Qureshi and Pekmen Geridonmez, “Impact of wavy porous layer on mixed convection flow of a hybrid nanofluid in an enclosure under the effect of partial magnetic field”, *Numerical Heat Transfer; Part A: Applications.*, <https://doi.org/10.1080/10407782.2023.2233144>, (2023).

• M.A. Qureshi, “Irreversibility analysis of electromagnetic hybrid nanofluid for Cattaneo–Christov heat flux model using finite element approach”, *Scientific reports* 13(1), (2023).

• Shafqat Hussain, M. A. Qureshi and Sameh E. Ahmed, “Impact of wavy porous layer on the hydrodynamic forces and heat transfer of hybrid nanofluid flow in a channel with cavity under the effect of partial magnetic field”, *Journal of Non-Equilibrium Thermodynamics*, [doi.org/10.1515/jnet-2022-0070](https://doi.org/10.1515/jnet-2022-0070), (2023).

• W.Jamshed, N.Azeany, M. Nasir, M. A. Qureshi, F. Shahzad, R. Banerjee, M. Eid, K. S. Nisar and S. Ahmad, “Dynamical irreversible processes analysis of Poiseuille magneto-hybrid nanofluid flow in microchannel: A novel case study”, *Waves in Random and Complex Media*, [doi.org/10.1080/17455030.2021.1985185](https://doi.org/10.1080/17455030.2021.1985185), (2022).

• M.A. Qureshi, “Thermal capability and entropy optimization for Prandtl-Eyring hybrid nanofluid flow in solar aircraft implementation”, *Alexandria Engineering Journal*, <https://doi.org/10.1016/j.aej.2021.10.051>, (2022).

• M.A. Qureshi, “A case study of MHD driven Prandtl-Eyring hybrid nanofluid flow over a stretching sheet with thermal jump conditions”, *Case Studies in Thermal Engineering*, <https://doi.org/10.1016/j.csite.2021.101581>, (2021).

• Faisal Shahzad, Wasim Jamshed, Rabha W. Ibrahim, M. A. Qureshi, Kottakkaran Sooppy Nisar, Syed M. Hussain, Siti Suzilliana Putri Mohamed Isa, Mohamed R. Eid, Abdel-Haleem Abdel-Aty and I. S. Yahia), Comparative Numerical Study of Thermal Features Analysis between Oldroyd-B Copper and Molybdenum Disulfide Nanoparticles in Engine-Oil-Based Nanofluids Flow”, *Coatings*, 11(10), 1196; <https://doi.org/10.3390/coatings11101196>, (2021).

• M.A. Qureshi, “Numerical Simulation of Heat Transfer Flow Subject to MHD of Williamson Nanofluid with Thermal Radiation”, *Symmetry-Basel*, <https://doi.org/10.3390/sym13010010j.csite.2021.101321>, (2021).

• M.A.Qureshi, S. Hussain, and M. A. Sadiq, “Numerical simulations of MHD mixed convection of hybrid nanofluid flow in a horizontal channel with cavity: Impact on heat transfer and hydrodynamic forces”, *Case Studies in Thermal Engineering*, [doi:https://doi.org/10.1016/j.csite.2021.101321](https://doi.org/10.1016/j.csite.2021.101321), (2021).

• H.Kaneez, M. A. Qureshi, S. O. Harbi. T. Aziz and M. Nawaz), “Role of hybrid nano-structures and dust particles on transportation of heat energy in fluid with memory effects”, *AIN Shams Engineering Journal*, (2021).

- S.Hussain, M. A. Qureshi, H. F. Oztop and N. A. Hamdeh), “Double diffusive buoyancy induced convection in stepwise open porous cavities filled nanofluid”, International Journal of Heat and Mass Transfer, doi:org/10.1016/j.icheatmasstransfer.2020.104949, (2020).
- M.A Noor, M.Rafiq, S. Khan, M. A. Qureshi, M. Kamran, S. Khan , F. Saeed and H. Ahmad) “Analytical solutions to contact problems with fractional derivatives in the sense of Caputo”, Thermal Science: International Scientific Journal, 24(1), S313-S323, (2020).
- M.A. Qureshi, G. Shabbir, S. Komal and Taha Aziz, ”Classification of proper teleparallel conformal symmetry of spherically symmetric static space-times using diagonal tetrads”, Modern Physics Letters A35(28) 2050232, (2020).
- S.Hussain, M. A. Qureshi, H. F. Oztop and N. A. Hamdeh, “Magnetohydrodynamic flow and heat transfer of ferrofluid in a channel with non-symmetric cavities”, Journal of Thermal Analysis and Calorimetry, doi: 10.1007/s10973-019-08943-w, (2019).
- M.Rafiq, M.A Noor, M Tahir, M.A. Qureshi, M Kamran, and S Farwa, “Efficient analytical approach to solve system of BVPs associated with fractional obstacle problem”, AIP Advances 9, 095007, doi: 10.1063/1.5111900, (2019).
- Y.Habib, R. Mustafa and M. A. Qureshi “G-symplectic integration of many body problems”, Bulletin of the Iranian Mathematical Society, 44: 937-954, (2018).
- M.A. Qureshi, S. Hussain and G. Shabbir, Conservation of Hamiltonian using Continuous Galerkin Petrov time discretization scheme, Mathematical Reports, vol. 19, No.1, 127-143, (2017).
- G.Shabbir, M.A. Shahani, M. A. Qureshi and F. M. Mahomed, ”Proper teleparallel homothetic vector fields in general cylindrically symmetric space-times in the teleparallel theory of gravitation using diagonal tetrads”, Communications in Theoretical Physics, Vol. 68, 611-616, (2017).
- G.Shabbir, A.Khan M. A. Qureshi and A.H.Kara A note on classification of teleparallel conformal symmetries in non-static plane symmetric space-times in the teleparallel theory of gravitation using diagonal tetrads, International Journal of Geometric Methods in Modern Physics, Vol. 13, Article ID 1650046, 1-8, (2016).
- G.Shabbir, M. A. Qureshi and F. M. Mahomed, Proper projective symmetry in the most general non-static spherically symmetric four dimensional Lorentzian manifolds, International Journal of Geometric Methods in Modern Physics, Vol. 13, Article 1650009, 1-8, (2016).
- G.Shabbir, M. A. Qureshi and A. H. Kara, Proper projective symmetry in Bianchi type I space-times, European Physical Journal Plus, Vol. 128, 1-5, (2013).
- Philip W. Sharp, M. A. Qureshi and Kevin R. Grazier, High order Explicit Runge-Kutta Nystrom pairs, Numerical Algorithms, Volume 62, Issue 1, 133-148, (2013).
- G.Shabbir and M. A. Qureshi, Proper Projective Vector fields in Schwarzschild metric, International journal of Modern Physics letters A, vol. 21 No. 23, 1795-1802, (2006).
- G.Shabbir and M. A. Qureshi, Proper Projective Symmetry in Spherically Symmetric Static Space-Times, International journal of Modern Physics D, vol. 14, 1451-1463, (2005).

#### **Faculty Administrative Experience**

- Exam preparation committee, KFUPM, KSA.
- NCAAA committee for accreditation, KFUPM, KSA.
- Course review committee, KFUPM, KSA.

- Community life committee, KFUPM, KSA.
- Accreditation committee for FES with PEC, Pakistan
- Syllabus-Review committee, Pakiatan,
- Faculty recruitment committee, Pakistan
- Convocation committee, Pakistan

#### **Community Services**

- Community Life Committee at KFUPM
- High school Mentorship

#### **Consultancy**

- Reviewer of Research grant proposals submitted to DSR, Hafr Al Batin University
- External reviewer of post-graduate thesis in University of Wits watersrand, South Africa

#### **Membership in Professional Bodies**

New Zealand Mathematical Society

#### **Awards and Recognitions**

- Ranked in Stanford University's Top 2% scientists based on scopus 2024.
- Ranked in Stanford University's Top 2% scientists based on scopus 2023.
- Best Poster presentation in NZMS postgraduate conference Palmerston North, New Zealand , 2009.
- Awarded merit based Ph.D scholarship by Higher Education Commission of Pakistan, 2007.
- National Engineering and Scientific Commission Fellowship for Ph.D in Pakistan, 2005.
- Awarded Gold Medal by Securing the first position during MS degree from GIK Institute, Pakistan, 2004.
- Won the merit based Assistantship for two years to pursue my MS from GIK Institute, 2002.
- Distinction in M.Sc, from B.Z. University, Pakistan in 2001.