

Ammar Mushtaq
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About

Dr. Ammar Mushtaq is working as Associate Professor in the School of Interdisciplinary Engineering & Sciences. Dr. Ammar Mushtaq has a PhD in Applied Maths. Dr. Ammar Mushtaq has published 45 research articles & conference papers having a citation count of 1048, carried out 5 projects and filed 0 intellectual property.

Qualifications

PhD in Applied Maths NUST, Islamabad , Pakistan	2011 - 2015
MS in CFD NUST, Islamabad , Pakistan	2008 - 2010
B.Sc (Hon) in Computational Physics University of the Punjab , Pakistan	2004 - 2008

Experience

Associate Professor School of Interdisciplinary Engineering & Sciences	2024- Present
Associate Professor School of Interdisciplinary Engineering & Sciences	2022 - 2021
Associate Professor School of Interdisciplinary Engineering & Sciences	2022 - 2022
Associate Professor Research Centre for Modelling & Simulation	2021 - 2022
Assistant Professor Research Centre for Modelling & Simulation	2020 - 2012
Assistant Professor Research Centre for Modelling & Simulation	2015 - 2010
Lecturer Research Centre for Modelling & Simulation	2012 - 2012
Lab Supervisor Research Centre for Modelling & Simulation	2012 - 2022
Lab Supervisor Research Centre for Modelling & Simulation	2010 - 2020

Awards

RPA 2017 Research Productivity Award (RPA) by Pakistan Council for Science and Technology (PCST)	2008
Indigenous Scholarship MS Leading to PhD	

Research Projects

National Projects

Autonomous Aerial 3D Mapping System	2024
Funding Agency: NUST	
Amount: PKR 1,000,000.00	
Status: Approved_inprocess	
Technology development for efficient waste management and environment preservation	2024
Funding Agency: National University of Sciences and Technology	
Amount: PKR 1,000,000.00	
Status: Approved_inprocess	
NUST Digital Twin through Advanced Modeling & Simulation	2024
Funding Agency: NUST	
Amount: PKR 50,000,000.00	
Status: Approved_inprocess	
Ducted Wind Turbines for Urban Areas	2024
Funding Agency: NUST	
Amount: PKR 1,000,000.00	
Status: Approved_inprocess	
Modeling and computational analysis of rotationally symmetric flows involving non-Newtonian fluids	2022
Funding Agency: HEC	
Amount: PKR 1,033,000.00	
Status: Completed	

International Projects

Research Articles

Exploring integrated heat and mass transfer in von-Kármán dynamics involving Reiner-Rivlin fluid with regression models	2024
Saddam Sultan Akbar Meraj Mustafa Ammar Mushtaq	
Case Studies in Thermal Engineering, Volume 62, Article Number 105154	
Impact Factor: 6.400 Quartile: 1 Citations: 3	
DOI: https://doi.org/10.1016/j.csite.2024.105154	
Regression modeling of Bödewadt slip flow dynamics involving Reiner-Rivlin nanofluid based on a modified Buongiorno approach	2024
Tayyaba Ibrahim Meraj Mustafa Junaid Ahmad Khan Ammar Mushtaq	
Physica scripta , Volume 99, Number 10, Article Number 105042	
Impact Factor: 2.600 Quartile: 2	
DOI: 10.1088/1402-4896/ad78c1	
Exploring slip flow of viscoelastic fluid with frictional heating effects: Uncertainty analysis using response surface methodology (RSM)	2024
Laiba Gull Ammar Mushtaq Tahir Mehmood Meraj Mustafa	
International Communications in Heat and Mass Transfer, Volume:155, Article Number: 107548	
Impact Factor: 7.0 Quartile: 1 Citations: 8	
DOI: 10.1016/j.icheatmasstransfer.2024.107548	
Modelling and analysis of the complement 2 system signalling pathways: Roles of C3, 3 C5a and pro-inflammatory cytokines in 4 SARS-CoV-2 infection	2023
Didar Murad Rehan Zafar Paracha Muhammad Tariq Saeed Jamil Ahmad Ammar Mushtaq Maleeha Humayun	
PeerJ, Vol:11, Articel Number: e15794	
Impact Factor: 2.7 Quartile: 2 Citations: 1	
DOI: 10.7717/peerj.15794	
Numerical exploration of buoyancy inspired flow of pseudoplastic fluid along a vertical cylinder with viscous dissipation effects	2023
Iram Showkat Ammar Mushtaq Meraj Mustafa	
Alexandria Engineering Journal , Volume 74, Pages 415-425	
Impact Factor: 6.626 Quartile: 1 Citations: 10	

DOI: <https://doi.org/10.1016/j.aej.2023.05.039>

A numerical study of rotationally symmetric nanofluid flow over a permeable surface using Buongiorno model

2022

Sahreen Tahira Ammar Mushtaq Meraj Mustafa

Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, Volume 236, Issue 4, Pages 1652-1660

Impact Factor: 1.822 | **Quartile:** 3 | **Citations:** 2

DOI: <https://doi.org/10.1177/09544089211073251>

Rotationally symmetric flow of Cu-Al₂O₃/water hybrid nanofluid over a heated porous boundary

2022

Ammar Mushtaq Meraj Mustafa Hashmi Sahreen Tahira

Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, Volume 236, issue 3, Pages 1524-1534

Impact Factor: 1.762 | **Quartile:** 3 | **Citations:** 6

DOI: <https://doi.org/10.1177/09544062211023104>

Dual solutions for fluid flow over a stretching/shrinking rotating disk subject to variable fluid properties

2020

Ammar Mushtaq Roslinda Nazar Kohilavani Naganthran Meraj Mustafa Hashmi

Physica A: Statistical Mechanics and its Applications, Volume 556, Article Number 124773

Impact Factor: 3.263 | **Quartile:** 2 | **Citations:** 38

DOI: <https://doi.org/10.1016/j.physa.2020.124773>

Modeling MHD swirling flow due to rough rotating disk with non-linear radiation and chemically reactive solute

2018

Meraj Mustafa Hashmi Ammar Mushtaq Tasawar Hayat Ahmed Alsaedi

International Journal of Numerical Methods for Heat & Fluid Flow, NULL

Impact Factor: 1.958 | **Quartile:** 2 | **Citations:** 4

DOI: <https://www.emeraldinsight.com/doi/abs/10.1108/HFF-10-2017-0403>

Non-aligned MHD stagnation-point flow of upper-convected Maxwell fluid with nonlinear thermal radiation

2018

Meraj Mustafa Ammar Mushtaq Tasawar Hayat Ahmed Alsaedi

Neural Computing and Applications, NEURAL COMPUTING & APPLICATIONS Volume: 30 Issue: 5 Pages: 1549-1555

Impact Factor: 4.664 | **Quartile:** 1 | **Citations:** 7

DOI: 10.1007/s00521-016-2761-2

Buoyancy effects in stagnation-point flow of Maxwell fluid utilizing non-Fourier heat flux approach

2018

Ammar Mushtaq Ahmed Alsaedi Meraj Mustafa Tasawar Hayat

PLoS ONE, Volume 13 Issue 7 Article Number e0200325

Impact Factor: 2.776 | **Quartile:** 2 | **Citations:** 14

DOI: 10.1371/journal.pone.0192685

Consequences of convection-radiation interaction for magnetite-water nanofluid flow due to a moving plate

2018

Ammar Mushtaq Junaid Ahmad Khan Meraj Mustafa Hashmi Tasawar Hayat Ahmad Alsaedi

Thermal Science, Volume 22(1B), Pages 443-451

Impact Factor: 1.541 | **Quartile:** 3 | **Citations:** 3

DOI: 10.2298/TSCI151128212M

Influence of Non-linear Radiation Heat Flux on Rotating Maxwell Fluid over a Deformable Surface: A Numerical Study

2018

Ammar Mushtaq Ahmed Alsaedi Tasawar Hayat Meraj Mustafa Hashmi

Communications in Theoretical Physics, NULL

Impact Factor: 1.416 | **Quartile:** 3 | **Citations:** 1

DOI: 10.1088/0253-6102/69/4/461

Computations for nanofluid flow near a stretchable rotating disk with axial magnetic field and convective conditions

2017

Ammar Mushtaq Meraj Mustafa

Results in Physics, Volume 7, Pages 3137-3144

Impact Factor: 2.147 | **Quartile:** 2 | **Citations:** 38

DOI: 10.1016/j.rinp.2017.08.031

Numerical Study of MHD Viscoelastic Fluid Flow with Binary Chemical Reaction and Arrhenius Activation Energy

2017

Meraj Mustafa Ammar Mushtaq Tasawar Hayat A. Alsaedi

Impact Factor: 0.881 | **Quartile:** 4 | **Citations:** 45

DOI: 10.1515/ijcre-2016-0131

Parametric Study and Optimization of Ceiling Fan Blades for Improved Aerodynamic Performance

2016

Ehsan Adeeb Ehsan Adeeb Adnan Maqsood Ammar Mushtaq C. H. Sohn

Journal of Applied Fluid Mechanics, ISSN:1735-3572, eISSN:1735-3645, Volume:9, Issue:6, Pages:2905-2916, Published: 2016, Volume: 9 Issue: 6 Pages: 2905-2916

Impact Factor: N/A

DOI: http://jafmonline.net/web/guest/2

Boundary layer flow of Maxwell fluid in rotating frame with binary chemical reaction and activation energy

2016

Z Shafique Meraj Mustafa Ammar Mushtaq

Results in Physics, Volume 6, Pages 627-633

Impact Factor: 0.946 | **Quartile:** 3 | **Citations:** 240

DOI: 10.1016/j.rinp.2016.09.006

Numerical study for rotating flow of nanofluids caused by an exponentially stretching sheet

2016

Ammar Mushtaq Meraj Mustafa Tasawar Hayat A. Alsaedi

Advanced Powder Technology, Volume 27, Issue 5, Pages 2223-2231

Impact Factor: 2.659 | **Quartile:** 2 | **Citations:** 43

DOI: 10.1016/j.appt.2016.08.007

Boundary layer flow over a moving plate in a flowing fluid considering non-linear radiations

2016

Ammar Mushtaq Meraj Mustafa Tasawar Hayat A. Alsaedi

International Journal of Numerical Methods for Heat & Fluid Flow, Volume 26, Issue 5, Pages 1617-1630

Impact Factor: 1.713 | **Quartile:** 2 | **Citations:** 12

DOI: 10.1108/HFF-12-2014-0365

On three-dimensional flow of nanofluids past a convectively heated deformable surface: A numerical study

2016

Junaid Ahmad Khan Meraj Mustafa Ammar Mushtaq

International Journal of Heat and Mass Transfer, Volume 94, Pages 49-55

Impact Factor: 3.458 | **Quartile:** 1 | **Citations:** 17

DOI: 10.1016/j.ijheatmasstransfer.2015.11.036

A numerical study for three-dimensional viscoelastic flow inspired by non-linear radiative heat flux

2016

Meraj Mustafa Hashmi Ammar Mushtaq Tasawar Hayat Ahmed Alsaedi

International Journal of Non-Linear Mechanics, Volume 79, Pages: 83-87

Impact Factor: 2.074 | **Quartile:** 2 | **Citations:** 25

DOI: 10.1016/j.ijnonlinmec.2015.11.006

Rotating Flow of Magnetite-Water Nanofluid over a Stretching Surface Inspired by NonLinear Thermal Radiation

2016

Meraj Mustafa Hashmi Ammar Mushtaq Tasawar Hayat A. Alsaedi

PLoS ONE, Volume 11, Issue 2, Article Number e0149304

Impact Factor: 2.806 | **Quartile:** 1 | **Citations:** 96

DOI: 10.1371/journal.pone.0149304

Numerical solution for Sakiadis flow of upper-convected Maxwell fluid using Cattaneo-Christov heat flux model

2016

Ammar Mushtaq S. Abbasbandy Meraj Mustafa Tasawar Hayat A. Alsaedi

AIP Advances, Volume 6, Issue 1, Article Number 015208

Impact Factor: 1.568 | **Quartile:** 3 | **Citations:** 44

DOI: 10.1063/1.4940133

Model for natural convective flow of visco-elastic nanofluid past an isothermal vertical plate

2015

Meraj Mustafa Ammar Mushtaq

European Physical Journal Plus, Volume 130, Issue 9

Impact Factor: 1.521 | **Quartile:** 2 | **Citations:** 7

DOI: 10.1140/epjp/i2015-15178-1

Model to study the non-linear radiation heat transfer in the stagnation-point flow of power-law fluid

2015

Meraj Mustafa Hashmi Ammar Mushtaq Tasawar Hayat Ahmed Alsaedi

Impact Factor: 1.475 | **Quartile:** 2 | **Citations:** 19

DOI: <http://dx.doi.org/10.1108/HFF-05-2014-0147>

Radiation effects in three-dimensional flow over a bi-directional exponentially stretching sheet 2015

Meraj Mustafa Ammar Mushtaq Tasawar Hayat A. Alsaedi

Journal of the Taiwan Institute of Chemical Engineers, Volume 47, Pages 43-49

Impact Factor: 2.848 | **Quartile:** 1 | **Citations:** 50

DOI: 10.1016/j.jtice.2014.10.011

Numerical study of the non-linear radiation heat transfer problem for the flow of a second-grade fluid 2015

Meraj Mustafa Hashmi Ammar Mushtaq T. Hayat A. Alsaedi

Bulgarian Chemical Communications, Volume 47, Issue 2, Pages 725-732

Impact Factor: 0.229 | **Quartile:** 4

On the Numerical Solution of the Nonlinear Radiation Heat Transfer Problem in a Three-Dimensional Flow 2014

Ammar Mushtaq Meraj Mustafa Tasawar Hayat A. Alsaedi

Zeitschrift Fur Naturforschung Section A-A Journal of Physical Sciences, Volume 69, Issue 12, Pages 705-713

Impact Factor: 0.789 | **Quartile:** 4 | **Citations:** 18

DOI: 10.5560/ZNA.2014-0059

Effects of Thermal Radiation on the Stagnation-Point Flow of Upper-Convected Maxwell Fluid over a Stretching Sheet 2014

Ammar Mushtaq Meraj Mustafa Tasawar Hayat A. Alsaedi

Journal of Aerospace Engineering, Volume: 27 Issue: 4

Impact Factor: 0.839 | **Quartile:** 2 | **Citations:** 49

DOI: 10.1061/(ASCE)AS.1943-5525.0000361

Nonlinear Radiation Heat Transfer Effects in the Natural Convective Boundary Layer Flow of Nanofluid Past a Vertical Plate: A Numerical Study 2014

Ammar Mushtaq Meraj Mustafa Tasawar Hayat A. Alsaedi

PLoS ONE, Volume 9, Issue 9

Impact Factor: 3.234 | **Quartile:** 1 | **Citations:** 78

DOI: 10.1371/journal.pone.0103946

Nonlinear radiative heat transfer in the flow of nanofluid due to solar energy: A numerical study 2014

Ammar Mushtaq Meraj Mustafa Tasawar hayat Ahmed Alsaedi

Journal of the Taiwan Institute of Chemical Engineers, Volume 45, Issue 4, Pages 1176-1183

Impact Factor: 3.000 | **Quartile:** 1 | **Citations:** 139

DOI: 10.1016/j.jtice.2013.11.008

Exponentially Stretching Sheet in a Powell–Eyring Fluid: Numerical and Series Solutions 2013

Meraj Mustafa Hashmi Ammar Mushtaq Tasawar Hayat Mahmood Rahi Ahmed Alsaedi

Zeitschrift Fur Naturforschung Section A-A Journal of Physical Sciences, Volume 68, Issue 12, Pages 791-798

Impact Factor: 0.908 | **Quartile:** 3 | **Citations:** 31

DOI: 10.5560/ZNA.2013-0063

Conference Proceedings

Enhancing Cold Storage Efficiency through Physics-Driven Design Optimization 2024

Shahid Ali Ammar Mushtaq

1st International Conference on Emerging Trends in Physics (ICP-2024), res.country(177,)

Citations: N/A

DOI: NIL

Optimization of Box Design and Stacking Pattern of Storage Boxes in Cold Stores using CFD Analysis 2023

Usama Muhammad Ali Ammar Mushtaq

3rd International Conference on Water Energy and Environment for Sustainability (IC-WEES) –2023, res.country(177,)

Citations: N/A

DOI: Nil

Simulations of Thin Gray Fluid Over A Moving Flat Plate 2021

Sadia Maryam Mazhar Shehzad Ammar Mushtaq

2021 Seventh International Conference on Aerospace Science & Engineering (ICASE), res.country(177,)

Citations: N/A DOI: Nil	
Simulations for Boundary Layer Flows and Heat Transfer of Cross Fluid Over A Moving Flat Plate <i>Mazhar Shehzad Sadia Maryam Ammar Mushtaq</i> 2021 Seventh International Conference on Aerospace Science & Engineering (ICASE) , res.country(177,) Citations: N/A DOI: Nil	2021
Numerical simulation of particulate removal efficiency in venturi scrubber <i>Ibadullah Safdar Abdullah Khan Majid Ali Ammar Mushtaq</i> 13th International Conference on Emerging Technologies (ICET), res.country(177,) Citations: N/A DOI: 10.1109/ICET.2017.8281727	2017
Effect of Number of Blades on Performance of Ceiling Fans <i>Ehsan Adeeb Adnan Maqsood Ammar Mushtaq</i> 4th International Conference on Advances in Mechanics Engineering (ICAME 2015), res.country(68,) Citations: N/A DOI: 10.1051/mateconf/20152802002	2015
Shape optimization of non-linear swept ceiling fan blades through RANS simulations and Response Surface Methods <i>Ehsan Adeeb Adnan Maqsood Ammar Mushtaq Zamir Hussain</i> 2015 12th International Bhurban Conference on Applied Sciences and Technology (IBCAST), res.country(177,) Citations: N/A DOI: 10.1109/IBCAST.2015.7058532	2015
Control Strategy of Cylinder via Synthetic Jet Actuator on Separation Point <i>Shafia Kausar Ammar Mushtaq Sadia Kousar</i> 17th IEEE International Multi Topic Conference 2014, res.country(177,) Citations: N/A DOI: 10.1109/INMIC.2014.7097368	2014
Study on the Design Improvement of an Indoor Ceiling Fan <i>Muhammad Aaqib Afaq Adnan Maqsood Khalid Parvez Ammar Mushtaq</i> Proceedings of 2014 11th International Bhurban Conference on Applied Sciences & Technology (IBCAST), res.country(177,) Citations: N/A DOI: 10.1109/IBCAST.2014.6778156	2014
Studying the Performance of Transonic Axial Flow Compressor by Implementing Circumferential Grooves, Tip Recess and Tip Injection <i>Junaid Ahmad Khan Ammar Mushtaq Khalid Parvez Sijal Ahmad</i> 50th AIAA Aerospace Science Meeting including the New Horizons Forum and Aerospace Exposition, res.country(233,) Citations: N/A DOI: 10.2514/6.2012-329	2012
Transition Prediction in LPT Using Gamma Theta Model and Passive Control of Separation <i>Muhammad Aqib Chishty Khalid Parvez Sijal Ahmad Hussain Raza Hamdani Ammar Mushtaq</i> ASME 2011 International Mechanical Engineering Congress and Exposition, res.country(233,) Citations: N/A DOI: 10.1115/IMECE2011-62148	2011
Effect of Circumferential Grooves and Tip Recess on Stall Characteristics of Transonic Axial Compressor Rotor <i>Junaid Ahmad Khan Khalid Parvez Sijal Ahmad Ammar Mushtaq</i> 49th AIAA Aerospace Sciences Meeting including the New Horizons Forum and Aerospace Exposition, res.country(233,) Citations: N/A DOI: 10.2514/6.2011-743	2011
Parametric Study of Tip Injection on the Stability of Transonic Axial Flow Compressor <i>Ammar Mushtaq Khalid Parvez Sijal Ahmad Junaid Khan</i> 49th AIAA Aerospace Sciences Meeting including the New Horizons Forum and Exposition, res.country(233,) Citations: N/A DOI: doi.org/10.2514/6.2011-744	2011

Editorial Activities

International Communications in Heat and Mass Transfer Reviewed Papers for Journals Impact Factor: 6.4	2025
Numerical Heat Transfer, Part B: Fundamentals Reviewed Papers for Journals Impact Factor: 17	2024
International Journal of Numerical Methods for Heat and Fluid Flow Reviewed Papers for Journals Impact Factor: 4.5	2024
Fluid dynamics & materials processing Reviewed Papers for Journals Impact Factor: NA	2023
CFD Letters Reviewed Papers for Journals Impact Factor: N/A	2023
Numerical Heat Transfer Part A-Applications Reviewed Papers for Journals Impact Factor: 2.569	2022
Advanced Powder Technology Reviewed Papers for Journals Impact Factor: 4.969	2022
 Reviewed Papers for Journals Impact Factor: 5.29	2020
 Reviewed Papers for Journals	2018
 Reviewed Papers for Journals	2018
 Reviewed Papers for Journals	2018