Ammar Mushtaq

Associate Professor

School of Interdisciplinary Engineering & Sciences

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LinkedIn:

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   2011 - 2015
  NUST, Islamabad , Pakistan

MS in CFD   2008 - 2010
  NUST, Islamabad , Pakistan

B.Sc (Hon) in Computational Physics   2004 - 2008
  University of the Punjab , Pakistan

Experience

Associate Professor   2024- Present
  School of Interdisciplinary Engineering & Sciences

Associate Professor   2022 - 2021
  School of Interdisciplinary Engineering & Sciences

Associate Professor   2022 - 2022
  School of Interdisciplinary Engineering & Sciences

Associate Professor   2021 - 2022
  Research Centre for Modelling & Simulation

Assistant Professor   2020 - 2012
  Research Centre for Modelling & Simulation

Assistant Professor   2015 - 2010
  Research Centre for Modelling & Simulation

Lecturer   2012 - 2012
  Research Centre for Modelling & Simulation

Lab Supervisor   2012 - 2022
  Research Centre for Modelling & Simulation

Lab Supervisor   2010 - 2020
  Research Centre for Modelling & Simulation

Awards

RPA   2008
  2017 Research Productivity Award (RPA) by Pakistan Council for Science and Technology (PCST)

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

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

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

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

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

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

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

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

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

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

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

2017

Meraj Mustafa Ammar Mushtaq Tasawar Hayat A. Alsaedi

Parametric Study and Optimization of Ceiling Fan Blades for Improved Aerodynamic Performance   2016
Ehsan Adeeb Ehsan Adeeb Adnan Maqsood Ammar Mushtaq C. H. Sohn

Boundary layer flow of Maxwell fluid in rotating frame with binary chemical reaction and activation energy   2016
Z Shafique Meraj Mustafa Ammar Mushtaq

Numerical study for rotating flow of nanofluids caused by an exponentially stretching sheet   2016
Ammar Mushtaq Meraj Mustafa Tasawar Hayat A. Alsaedi

Boundary layer flow over a moving plate in a flowing fluid considering non-linear radiations   2016
Ammar Mushtaq Meraj Mustafa Tasawar Hayat A. Alsaedi

On three-dimensional flow of nanofluids past a convectively heated deformable surface: A numerical study   2016
Junaid Ahmad Khan Meraj Mustafa Ammar Mushtaq

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

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

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

Model for natural convective flow of visco-elastic nanofluid past an isothermal vertical plate   2015
Meraj Mustafa Ammar Mushtaq

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

International Journal of Numerical Methods for Heat & Fluid Flow, Volume: 25, Issue: 5, Pages: 1107-1119

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,)

Simulations for Boundary Layer Flows and Heat Transfer of Cross Fluid Over A Moving Flat Plate

2021

Mazhar Shehzad Sadia Maryam Ammar Mushtaq

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

Numerical simulation of particulate removal efficiency in venturi scrubber

2017

Ibadullah Safdar Abdullah Khan Majid Ali Ammar Mushtaq

13th International Conference on Emerging Technologies (ICET), res.country(177,)

Effect of Number of Blades on Performance of Ceiling Fans

2015

Ehsan Adeeb Adnan Maqsood Ammar Mushtaq

4th International Conference on Advances in Mechanics Engineering (ICAME 2015), res.country(68,)

Shape optimization of non-linear swept ceiling fan blades through RANS simulations and Response Surface Methods

2015

Ehsan Adeeb Adnan Maqsood Ammar Mushtaq Zamir Hussain

2015 12th International Bhurban Conference on Applied Sciences and Technology (IBCAST), res.country(177,)

Control Strategy of Cylinder via Synthetic Jet Actuator on Separation Point

2014

Shafia Kausar Ammar Mushtaq Sadia Kousar

17th IEEE International Multi Topic Conference 2014, res.country(177,)

Study on the Design Improvement of an Indoor Ceiling Fan

2014

Muhammad Aaqib Afaq Adnan Maqsood Khalid Parvez Ammar Mushtaq

Proceedings of 2014 11th International Bhurban Conference on Applied Sciences & Technology (IBCAST), res.country(177,)

Studying the Performance of Transonic Axial Flow Compressor by Implementing Circumferential Grooves, Tip Recess and Tip Injection

2012

Junaid Ahmad Khan Ammar Mushtaq Khalid Parvez Sijal Ahmad

50th AIAA Aerospace Science Meeting including the New Horizons Forum and Aerospace Exposition, res.country(233,)

Transition Prediction in LPT Using Gamma Theta Model and Passive Control of Separation

2011

Muhammad Aqib Chishty Khalid Parvez Sijal Ahmad Hussain Raza Hamdani Ammar Mushtaq

ASME 2011 International Mechanical Engineering Congress and Exposition, res.country(233,)

Effect of Circumferential Grooves and Tip Recess on Stall Characteristics of Transonic Axial Compressor Rotor

2011

Junaid Ahmad Khan Khalid Parvez Sijal Ahmad Ammar Mushtaq

49th AIAA Aerospace Sciences Meeting including the New Horizons Forum and Aerospace Exposition, res.country(233,)

Parametric Study of Tip Injection on the Stability of Transonic Axial Flow Compressor

2011

Ammar Mushtaq Khalid Parvez Sijal Ahmad Junaid Khan

49th AIAA Aerospace Sciences Meeting including the New Horizons Forum and Exposition, res.country(233,)

Editorial Activities

International Communications in Heat and Mass Transfer   2025
   Reviewed Papers for Journals
   Impact Factor: 6.4

Numerical Heat Transfer, Part B: Fundamentals   2024
   Reviewed Papers for Journals
   Impact Factor: 17

International Journal of Numerical Methods for Heat and Fluid Flow   2024
   Reviewed Papers for Journals
   Impact Factor: 4.5

Fluid dynamics & materials processing   2023
   Reviewed Papers for Journals
   Impact Factor: NA

CFD Letters   2023
   Reviewed Papers for Journals
   Impact Factor: N/A

Numerical Heat Transfer Part A-Applications   2022
   Reviewed Papers for Journals
   Impact Factor: 2.569

Advanced Powder Technology   2022
   Reviewed Papers for Journals
   Impact Factor: 4.969

2020
   Reviewed Papers for Journals
   Impact Factor: 5.29

2018
   Reviewed Papers for Journals

2018
   Reviewed Papers for Journals

2018
   Reviewed Papers for Journals