جامعة العلوم والتقنية في الفجيرة
UNIVERSITY OF SCIENCE & TECHNOLOGY OF FUJAIRAH

CURRICULUM VITAE

PERSONAL INFORMATION	
Name:	Bilal Ahmed
Nationality:	Pakistani
Job Title:	Assistant Professor
College:	Humanities and Sciences
Department:	General Studies
Contact Information:	E-mail: b.ahmed@ustf.ac.ae, Office Phone No: 092023411, Mobile Number: 0529404067

EDUCATIONAL BACKGROUND

1. Doctorate
Major: Mathematics,
Title of the Thesis: A Numerical Study of Inertia and Streamline Curvature Effects on Peristaltic Flows,
University: International Islamic University Islamabad
Country: Pakistan,
Year: 2018

2. Master
Major: Mathematics,
Title of the Thesis: Mixed convection in stagnation point flow of an Oldroyd-B fluid,
University: Riphah International University Islamabad
Country: Pakistan,
Year: 2012

3. Bachelor
Major: Mathematics,
Minor: Physics,
University: University of the Punjab, Lahore
Country: Pakistan,
Year: 2005

PROFESSIONAL EXPERIENCE

From (year)	To (year)	Position	Employer	Country
2023	Present	Assistant Professor	University of Science and Technology of Fujairah	UAE
2022	2023	Visiting Assistant Professor	University of Science and Technology of Fujairah	UAE
2018	2022	Assistant Professor	The University of Lahore,	PAK
2017	2018	Research Associate	International Islamic University,	PAK
2012	2017	Lecturer	Army Public College	PAK
2007	2012	Lecturer	Pakistan Air Force College (FAZAIA)	PAK

TEACHING EXPERIENCE AREA / COURSES)

Dr. Bilal Ahmed joined as an assistant lecturer of mathematics at the Pakistan Air Force College (FAZAIA) of Pakistan in 2007. He joined the Army Public College, Rawalpindi, Pakistan (PAK) as a lecturer of mathematics for the period 2012 - 2017. During this period, Dr. Bilal performs his duties as head of the department of mathematics and Maths coordinator for the section.

During the period 2014-2018, Dr. Bilal joined the International Islamic University Islamabad (PAK) to teach courses related to mathematics and Allama Iqbal Open University, Islamabad (AIOU, PAK) to teach courses related to Physics, where he worked as a visiting faculty member. In 2017, Dr. Bilal was selected as a Senior Research Assistant in the National Research Program for the University (NRPU) by Higher Education of Pakistan (HEC, PAK) for the project entitled “Study of Mixed Convection Flows Inside a Lid Driven Cavity Using Finite Element Method “and producing some the outstanding research articles.

During the M. Phil degree, Dr. Bilal earned a merit scholarship twice and achieved distinction by scoring the highest CGPA. During Ph.D. Dr. Bilal got the HEC Indigenous Scholarship (PAK) from the program Ph.D. fellowship for 5000 scholars – Phase II under Category A; July 2012 – July 2016.

Throughout his academic journey, Dr. Bilal imparted his knowledge by teaching various undergraduate and graduate courses in pure and applied mathematics at institutions such as The University of Lahore (UOL, PK), National University of Science and Technology (NUST, PAK), International Islamic University (IIU, PAK), and University of Science and Technology of Fujairah (USTF, UAE). He also conducted courses related to physics at the International Islamic University (IIU, PAK), Allama Iqbal Open University (AIOU, PAK), and the University of Science and Technology (USTF, UAE). Based on his research and academic activities, he has been awarded two times the status of HEC Approved PhD Supervisor in May 2019 and April 2022 for the next three years in the discipline of Physical Sciences from the Higher Education Commission of Pakistan, (HEC. PAK).

RESEARCH AREA

Dr. Bilal's research endeavors primarily center around Fluid Mechanics, encompassing a wide array of topics such as Newtonian and non-Newtonian fluids, Stretching sheet flows, Boundary layer flows, Heat transfer analysis, Magnetohydrodynamic (MHD) phenomena, Peristaltic motion, Unsteady flows, and Blood flow in arteries. His contributions to this field are evident through the publication of numerous research papers in esteemed international journals. Notably, his research work is characterized by its versatility and has garnered significant recognition through citations from fellow researchers.

Presently, Dr. Bilal's research pursuits focus on advanced engineering, numerical techniques, and the simulation of flow problems within fluid dynamics. He adeptly employs various mathematical software, including MATLAB, MATHEMATICA, FORTRON and Python, to explore these intricate phenomena. Dr. Bilal's commitment to the scholarly community extends to his role as a reviewer for several international journals.

PUBLICATIONS

1. JOURNALS

2023 **Bilal Ahmed**. "Information of stagnation-point flow of Maxwell fluid past symmetrically exponential stretching/shrinking cylinder with prescribed heat flux." AIP Advances 13(4) (2023): 045314.

Liaqat Ali & Bilal Ahmed: Peristaltic Mechanism in an Inclined Asymmetric Channel Soaked with Porous Media and under Magnetic Effects: Numerical Simulation equipped with Finite Element Method Journal of Electromagnetic Waves and Applications, (2023) 37(15), 1235-1257

Bilal Ahmed, Fizza Anwar and Asma Ashraf: Inertial Considerations in Peristaltically activated MHD Blood Flow Model in an Asymmetric Channel using Galerkin Finite Element Simulation for Moderate Reynolds number to Alexandria Engineering Journal, (2023) 75, 495-512

Bilal Ahmed, S. Noman, A. Aslam and S. Kanwal: Numerical Investigation of Non-linear Radiation Effects in Boundary Layer Oblique Stagnation Point Flow of non-Newtonian Fluids over a Symmetrically Stretching Surface under the Effects of Magnetic Field (Accepted in Scientia Iranica).

Liaqat Ali, **Bilal Ahmed**, and Fizza Anwar: Novel Study of Inertial Forces on MHD Peristaltically Driven Micropolar Fluid through Porous-Saturated Asymmetric Channel: Finite Galerkin Approach (Accepted to AIP Advances).

2022 Z.T. Wei, **B. Ahmed**, K. Al-Khaled, S.U. Khan, M.I. Khan, S. Ahmad, M. Y. Malik, and W.F. Xia. "Peristaltic Blood Transport in Non-Newtonian Fluid Confined by Porous Soaked Tube: A Numerical Study Through Galerkin Finite Element Technique. (Published in Arabian Journal for Science and Engineering 47(1) (2022), 1019-1031).

B. Ahmed, S.U. Khan, S. Ahmad, S.A. Shehzad and W. Chammam: Galerkin finite element analysis for peristaltic flow of micropolar fluid through porous soaked inclined tube independent of wavelength. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 236(3), (2022) 1067-1075

B. Ahmed, F. Akbar, A. Ghaffari, S.U. Khan, M.I. Khan, & Y.D. Reddy: Soret and Dufour aspects of the third-grade fluid due to the stretching cylinder with the Keller box approach. Waves in Random and Complex Media, (2022) 1-13.

Khan, Muhammad Ijaz, Maha MA Lashin, Nidhal Ben Khedher, **Bilal Ahmed**, Sami Ullah Khan, Mowffaq Oreijah, Kamel Guedri, El Sayed Mohamed Tag-ElDin, and Ahmed M. Galal. "Peristaltic Phenomenon in an Asymmetric Channel Subject to Inclined Magnetic Force and Porous Space. Bioengineering 9, no. 10 (2022): 588

B. Ahmed, Khan, S. U., Khan, M. I., Gouadria, S., Hamid, A. H., Yousaf, M., & Malik, M. Y. Magnetic Characteristics of Biological Fluid in Nonlinear Thermally Radiated Blood Flow. Journal of Magnetics, 27(1), (2022). 106-115.

2021 H.G. JiLe, **B. Ahmed**, K. Al-Khaled, M.T. Mehdi, S.U. Khan, M.I. Khan, Y.M. Chu: Peristaltic Activity in an Asymmetric Inclined Channel with Inertial Forces under the Inducement of Magnetic Field: Finite Element Method. (Published in Alexandria Engineering Journal 60 (2021), 4723-4734).

W.M. Qian, **B. Ahmed**, S.U. Khan, M.I. Khan, A.H. Hamid: Novel Scientific Simulations (Finite Element Method) for Peristaltic Blood Flow in an Asymmetric Channel: Applications of Magnetic and Inertial Forces. (Published in Journal of Magnetics 26(1) (2021), 129-140).

T. Javed, A.H. Hamid, **B. Ahmed** and N. Ali: Effect of Heat Transfer on Peristaltic Flow in Presence of Heat Generation against Higher value of Reynolds number using FEM. (Published in Journal of Theoretical and Applied Mechanics 59(2) (2021) 279-292)

A.U. Khan Niazi, J. He, R. Shafqat, **B. Ahmed**: Existence, uniqueness, and Eq-Ulam type Stability of fuzzy fractional differential equation. (Published in Fractal and Fractional, 5(3) (2021), 66)

Q.H. Shi, **B. Ahmed**, S. Ahmad, S.U. Khan, K. Sultan, M.N. Bashir & J.D. Chung. Dual solution framework for mixed convection flow of Maxwell nanofluid instigated by exponentially shrinking surface with thermal radiation. (Published in Scientific Reports, 11(1) (2021) 1-12.)

2020 D. Nie, A.U.K. Niazi and **B. Ahmed**: On Local Generalized Ulam-Hyers Stability for Nonlinear Fractional Functional Differential Equation. (Published in Mathematical Problems in Engineering 2020, 3276873, 12 pages)

2019 **B. Ahmed** and T. Javed: A Study of Full Navier-Stokes Equations of Peristaltic Flow in a Porous-Saturated Tube under the Inducement of Magnetic Field: Finite Element Analysis. (Published in Chaos, Solitons & Fractals 125 (2019), 79-87).

2018 Tariq Javed, **B. Ahmed**, A.H. Hamid and M. Sajid: Numerical analysis of peristaltic transport of Casson fluid for non-zero Reynolds number in presence of magnetic field. (Published in Nonlinear Engineering – Modelling and Application, 7(3) (2018), 183–193).

B. Ahmed, T. Javed, and N. Ali: Numerical study at moderate Reynolds number of peristaltic flow of micropolar fluid through a porous-saturated channel in magnetic field. (Published in AIP Advances, 8, 015319 (2018)).

T. Javed, **B. Ahmed** and M. Sajid: Numerical study of mixed convective peristaltic flow through vertical tube with heat generation for moderate Reynolds and wave numbers. (Published in Communications in Theoretical Physics 69(4) (2018), 449-460).

B. Ahmed, T. Javed and M. Sajid: Study of peristaltic flow of blood flow model-Casson fluid in tube engaged in magnetic field for effects of moderate Reynolds number. (Published in Journal of Quality Measurement and Analysis, 14(1) (2018), 101-113).

2017 T. Javed, **B. Ahmed**, N. Ali and A.H. Hamid: Finite element analysis of the hydromagntic peristaltic flow in a porous-saturated channel at moderate Reynolds numbers. (Published in

Journal of Porous Media, 20(9) (2017), 841-857).

A.H. Hamid, T. Javed, **B. Ahmed**, N. Ali: Numerical study of two-dimensional non-Newtonian peristaltic flow for long wavelength and moderate Reynolds number. (Published in Journal of the Brazilian Society of Mechanical Sciences and Engineering, 39(11) (2017), 4421-4430).

B. Ahmed, T. Javed, A.H. Hamid and M. Sajid: Numerical analysis of mixed convective peristaltic flow in a vertical channel in presence of heat generation without using lubrication theory. (Published in Journal of Applied Fluid Mechanics 10(6) (2017), 1813-1827).

Tariq Javed, A.H. Hamid, **B. Ahmed** and N. Ali: Effect of high Reynolds number on hydromagnetic peristaltic flow in an inclined channel using finite element method. (Published in Journal of Korean Physical Society 71(12) (2017), 950-962).

2015 M. Sajid, **B. Ahmed** and Z. Abbas: Steady mixed convection stagnation point flow of MHD Oldroyd-B fluid over a stretching sheet: Journal of Egyptian Mathematical Society, 23(2) (2015), 440-444

2. CONFERENCES

2021 International HAZAR Scientific Research Conference - II (IHSRC-II), Khazar University, Baku, Azerbaijan. 10th – 12th April, 2021

2018 7th International Conference on "Recent Developments in Fluid Mechanics and Environmental Sciences", International Islamic University, Islamabad Pakistan. 13th – 15th February 2018.

2017 Third National Conference on Mathematical Sciences" (NCMS 2017), International Islamic University, Islamabad, Pakistan, 27th– 28th April 2017,

2016 "Second International Conference on Pure & Applied Mathematics" (ICPAM 2016), University of Sargodha, Sargodha, Pakistan. 26th – 27th November 2016,

2015 6th International Conference on "Recent Developments in Fluid Mechanics", National University of Science & Technology (NUST), Pakistan., 17th – 18th March 2015.

2013 5th International Conference on "Recent Developments in Fluid Mechanics", Quaid-e-Azam University, Islamabad Pakistan. 22nd – 24th June 2013

2013 "Second Conference on Mathematical Sciences" (SCMS 2013), International Islamic University, Islamabad, Pakistan, 01st – 02nd November 2013.

2012 "Two days Conference on Mathematical Sciences" (TCMS 2012), International Islamic University, Islamabad, Pakistan, 19th – 20th October 2012.

3. BOOKS AND BOOK CHAPTERS

2019 Study of Inertia & Streamline Curvature Effects on Peristaltic Flows – Finite Element Analysis
LAP LAMBERT Academic Publishing, Germany (2019-08-28)
ISBN-13: 978-620-0-28826-4 ISBN-10: 6200288267 EAN: 9786200288264.

4. NOTES AND ARTICLES

5. OTHER PUBLICATIONS

PROFESSIONAL AND ACADEMIC ACTIVITIES

1. Professional Training (conductance and attendance)

2. Workshops and seminars (conductance and attendance)

3. Master Theses Supervision

- Study of Entropy Generation in a Flow over a Curved Surface Aman Ullah (W-2022)

- Numerical Study at Moderate Reynolds Numbers of Peristaltic Flow of Micropolar Fluid Through a Porous-Saturated Channel in Presence of Magnetic Field Hifza Ahsan (W-2022)
- Computational Analysis of Heat and Mass Transfer of Non-Newtonian Nanofluid Flow over horizontal Stretching Surface Khansa Nasir (W-2022)
- Influence of Non-Linear Thermal Radiations on The Non-Orthogonal Stagnation Point Flow of Non-Newtonian Fluids Muhammad Umair (W-2022)
- Role of Marangoni Convection and Cross Diffusion in a Flow of Non-Newtonian Fluid with Exponential Space Dependent Heat Source Rida Iqbal (W-2022)
- Study of Non-Newtonian Fluids with Thermal Radiations Over A Shrinking Sheet. Hooria Riaz (W-2022)
- Impact of Chemical Reaction on Non-Newtonian Nanofluid subject to Connective Boundary Condition over a Radioactive Riga Plate. Hafiza Nabgha Kanwal (W-2022)
- Numerical Study of Peristaltic Flow of Non-Newtonian Fluid in Asymmetric Channel for Moderate Reynolds Number. Aamir Mehmood (W-2022)
- Numerical Investigation of Boundary Layer Flow of non-Newtonian Fluids over a Stretching Cylinder. Ambreen Ahmed (W-2021)
- Boundary Layer Flow of non-Newtonian Nano Fluids Instigated by Exponentially Shrinking Flat Sheet. Saima Jabbar (W-2021)
- Numerical Investigation of Heat Transfer Analysis of a Flow over a Riga Plate. Tehseen Kousar (W-2021)
- Study of Inertial and Magnetic Forces in Peristaltic Flow of the Micropolar Fluid in Symmetric and Asymmetric Channels Fizza Anwar (W-2021)
- Entropy Generation for Peristaltic Flow of non-Newtonian Fluids with Magnetohydrodynamics Effects. Hafsa Arshad (W-2021)
- Heat and Mass Transfer of Metachronal Propulsion of a Magnetized Particle-Fluid Suspension in a Ciliated Channel. Kalsoom Fatima (W-2021)
- Numerical Study of Unsteady MHD Convective Rotating Flow Past an Infinite Vertical Surface. Ayisha Shafiq (W-2021)
- Heat and Mass Transfer Analysis of Mixed Convective-Radiative Flow of Non-Newtonian Fluid Through a Vertical Sheet Asifa Rehman (W-2021)
- Numerical Study of Stagnation Point Flow Past Over a Cylinder Muhammad Shahzad Zafar Khan (W-2021)
- Numerical Study of Orthogonal Stagnation Point Flow of Oldroyd-B Nanofluid on a Flat Sheet. Sana Mukhtar, (W-2020)
- Study of Some Physical and Non-Physical Solutions of Flow of Nanofluids on a Flat Surface. Kiran Sultan, (W-2020)
- Heat and Mass Transfer Analysis of a flow on a Curved Surface with Soret and Dufour Effects. Faryal Akbar, (W-2020)
- Study of Peristaltic Flow in Asymmetric Inclined Channel Using Finite Element Method. Muhammad Tanseer ul Mehdi, (F-2020)
- Study of Oblique Stagnation Point Flow of non-Newtonian Fluid . Muhammad Naveed Rafique, (F-2020)
- Heat Transfer Analysis and Inducement of Magnetic field in a Flow of Maxwell Fluid over a Stretching Sheet Farhan Illahi, (W-2019)

4. Doctorate Theses Supervision

Nil

MEMBERSHIP OF SCIENTIFIC ASSOCIATIONS

Editor

- Journal of Advances in Mathematics and Computer Science

Reviewer

- Computational Particle Mechanics
- CFD Letters
- International Journal of Heat and Mass Transfer
- Journal of Advanced Research in Fluid Mechanics and Thermal Sciences
- Journal of the Brazilian Society of Mechanical Sciences and Engineering (BMSE)
- Numerical Methods for Partial Differential Equations
- Arabian Journal for Science and Engineering
- AIP Advances

AWARDS

- Merit Scholarship: During M. Phil; Riphah International University, Islamabad, Pakistan; Feb 2010.

- Merit Scholarship: During M. Phil; Riphah International University, Islamabad, Pakistan; Sep 2010.
- Distinction: Highest CGPA in M. Phil; Riphah International University, Islamabad, Pakistan; Mar 2012
- HEC PAK Scholarship: PhD fellowship for 5000 scholars – Phase II under Category A; HEC Pakistan, July 2012 – July 2016.
- HEC PAK Approved Supervisor May 2019 and April 2025 in the discipline of Physical Sciences.