

FARWA HAIDER

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Pakistan

Computer Skills

MS Office

Mathematica

Scientific Workplace

MATLAB

C and C++

Language Skills

English

Urdu

Summary

Highly motivated and accomplished Visiting Faculty Member with a strong background in Fluid Mechanics. Skilled in computing analytic and numerical solutions of highly non-linear mathematical problems, with a proven track record of publishing in top-tier journals.

Experience

Sep 2022-To date

Visiting Assistant Professor
Quaid-I-Azam University, Islamabad
Courses Taught

- Business Mathematics-I
- Basic Mathematics-I
- Calculus and Analytical Geometry-I & II
- Quantitative Reasoning-I & II
- Multivariable Calculus
- Differential Equations and Linear Algebra
- Linear Algebra

Education

March 2018-April 2022

Ph. D in Mathematics
Quaid-I-Azam University, Islamabad

September 2015-July 2017

M. Phil in Mathematics
Quaid-I-Azam University, Islamabad

September 2011-August 2015

BS in Mathematics
International Islamic University, Islamabad

Awards and Honors

- Gold Medal in M. Phil Mathematics
- Gold Medal awarded for excellence in research by Fluid Mechanics Group (FMG), Quaid-I-Azam University Islamabad
- Gold Medal in BS Mathematics

Research Interests

Boundary layer flows

Nanofluids

Computational Fluid Dynamics

Mathematical Physics

Flow through Porous Space

Newtonian and Non-Newtonian fluid mechanics

Heat and Mass Transfer

Series and Numerical Solutions of Nonlinear Problems

Research publications

1. Muhammad, T., and **Haider, F.** (2025). Time-dependent flow of Reiner–Rivlin nanofluid over a stretching sheet with Arrhenius activation energy and binary chemical reaction. *Multidiscip. Model. Mater. Struct.*, 21(1), 1-18. (Impact factor: 1.70)
2. **Haider, F.**, Alghamdi, M., and Muhammad, T. (2025). Heat transfer analysis of ternary hybrid nanofluid through variable characteristic porous medium: Non-similar approach. *Mod. Phys. Lett. B.*, 38(35), 2450299. (Impact factor: 1.8)
3. **Haider, F.**, Hayat, T., and Fardoun, H.M. (2021). Irreversibility analysis of carbon nanotubes subject to rotating frame. *Phys. Scr.*, 96(9), 095209. (Impact factor: 2.487)
4. **Haider, F.**, Hayat, T., and Alsaedi, A. (2021). Flow of hybrid nanofluid through Darcy-Forchheimer porous space with variable characteristics. *Alex. Eng. J.*, 60(3), 3047-3056. (Impact factor: 3.732)
5. Sadiq, M.A., **Haider, F.**, and Hayat, T. (2021). Entropy generation analysis of hybrid nanomaterial through porous space with variable characteristics. *Entropy*, 23(1), 89. (Impact factor: 2.524)
6. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2021). Rotating flow of carbon nanotubes subject to prescribed heat flux condition. *Phys. Scr.*, 96(2), 025217. (Impact factor: 2.487)
7. Hayat, T., **Haider, F.**, Alsaedi, A., and Ahmad, B. (2021). Entropy generation analysis of Carreau fluid with entire new concepts of modified Darcy's law and variable characteristics. *Int. Commun. Heat Mass Transf.*, 120 (2021), 105073. (Impact factor: 3.971)
8. Hayat, T., **Haider, F.**, and Alsaedi, A. (2020). Darcy-Forchheimer flow with nonlinear mixed convection. *Appl. Math. Mech.*, 41(11), 1685-1696 (Impact factor: 2.017)
9. Hayat, T., **Haider, F.**, Alsaedi, A., and Ahmad, B. (2020). Unsteady flow of nanofluid subject to variable characteristics. *Int. Commun. Heat Mass Transf.*, 119, 104904 (Impact factor: 3.971)

10. Sadiq, M.A., **Haider, F.**, Hayat, T., and Alsaedi, A. (2020). Partial slip in Darcy-Forchheimer carbon nanotubes flow by rotating disk. *Int. Commun. Heat Mass Transf.*, 116, 104641. (Impact factor: 3.971)
11. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2020). Darcy-Forchheimer flow by rotating disk with partial slip. *Appl. Math. Mech.*, 41(5), 741-752. (Impact factor: 2.017)
12. Hayat, T., **Haider, F.**, Alsaedi, A., and Muhammad, T. (2020). Darcy-Forchheimer flow of carbon nanotubes subject to heat flux boundary condition. *Physica A*, 554, 124002. (Impact factor: 2.924)
13. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2020). Darcy-Forchheimer three-dimensional flow of carbon nanotubes with nonlinear thermal radiation. *J. Therm. Anal. Calorim.*, 140, 741-752. (Impact factor: 2.731)
14. Hayat, T., **Haider, F.**, Muhammad, T., and Ahmad, B. (2019). Darcy-Forchheimer flow of carbon nanotubes due to a convectively heated rotating disk with homogeneous-heterogeneous reactions. *J. Therm. Anal. Calorim.*, 137, 1939-1949. (Impact factor: 2.731)
15. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2019). Numerical treatment for Darcy-Forchheimer flow of carbon nanotubes due to an exponentially stretching curved surface. *J. Cent. South Univ.*, 26, 865-872. (Impact factor: 1.249)
16. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2018). Darcy-Forchheimer squeezed flow of carbon nanotubes with thermal radiation. *J. Phys. Chem. Solids.*, 120, 79-86. (Impact factor: 3.442)
17. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2017). Numerical study for Darcy-Forchheimer flow of nanofluid due to an exponentially stretching curved surface. *Results Phys.*, 8, 764-771. (Impact factor: 4.019)
18. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2017). An optimal study for Darcy-Forchheimer flow with generalized Fourier's and Fick's laws. *Results Phys.*, 7, 2878-2885. (Impact factor: 4.019)
19. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2017). Darcy-Forchheimer flow due to a curved stretching surface with Cattaneo-Christov double diffusion: A numerical study. *Results Phys.*, 7, 2663-2670. (Impact factor: 4.019)
20. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2017). Three-dimensional rotating flow of carbon nanotubes with Darcy-Forchheimer porous medium. *PloS one*, 12 (7), e0179576 (Impact factor: 2.740).
21. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2017). On Darcy-Forchheimer flow of carbon nanotubes due to a rotating disk. *Int. J. Heat Mass Transf.*, 112, 248-254. (Impact factor: 4.947)

22. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2017). Darcy-Forchheimer flow with Cattaneo-Christov heat flux and homogeneous-heterogeneous reactions. *PloS one*, 12(4), e0174938. (Impact factor: 2.740)
23. Hayat, T., **Haider, F.**, Muhammad, T., and Alsaedi, A. (2017). On Darcy-Forchheimer flow of viscoelastic nanofluids: A comparative study. *J. Mol. Liq.*, 233, 278-287. (Impact factor: 5.065)

Referees

Reference letters will be provided on demand.