

Dr. Ammara Amin

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Marital Status: Married

ABOUT ME

I am serving as an Assistant Professor at COMSATS University Islamabad and completed my PhD from the same institution. My expertise includes Computational Techniques, Heat Transfer, and Fluid Dynamics, with 7 publications in reputable SCI-indexed journals.

EDUCATION

- **PHD - MATHEMATICS (2020-2025)**
COMSATS University Islamabad
Website <https://www.comsats.edu.pk>
Field of study Mathematics **Final grade** 3.77 CGPA
Thesis: Single and Multilayer Channel Flow of Hybrid Nanofluids
- **M.Phil - MATHEMATICS (2012-2014)**
Quaid-e-Azam University Islamabad
Website <https://www.qau.edu.pk>
Field of study Mathematics **Final grade** 77%
- **MSC - MATHEMATICS (2010-2012)**
Quaid-e-Azam University Islamabad
Website <https://www.qau.edu.pk>
Field of study Mathematics **Final grade** 73%

WORK EXPERIENCE

COMSATS UNIVERSITY ISLAMABAD Campus– Islamabad, PAKISTAN

ASSISTANT PROFESSOR (Visiting):- 01/09/2025-Present

MATHEMATICS LECTURER: 01/09/2018– 30/06/2019

- Duties and Responsibilities:
- Teaching undergraduate and master-level students.
- Supervising Master student in their undergraduate research project.
- Member of research committee.
- Curriculum development (Design the curriculum for master and undergraduate students).
- Extracurricular activities (Member of sports committee and drama club at department level, and member of board of student affairs).

RESEARCH INTERESTS

1. Computational Fluid Dynamics
2. Phase Change Materials
3. Heat and Mass Transfer of hybrid nano-fluids
4. Mathematical modeling of Engineering Problems
5. Artificial Neural Network

SKILLS

Numerical Solution of Partial differential equation MATLAB, Finite element method (COMSOL MULTIPHYSICS) homotopy analysis method, Lattice Boltzmann method, Artificial Neural Network,

PUBLICATIONS

1. Munir, S., Ahmed, M., & Amin, A. (2023). Entropy minimization study of Maxwell nanofluid flow using oxides nanoparticles under transpiration and magnetic dissipation effects. *Numerical Heat Transfer, Part A: Applications*, 1-14
2. Amin, A., Munir, S., & Farooq, U. (2023). Investigating flow features and heat/mass transfer in two-layer vertical channel with Gr-TiO₂ hybrid nanofluid under MHD and radiation effects. *Journal of Magnetism and Magnetic Materials*, 578, 170800.
3. Turabi, Y. U. U. B., Munir, S., & Amin, A. (2023). Numerical analysis of convective transport mechanisms in two-layer ternary (TiO₂-SiO₂-Al₂O₃) Casson hybrid nanofluid flow in a vertical channel with heat generation effects. *Numerical Heat Transfer, Part A: Applications*, 1-15.
4. Munir, S., & Amin, A. (2024). HAM-based analysis of nonlinear convection of two-layer water and air-TiO₂ flow model in a vertical channel. *Numerical Heat Transfer, Part A: Applications*, 85(9), 1517-1534.
5. Amin, A., Munir, S., & Farooq, U. (2024). Flow dynamics and convective transport analysis of two-layered dissipative Casson hybrid nanofluid flow in a vertical channel. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 238(2), 395-404.
6. Amin, A., Munir, S., & Farooq, U. (2024). Comparative study of MHD boundary layer flow of hybrid nanofluid in a channel. *ZAMM-Journal of Applied Mathematics and Mechanics/Zeitschrift für Angewandte Mathematik und Mechanik*, 104(3), e202300050.
7. Munir, S., Amin, A., Nawaz, R., & Malik, K. I. (2025). Analyzing flow characteristics and convective transport phenomenon of nanofluid flow inside a square cavity. *Engineering Applications of Computational Fluid Mechanics*, 19(1), 2581730.

REFERENCES

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College of Engineering, Prince Mohammad
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