

Dr. Nabeela Anwar

Associate Lecturer, Department of Mathematics

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Professional Profile

Dr. Nabeela Anwar is a researcher in applied mathematics, artificial intelligence, scientific machine learning, and computational modeling. Her research focuses on data-driven solutions of stochastic, delay, fractional, and differential equation systems with applications in epidemiology, information security, plant disease dynamics, fluid mechanics, and biomedical systems. She has authored more than 35 peer-reviewed research publications in international journals.

Education

2019–2023: PhD Mathematics, University of Gujrat

2011–2014: MPhil Mathematics, University of Gujrat

2008–2010: MSc Mathematics, University of Gujrat

2010–2011: BS.Ed (Science), University of Education Lahore

2005–2007: BSc (Mathematics & Computer), University of Gujrat

Academic Appointments

Visiting Associate Lecturer, University of Gujrat (2013–2015)

Visiting Lecturer, University of Gujrat (2015–2016)

Associate Lecturer, University of Narowal (2016–Present)

Assistant Director, University Development Office, University of Narowal (2022–2025)

Research Interests

Artificial Intelligence, Machine Learning, Deep Learning, Scientific Computing, Differential Equations, Delay Differential Equations, Fractional Calculus, Stochastic Systems, Computational Mathematics, Epidemiological Modeling, Information Security Models, Plant Disease Modeling, Neural Networks and Data-Driven Dynamical Systems.

Awards and Distinctions

Chief Minister Punjab Laptop Scheme Awardee

Merit Scholarship (BS.Ed)

Distinction Certificates in Mathematica & MATLAB workshops

Distinction Certificates in Computational Methods workshops

National Outreach Program for Higher Education Faculty

Selected Publications

Stochastic numerical treatment for solving Falkner–Skan equations using feedforward neural networks (Neural Computing and Applications, 2017).

Intelligent computing to solve fifth-order boundary value problem arising in induction motor models (Neural Computing and Applications, 2018).

Artificial intelligence knacks-based stochastic paradigm to study plant virus propagation model with seasonality and delays (EPJ Plus, 2022).

Reliable numerical treatment for plant virus propagation model by vector with impact of time lag and density (Frontiers in Applied Mathematics and Statistics, 2022).

Intelligent predictive stochastic computing for nonlinear differential delay computer virus model (Waves in Random and Complex Media, 2022).

Euler–Maruyama and Kloeden–Platen–Schurz computing paradigm for stochastic vector-borne plant epidemic model (2023).

Intelligent solution predictive control strategy for nonlinear hepatitis B epidemic model with delay (2023).

Intelligent computing networks for nonlinear influenza-A epidemic model (International Journal of Biomathematics, 2023).

Neuro-computational intelligence for multiple delays SEIR model of worms propagation in wireless sensor networks (Biomedical Signal Processing and Control, 2023).

Design of intelligent Bayesian supervised predictive networks for avian influenza model (EPJ Plus, 2023).

Novel intelligent predictive networks for chaos in stochastic SIS epidemic model (Mathematics and Computers in Simulation, 2024).

Intelligent solution predictive networks for non-linear tumor–immune delayed model (CMBBE, 2024).

Novel intelligent Bayesian computing networks for tumor oncolytic virotherapy systems (International Journal of Biomathematics, 2024).

Stochastic supervised neuro-architecture for vector-borne plant virus epidemics (EPJ Plus, 2024).

Autoregressive exogenous neural structures for olive disease control model with fractional Grünwald–Letnikov solver (Computers in Biology and Medicine, 2025).

Intelligent exogenous networks for Parkinson's disease system (Engineering Applications of Artificial Intelligence, 2025).

Adaptive autoregressive exogenous neural structure for computer virus propagation systems (Engineering Applications of Artificial Intelligence, 2025).

Machine learning solutions for computer virus models (Simulation Modelling Practice and Theory, 2025).

Machine intelligent expedition for stochastic cholera epidemic model (Nonlinear Dynamics, 2026).

Intelligent computational neuro predictive structure for computer virus transmission dynamic model (Simulation Modelling Practice and Theory, 2026).

Research Supervision

Completed supervision of 15 MPhil students and currently supervising several MPhil research scholars in computational mathematics, artificial intelligence, and machine learning applications.

Thesis Titles

PhD Thesis: Intelligent Numerical Computing for Differential Difference Equations

MPhil Thesis: Numerical Solution of High Order Linear Singular Differential-Difference Equations