Dr. AMJAD ALI

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Education

- PhD-Applied Mathematics University of Malakand (2017).

- MS-Mathematics(Graph Theory) FAST NU Peshawar (2013).

- M.Sc-Mathematics City University of Science and Technology Peshawar (2009).

- B.Sc-(Mathematics) Second Division University of Peshawar (2005).

- F.Sc-(Pre-Engineering) Second Division -BISE (2000).

- S.Sc-(Science) First Division BISE (1997).

AWARD:

Secured First Position(Gold medal) in M. Sc Mathematics from City University Peshawar.

Experience Teaching

- Lecturer in Mathematics at Department of Mathematics and Statistics University of Swat, Khyber Pukhtunekhwa, (07-05-2021 to date).

- Assistant Professor of Mathematics at Higher Education Department, Khyber Pukhtunekhwa, (20-05-2020 to 06-05-2021).

- Lecturer in Mathematics at Higher Education Department, Khyber Pukhtunekhwa, (23-11-2017 to 19-05-2020).

- Subject Specialist(S.S) at Workers Welfare Board Directorate of Education Peshawar, Khyber Pukhtunekhwa, (28-01-2013 to 22-11-2017).

Member of Departments thesis and Curriculum Committee

- Member of the Graduate Studies Committee, Department of Mathematics and Statistics University of Swat.

- Member of Board of Studies, Department of Mathematics University of Swat.

Subjects Taught to BS, Master and M.Phil Level

- Ordinary Differential Equations(ODEs).

- Partial Differential Equations(PDEs).

- Advance Partial Differential Equations.

- Numerical Solutions of PDEs.

- Real Analysis.

- Integral Equations.

- Mathematical Methods.

- Mathematical Method for Fractional Derivatives.

- Complex Analysis.

- Number Theory.

- ODEs and Computational Algebra.

Research Interests

- Fractional Differential Equations.

- Fractional Partial Differential Equations.

- Numerical Analysis and Simulations.

- Stability Analysis.

- Mathematical Modeling

- Applications of Fixed Point Theory.

- Fuzzy Fractional Integral and Differential Equations.

Supervision

1. Khezir Hayat, M.Phil: University of Swat, (In progress).

2. Jawad Bach, MPhil: University of Swat, (in progress).

3. Nabeela, BS: Govt P.G Jahanzeb College Swat, (Degree Awarded).

4. Seema Israr, BS: Govt P.G Jahanzeb College Swat, (Degree Awarded).

5. Muhammad Yasin, BS: Govt P.G Jahanzeb College Swat, (Degree Awarded).

6. Murad Khan, BS: Govt P.G Jahanzeb College Swat, (Degree Awarded).

7. Hazrat Ali, BS: Govt P.G Jahanzeb College Swat, (Degree Awarded).

Co-Supervision

1. Ziaullah Khan, M.Phil: University of Swat, (In progress).

2. Dildar, MPhil: University of Swat, (in progress).

3. Iqbal Hussain, M.Phil: University of Swat, (in progress).

Linkades Research Collaborations

1. Prof. Thabet Abdeljawad, Department of Mathematics and General Sciences,
   Prince Sultan University, Riyadh, Saudi Arabia Email: tabdeljawad@psu.edu.sa

2. Abdel-Haleem Abdul-Aty, Department of Physics, College of Science,
   University of Bisha, P.O. Box 344, Bisha 61922, Saudi Arabia,
   Department of Physics, Faculty of Science, Al- Azhar University, Assut 71524, Egypt.

1 National References

- Prof. Rahmat Ali Khan, Ex.Dean and Professor, Department of Mathematics University of Malakand Currently is a Vice Chancellor Shaheed Benazir Butto University of Sheringal, Dir(U), Pakistan, Email: $rahmat_ali@yahoo.com$.

- Dr. Kamal Shah, Associate Professor, Department of Mathematics University of Malakand, Email: kamalshah408@gmail.com.

- Dr. Faiz Muhammad Khan, Associate Professor, Department of Mathematics and Statistics University of Swat, Email:drfaiz@uos.edu.pk.

Dr. Amjad Ali: Publications List

Publication in the year 2015

- Kamal Shah, **Amjad Ali**, Rahmat Ali Khan, Numerical solutions of Fractional Order System of Bagley-Torvik Equation Using Operational Matrices, Sindh University Research Journal (Science series.) 47 (4)(2015) 757-762 , ISI Indexed+HEC X Category.

Publication in the year 2016

- **Amjad Ali** and Rahmat Ali Khan, Existence of Solutions of Fractional Differential Equations via Topological Degree Theory, Computational and Theortical Nano-Science, (2016), 13, 1-5, I.F=1.4.

- **Amjad Ali,** Kamal Shah and Rahmat Ali Khan, Existence of positive solution to a class of boundary value problems of fractional differential equations, Computational Methods for Differential Equations, (2016) 4(1), 1929.

- Kamal Shah, **Amjad Ali** and Rahmat Ali Khan, Degree theory and existence of positive solutions to coupled systems of multi-point boundary value problems, Boundary Value Problems (2016) 2016:43, I.F=0.81.

- Kamal Shah, **Amjad Ali** and Rahmat Ali Khan, Existence of Positive Solutions to a Coupled System of Nonlinear Fractional order Differential Equations with m-point boundary conditions, (2016), 8(3) 1–11, ISI Indexed

Publication in the year 2017

- **Amjad Ali**, Kamal Shah, Rahmat Ali Khan, Existence of solution to a coupled system of hybrid fractional differential equations, Bulletin of Mathematical Analysis and Applications, 9 (1) (2017) 9-18 ISI Indexed.

- **Amjad Ali,** Bessem Samet, Kamal Shah and Rahmat Ali Khan, Existence and stability of solution to a toppled systems of differential equations of noninteger order, Boundary Value Problems (2017) 2017:16 I.F=0.801.

- **Amjad Ali**, Kamal Shah, Rahmat Ali Khan, Existence of solution to a coupled system of hybrid fractional differential equations, Bulletin of Mathematical Analysis and Applications, 9 (1) (2017) 9-18 ISI-Indexed.

- Poom Kumam, **Amjad Ali**, Kamal Shah, Rahmat Ali Khan,Existence results and Hyers-Ulam stability to a class of nonlinear arbitrary order differential equations, Journal of Nonlinear Science and Applications 10(2017) 2986-2997, I.F=1.34.

Publication in the year 2018

- 9. Jing Rhong Wang, Kamal Shah and **Amjad Ali**, Existence and Hyers-Ulam Stability of Fractional Nonlinear Impulsive Switched Coupled Evolution Equations, Math. Meth. Applied Sciences, 41(6) (2018), 23922402. IF=1.01.

- Zakir Ullah, **Amjad Ali**, Rahmat Ali and Muhammad Iqbal, Existence results to a class of hybrid fractional differential equations, Matriks Sains Matematik (MSMK) 1(1) (2018) 13-17.

Publication in the year 2019

- **Amjad Ali**, Kamal Shah, YongJin Li, Rahma Ali Khan, Numerical treatment of coupled system of fractional order partial differential equations, Journal of Mathematics and Computer Science, 19 (2019), 7485.

- **Amjad Ali**, Verat Suat Erturt, Anwar Zeb, Rahmat Ali, Numerical solution of fractional order immunology and AIDS model via Laplace transform adomian decomposition method, Journal of Fractional Calculus and Applications, 2019, 10(1), 242-252. ISSN: 2090-5858.

Publication in the year 2020

- **Amjad Ali**, Kamal Shah, Hussam Alrabaiah, Zahir Shah, Ghaus Ur Rahman, Saeed Islam, Computational Modeling and Theoretical Analysis of Nonlinear Fractional Order Prey- Predator System, Fractals, (2020), 10.1142/S0218348X21500031. IF=4.59.

- Hussam Alrabiah, **Amjad Ali**, Fazal Haq and Kamal Shah, Existence of fractional order semi-analytical results for enzyme kinetics model, Advances in Difference Equations (2020) IF=2.70.

- Kamal Shah , Zareen A. Khan, **Amjad Ali**, Rohul Amin , Hasib Khan , Aziz Khan, Haar wavelet collocation approach for the solution of fractional order COVID-19 model using Caputo derivative, Alexandria Engineering Journal. (2020), IF=2.50.

- Zia Ullah Khan, **Amjad Ali**, Faiz Muhammad Khan and Kamal Shah, Existence theory and numerical simulation of Ebola model corresponding to nonlocal fractional order derivative, Arab Journal of Basic and Applied Sciences, 27(1) (2020) 374-387.

- **Amjad Ali**, M.Y. khan, Gohar Ali, Qualitative theory and numerical simulation of SIRC model corresponding to nonlocal fractional order derivatives, Communication in Nonlinear Analysis, 8(2),2020, 1-20.

Publication in the year 2021

- V.S.Erturk, **Amjad Ali**, Kamal Shah, P.Kumar, Existence of a unique solutions for a three point boundary value problem, Pre-Printed Submitted 2021.

- **Amjad Ali**, Nabeela Khan and Seema Israr, On establishing qualitative theory to nonlinear boundary value problem of fractional differential equations, Mathematical Sciences $https://doi.org/10.1007/s40096-021-00384-7$.

- **Amjad Ali**, et.al, Theoretical and numerical analysis of novel COVID-19 via fractional order mathematical model, Results in Physics, 20(2021), 10pages, I.F=4.01.

- M. Sinan, **Amjad Ali**, et.al, Stability analysis and optimal control of Covid-19 pandemic SEIQR fractional mathematical model with harmonic mean type incidence rate and treatment, Results in Physics, 22(2021), I.F=4.01.

- **Amjad Ali**, Abdullah, Anees Ahmad, The Solution of Poisson partial differential equations via Double Laplace transform method, Partial Differential Equations in Applied Mathematics, 2021, 4(2021), 4pages.

Books Chapters

- **Amjad Ali**, Kamal Shah, Yongjin Li, Topological degree theory and Ulams stability analysis of a boundary value problem of fractional differential equations, FEAI Springer Volume 2020, , $https://doi.org/10.1007/978-3-030-28950-84$.