

DR. HIRA TARIQ

Academic Qualification

Sr no.	Education	CGPA	Year	Institute
1	Ph.D. (Mathematics)	Completed 3.82 (course work)	2017	Department of Mathematics, Punjab University, Lahore
2	M.Phil (Mathematics)	3.40	2012	Department of Mathematics, GC University, Lahore
3	BS (Mathematics)	3.81	2010	Department of Mathematics, LCWU, Lahore

Title of Ph.D. Thesis: Efficacious Algorithms for the Solutions of Fractional Differential Equations.

Title of M.Phil. Thesis: Some Studies on Regularization of Greens Function on 3D structure and Its Applications.

Fields of Interests

- Calculus
- Ordinary Differential Equations
- Fractional Calculus
- Partial Differential Equations
- Topology and Functional analysis
- Linear Algebra
- Numerical Analysis

Research Interests

- Fractional Calculus
- Solutions of Differential Equations
- Theory of Spline Functions

Personal Skills

- Installation and operation of all general softwares and drivers
- MS office, Latex
- MATLAB, Mathematica, Maple

Practical Exposure

- 2013, **Lecturer**, Queen Mary College, Lahore.
- April 2017-December 2017, **Visiting Lecturer**, University of Education, Lahore.
- 04 Jan 2018- 27 March 2018, **Assistant Professor**, University of Education, Attock Campus.
- 28 March 2018- present, **Assistant Professor**, GC Women University, Sialkot.

Achievements/Awards

- DPCC Merit Scholarship in Ph.D., Department of Mathematics, University of the Punjab, Pakistan.
- Roll of Honour in BS (Hons) Mathematics.
- Obtained highest CGPA in M.Phil. examinations held at Department of Mathematics, GC University, Lahore.

Research Publications

1. G. Akram, **H. Tariq**, An Exponential Spline Technique for Solving Fractional Boundary Value Problem, *Calcolo*, **53(4)**,(2016), 545–558. (Springer) (IF=1.407)
2. G. Akram, **H. Tariq**, Cubic polynomial Spline Scheme for Fractional Boundary Value Problems with Left and Right Fractional Operators, *International Journal of Applied and Computational Mathematics*, **3(2)** (2017), 937–946. (Springer)
3. G. Akram, **H. Tariq**, Quintic Spline Collocation Method for Fractional Boundary Value Problems, *Journal of the Association of Arab Universities for Basic and Applied Sciences*, **23** (2017), 57–65 (Elsevier).
4. **H. Tariq**, G. Akram, Quintic Spline Technique for Time Fractional Fourth-Order Partial Differential Equation, *Numerical Methods for Partial Differential Equations*, **33(2)** (2017), 445–466. (Wiley Online Library) (IF=1.079)
5. **H. Tariq**, G. Akram, Residual Power Series Method for Solving Time-Space-Fractional Benney-Lin Equation Arising in Falling Film Problems, *Journal of Applied Mathematics and Computing*, DOI: 10.1007/s12190-016-1056-1, 2016. (Springer)
6. **H. Tariq**, G. Akram, New Traveling Wave Exact and Approximate Solutions For the Non-linear Cahn-Allen Equation: Evolution of a Nonconserved Quantity, *Nonlinear Dynamics*, **88(1)** (2017), 581–594. (Springer) (IF=3.464)
7. **H. Tariq**, G. Akram, New Approach for Exact Solutions of Time Fractional Cahn-Allen Equation and Time Fractional Phi-4 Equation, *Physica A: Statistical Mechanics and its Applications*, DOI: 10.1016/j.physa.2016.12.081.(Elsevier) (IF=2.243)

8. H. Rezazadeh, **Hira Tariq**, M. Eslami, M. Mirzazadeh, Q. Zhou, New exact solutions of nonlinear conformable time-fractional Phi-4 equation, Chinese Journal of Physics, Taipei, **56(6)** (2018), 2805–2816. (Elsevier)
9. **H. Tariq**, G. Akram, Spline Solutions of Linear Fractional BVPs using Two Approaches, TWMS Journal of Applied and Engineering Mathematics, **8(2)** (2018), 399–410.
10. J. Sabiu, H. Rezazadeh, **Hira Tariq**, A. Bekir, Optical solitons for the two forms of Biswas-Arshed equation, Modern Physics Letters B, **33(25)** (2019), 1950308. (World Scientific)
11. **H. Tariq**, G. Akram, Quadratic Spline Solution for Local Fractional Nonlinear Initial Value Problem. (Submitted)
12. **H. Tariq**, G. Akram, Hyperbolic Spline Technique for Fractional Initial and Boundary Value Problems. (Submitted)
13. **H. Tariq**, G. Akram, Sextic Spline Method for Time-Fractional Partial Differential Equation. (Submitted)
14. **H. Tariq**, G. Akram, Cubic and Quartic Spline Solutions for Nonlinear Second Order Differential Equations. (Submitted)
15. **H. Tariq**, G. Akram, Quintic and Sextic Spline Techniques-Quasilinearization for Nonlinear Boundary Value Problems. (Submitted)

Conferences and Seminars

As a Participant

April 13th, 2019 International Conference on **International Conference on Quality of Life, Education and Health** organized by “Quality and Productivity Society of Pakistan, Foundation for healthcare Improvement, Lahore school of Management, Pakistan Institute of Quality Control, Skills Development Center-PU, University of Central Punjab and Ejaz Foundation”, at Auditorium, University of Central Punjab, Lahore.

March 29th-31st, 2019 5th UMT International Conference on **Pure and Applied Mathematics (5th UICPAM-2019)** organized by Centre for Mathematics and its Applications (CMAP) UMT, at UMT, Lahore.

February 20th-22nd, 2019 International conference on **Recent Advances in Applied Mathematics (ICRAAM 2019)** organized by Department of Mathematics, COMSATS University Islamabad, Lahore Campus at COMSATS University Islamabad, Lahore Campus.

March 2nd, 2018 3rd one day symposium on **Algebra, Analysis and its Applications** organized by Department of Mathematics, University of Management and Technology, Sialkot Campus at University of Management and Technology, Sialkot Campus.

2013–2017, Weekly Departmental Seminar Series at Department of Mathematics, University of the Punjab, Lahore.

Feb., 2015, International Conference on Relativistic Astrophysics at Department of Mathematics, University of the Punjab, Lahore.

March, 2015, 1st UMT National Conference on Pure and Applied Mathematics at Department of Mathematics, UMT, Lahore.

November, 2016, One Day Conference on Gravitation and Cosmology at Department of Mathematics, Punjab University, Lahore.

As a speaker

1. **Effective CV Writing Skills** at G.C. Women University Sialkot; 18th–21st March 2019.
2. **Solving Fractional BVPS with Spline Technique** at Department of Mathematics, University of the Punjab, Lahore; December 17, 2014.
3. **Solutions of Fractional Boundary Value Problem** at Department of Mathematics, University of the Punjab, Lahore; November 18, 2015.
4. **An Exponential Spline Collocation Method for Boundary Value Problem of Fractional Order** at International Conference on Recent Advances in Applied Mathematics, COMSATS Institute of Information technology; December 17, 2015.
5. **A Spline Collocation Method for Fractional Boundary Value Problem** at 1st UMT International Conference on Pure and Applied Sciences (1st UICPAS-2016), Dept. of Mathematics, UMT, Lahore; March 7, 2016.
6. **Quintic Spline Technique for Fractional Differential Equation** at Department of Mathematics, University of the Punjab, Lahore; August 24, 2016.