Awais Younus

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RESEARCH INTERESTS

Control Theory, Fractional Differential Equations, Interval Analysis, Time Scale Calculus, Mathematical Inequalities.

RESEARCH POSITIONS

HEC Approved Supervisor   **2013 -**

Centre for Advanced Studies in Pure and Applied Mathematics, Bahauddin Zakariya University, Multan, Pakistan

Research Areas: Control Theory, Fractional Differential Equations, Interval Analysis, Time Scale Calculus

Research Fellow   **Sep 2017 - June 2019**

Fudan University, Shanghai, China

Advisor: Hongwei Lou

Research Area: Differential Algebraic Equations

EDUCATION

2008 - 2013	PhD (Mathematics) at **GCU Lahore**	(GPA: 3.3/4.0)
2004 - 2008	Bachelor's Degree at **BZU Multan**	(GPA: 4.0/5.0)
2002 - 2004	Class 12th **BISE Multan**	(1st Division)
2002	Class 10th **BISE Multan**	(1st Division)

TEACHING

Bahauddin Zakariya University

Associate Professor	**2022-Present**
Assistant Professor	**2016-2022**
Assistant Professor on IPFP	**2013-2014**

1. Calculus

2. Mathematical Analysis

3. Functional Analysis

4. Control Theory

5. Linear Algebra

6. Optimization

7. Calculus of Variations

8. Matrix Computations

9. Differential Geometry

10. Ordinary Differential Equations

Air University   **Fall 2014**

Visiting Lecturer

Real Analysis

University of Eductaion   **Fall 2015**

Visiting Lecturer
Differential Calculus

PUBLICATIONS

Lupulescu, Vasile and Awais Younus (2011). "On controllability and observability for a class of linear impulsive dynamic systems on time scales". In: *Mathematical and computer modelling* 54.5-6, pp. 1300–1310.

Lupulescu, Vasile et al. (2013). "Qualitative aspects of Volterra integro-dynamic system on time scales". In: *Electronic Journal of Qualitative Theory of Differential Equations* 2013.5, pp. 1–35.

Agarwal, Ravi P et al. (2014). "Linear impulsive Volterra integro-dynamic system on time scales". In: *Advances in Difference Equations* 2014.1, pp. 1–17.

Agarwal, RP et al. (2014). "Floquet theory for a Volterra integro-dynamic system". In: *Applicable Analysis* 93.9, pp. 2002–2013.

Bohner, Martin et al. (2014). "Some dynamic Hardy-type inequalities with general kernel". In: *J. Math. Inequal* 8.1, pp. 185–199.

Younus, Awais and Ghaus Ur Rahman (2014). "Controllability, observability, and stability of a Volterra integro-dynamic system on time scales". In: *Journal of Dynamical and Control Systems* 20, pp. 383–402.

Abbas, Umber et al. (2015). "Neutral set differential equations". In: *Czechoslovak Mathematical Journal* 65, pp. 593–615.

Mirza, Safia et al. (2015). "Asymptotic properties for Volterra integro-dynamic systems". In: *Electronic Journal of Qualitative Theory of Differential Equations* 2015.7, pp. 1–14.

Yasmin, Nusrat, Awais Younus, et al. (2015). "Stability criteria for Volterra integrodynamic system". In: *Advances in Mathematical Physics* 2015.

Younus, Awais et al. (2015). "On Gronwall type inequalities for interval-valued functions on time scales". In: *Journal of Inequalities and Applications* 2015.1, pp. 1–18.

Younus, A et al. (2017). "On controllability and observability of fractional continuous-time linear systems with regular pencils". In: *Bulletin of the Polish Academy of Sciences. Technical Sciences* 65.3, pp. 297–304.

Younus, Awais, Donal O'Regan, et al. (2017). "Stability criteria for nonlinear volterra integro–dynamic systems". In: *Appl. Math. Inf. Sci* 11.5, pp. 1509–1517.

Younus, A, M Asif, et al. (2019). "Some new variants of interval-valued Gronwall type inequalities on time scales". In: *Iranian Journal of Fuzzy Systems* 16.5, pp. 187–198.

Younus, Awais and Muhammad Asif (2019). "Input distinguishability of linear dynamic control systems". In: *Journal of Taibah University for Science* 13.1, pp. 1100–1107.

Younus, Awais and Onsia Nisar (2019). "Convex optimization of interval valued functions on mixed domains". In: *Filomat* 33.6, pp. 1715–1725.

Yasmin, Nusrat, Safia Mirza, et al. (2020). "Controllability and observability of linear impulsive adjoint dynamic system on time scale". In: *Tamkang Journal of Mathematics* 51.3, pp. 201–217.

Younus, Awais, Muhammad Asif, Jehad Alzabut, et al. (2020). "A new approach to interval-valued inequalities". In: *Advances in Difference Equations* 2020.1, pp. 1–14.

YOUNUS, AWAIS and ANUM ZEHRA (2020). "CONTROLLABILITY AND OBSERVABILITY OF LINEAR IMPULSIVE DESCRIPTOR SYSTEMS: A DRAZIN INVERSE APPROACH". In: *Journal of Fractional Calculus and Applications* 11.2, pp. 45–61.

Younus, Awais et al. (2020). "Existence of resolvent for conformable fractional Volterra integral equations". In: *Applications and Applied Mathematics: An International Journal (AAM)* 15.1, p. 21.

Younus, Awais et al. (2020). "Fixed point theorems for self and non-self F-contractions in metric spaces endowed with a graph". In: *Journal of the Egyptian Mathematical Society* 28, pp. 1–10.

Younus, Awais et al. (2020). "On stability criteria of fractal differential systems of conformable type". In: *Fractals* 28.08, p. 2040009.

Younus, Awais et al. (2020). "On the structure of solutions of Volterra interval-valued integro-differential equations". In: *Mathematical Methods in the Applied Sciences*.

Wu, Shanhe et al. (2021). "On some Hermite–Hadamard inequalities involving k-fractional operators". In: *Journal of Inequalities and Applications* 2021, pp. 1–14.

Younus, Awais, Zoubia Dastgeer, Nudrat Ishaq, et al. (2021). "On the observability of conformable linear time-invariant control systems". In: *Discrete & Continuous Dynamical Systems-S* 14.10, p. 3837.

Dastgeer, Zoubia et al. (2022). "Distinguishability of the descriptor systems with regular pencil". In: *Linear Algebra and its Applications* 652, pp. 82–96.

Tunc, Cemil et al. (2022). "Optimality Conditions for Fuzzy Optimization Problems under Metric Based Derivative". In: *Journal of Mathematical Extension* 16.

Younus, Awais, Muhammad Umar Azam, et al. (2022). "FIXED POINT THEOREMS FOR SELF AND NON-SELF CONTRACTIONS IN MODULAR METRIC SPACES ENDOWED WITH A GRAPH." In: *Palestine Journal of Mathematics* 11.1.

Younus, Awais, Khizra Bukhsh, Manar A Alqudah, et al. (2022). "Generalized exponential function and initial value problem for conformable dynamic equations". In: *AIMS Mathematics* 7.7, pp. 12050–12076.

Younus, Awais, Zoubia Dastgeer, Laxmi Rathour, et al. (2022). "Distinguishability criteria of conformable hybrid linear systems". In: *Nonlinear Engineering* 11.1, pp. 420–427.

Younus, Awais and Iram Ghaffar (2022). "On Atangana-Baleanu fuzzy-fractional optimal control problems". In: *Journal of Intelligent & Fuzzy Systems* 43.4, pp. 4061–4070.

Zehra, Anum et al. (2022). "Controllability and observability of linear impulsive differential algebraic system with Caputo fractional derivative". In: *Computational Methods for Differential Equations* 10.1, pp. 200–214.

Abdeljawad, Thabet et al. (2023). "On fuzzy conformable double laplace transform with applications to partial differential equations". In: *Comput. Model. Eng. Sci* 134, pp. 2163–2191.

Bukhsh, Khizra and Awais Younus (2023). "On the controllability and observability of fractional proportional linear systems". In: *International Journal of Systems Science* 54.7, pp. 1410–1422.

Dastgeera, Zoubia and Awais Younusa (2023). "Analysis of distinguishability of linear descriptor control systems using Drazin inverse". In: *Filomat* 37.22, pp. 7455–7465.

Younus, Awais, Muhammad Asif, Usama Atta, et al. (2023). "Applications of fuzzy conformable Laplace transforms for solving fuzzy conformable differential equations". In: *Soft Computing*, pp. 1–15.

Younus, Awais, Gulnaz Atta, et al. (2023). "Stability of Cayley dynamic systems with impulsive effects". In: *Journal of Inequalities and Applications* 2023.1, pp. 1–21.

Fahad, Asfand et al. (2024). "On Generalization of Hermite-Hadamard-Mercer Inequalities for Interval-Valued Functions with Generalized Geometric-Arithmetic Convexity". In: *International Journal of Geometric Methods in Modern Physics*.

Younus, Awais and Nida Javed (2024). "Comments on "An application of parametric approach for interval differential equation in inventory model for deteriorating items with selling-price-dependent demand"". In: *Neural Computing and Applications*, pp. 1–6.

Younus, Awais et al. (2024). "Interval-based KKT framework for support vector machines and beyond". In: *Journal of Taibah University for Science* 18.1, p. 2334017.

Atta, Gulnaz and Awais Younis (n.d.). "On the solution of the Cayley impulsive dynamic control systems". In: *Bulletin of the Polish Academy of Sciences: Technical Sciences* (), e144601–e144601.