



Dr. Aliaa Burqan

Aliaaburqan@zu.edu.jo
Aliaaburqan@yahoo.com

Mathematics/ Algebra (Matrices and Linear Transformation)

Academic Rank: Associate Professor

Membership:

Sep 2018- Feb 2024 Dean in Faculty of Science / Zarqa University
Sep 2017- Sep 2018 Deputy Dean in Faculty of Science / Zarqa University
Sep 2015- Sep 2017 Head of the Service Courses Unit in Faculty of Science, Zarqa University
Member of the Quality Council - Zarqa University (Many times)
Member of the Internal Audit Committee – Zarqa University (Many times)
Member of the Science Faculty Council (Many times)
Chairman of The 8 th International Arab Conference on Mathematics and Computations, Zarqa University, 2023.
Chairman of The 7 th International Arab Conference on Mathematics and Computations, Zarqa University, 2022.
Chairman of The 6 th International Arab Conference on Mathematics and Computations, Zarqa University, 2019.
Member of the Organizing Committee of The Second Conference on Mathematical Sciences, Zarqa University, 2008
Member of the Organizing Committee of The Third Conference on Mathematical Sciences, Zarqa University, 2011
Member of the Organizing Committee of The 4 th International Arab Conference on Mathematics and Computations, Zarqa University, 2014
Member of the Organizing Committee of The 5 th International Arab Conference on Mathematics and Computations, Zarqa University, 2016.



Qualifications:

2009- 2013	
Programme	Doctor of Philosophy Degree in mathematics
Programme Structure	Research & Course Work
Major	Mathematics
Title of Thesis	Young and Heinz norm inequalities for Hilbert space operators
Cumulative Average	3.88 out 4 (Excellent)
Institution	Jordan University, Jordan
2002– 2005	
Programme	Master of Science
Programme Structure	Courses & Research.
Major	Mathematics
Title of Thesis	Inequalities for eigenvalues
Cumulative Average	4 out 4 (Excellent)
Institution	Jordan University, Jordan
1998– 2002	
Programme	Bachelor of Science
Programme Structure	Courses & Research.
Major	Mathematics
Cumulative Average	3.69 out 4 (Excellent)
Institution	Jordan University, Jordan

Teaching Experience:

Associate Professor, Faculty of Science, Zarqa University	2020	Current
Assistant Professor, Faculty of Science, Zarqa University	2013	2020
Full-time lecturer, Faculty of Science, Zarqa University	2006	2013
Part-time lecturer at the University of Jordan	Many Times	

Taught Subjects:

Undergraduate courses:

Calculus, Linear Algebra, Matrix Analysis, Real Analysis, Number Theory, Abstract Algebra, Ordinary Differential Equations, Partial Differential Equations, Special Topics in Mathematics.

Graduate courses:

Matrix Analysis, Abstract Algebra, Special Topics in Mathematics.



Publications:

#	Year	Publisher	Title
1	(2014)	International Arab Conference on Mathematics and Computations	Refinements of the Heinz Inequality for Operators via the Hermite-Hadamard Inequality
2	(2015)	Journal of Mathematical Inequalities	Reverses of Young Type Inequalities
3	(2016)	Journal of Mathematical Inequalities	Improved Cauchy-Schwarz Norm Inequality for Operators
4	(2016)	Journal of Mathematical and Computational Science	Best ∞ -Simultaneous Approximation in Banach Lattice Function Spaces
5	(2017)	Electronic Journal of Linear Algebra	Singular Value and Norm Inequalities Associated with 2×2 Positive Semidefinite Block Matrices
6	(2018)	Far East Journal of Mathematical Sciences	Further Results Involving Positive Semidefinite Block Matrices
7	(2019)	Malaysian Journal of Science	Comparisons of Heinz Operator Means with Different Parameters
8	(2019)	Filomat	Generalizations of numerical radius inequalities related to block matrices
9	(2021)	Journal of Computational Analysis and Applications	Results on Sequential Conformable Fractional Derivatives with Applications
10	(2020)	Symmetry	A New Integral Transform: ARA Transform and Its Properties and Applications
11	(2021)	Filomat	Best Simultaneous Approximation on Metric Spaces via Monotonous Norms
12	(2021)	Mathematics	A New Attractive Method in Solving Families of Fractional Differential Equations by a New Transform
13	(2022)	Symmetry	A Novel Numerical Approach in Solving Fractional Neutral Pantograph Equations via the ARA Integral Transform
14	(2022)	WSEAS Transactions on Mathematics	New Results for Arithmetic-Geometric Mean Inequality and Singular Values of Matrices
15	(2022)	Alexandria Engineering Journal	A new efficient technique using Laplace transforms and smooth expansions to construct a series solution to the time-fractional Navier-Stokes equations
16	(2022)	Journal of Mathematical Inequalities	New ordering relations for the Heinz means via hyperbolic functions.
17	(2022)	Alexandria Engineering Journal	Reliable solutions to fractional Lane-Emden equations via Laplace transform and residual error function
18	(2022)	Axioms	New Theorems in Solving Families of Improper Integrals
19	(2022)	Mathematics	On the Double ARA-Sumudu Transform and Its



			Applications
20	(2022)	Symmetry	Applications on Double ARA–Sumudu Transform in Solving Fractional Partial Differential Equations
21	(2022)	Mathematical Problems in Engineering	Application of ARA-Residual Power Series Method in Solving Systems of Fractional Differential Equations
22	(2022)	Alexandria Engineering Journal	ARA-residual power series method for solving partial fractional differential equations
23	(2022)	Fractl and Fractional	Analytical Solutions of the Nonlinear Time-Fractional Coupled Boussinesq-Burger Equations Using Laplace Residual Power Series Technique
24	(2022)	Fractl and Fractional	Constructing Analytical Solutions of the Fractional Riccati Differential Equations Using Laplace Residual Power Series Method
25	(2023)	Filomat	New efficient and accurate bounds for zeros of a polynomial based on similarity of companion complex matrices
26	(2023)	Filomat	Some generalizations of numerical radius inequalities including the off-diagonal parts of block matrices
27	(2023)	Journal of Applied Mathematics	Improvements of Logarithmic and Identric Mean Inequalities for Scalars and Operators
28	(2023)	In The Implementation of Smart Technologies for Business Success and Sustainability	The Effectiveness Degree of Distance Learning at Zarqa University in Light of Corona Pandemic from Faculty Members' and Students' Point of View
29	(2023)	CMES-Computer Modeling in Engineering & Sciences	On Time Fractional Partial Differential Equations and Their Solution by Certain Formable Transform Decomposition Method
30	(2023)	Fractl and Fractional	Using Laplace Residual Power Series Method in Solving Coupled Fractional Neutron Diffusion Equations with Delayed Neutrons System
31	(2023)	Fractl and Fractional	A Novel Scheme of the ARA Transform for Solving Systems of Partial Fractional Differential Equations
32	(2023)	European Journal of Pure and Applied Mathematics	New bounds for the Eigenvalues of Matrix Polynomials
33	(2023)	Journal of Mathematical Inequalities	Generalization of Some Unitarily Invariant Norm Inequalities for Matrices
34	(2023)	Mathematical Methods in the Applied Sciences	Adapting a new formula to generalize multidimensional transforms
35	(2023)	Mathematical Methods in the Applied Sciences	A study of double general transform for solving fractional partial differential equations
36	(2023)	Appl. Math	Applications of the ARA-Residual Power Series Technique to Physical Phenomena
37	(2023)	In International Conference on	Estimations of the Bounds for the Zeros of Polynomials



		Mathematics and Computations	Using Matrices
38	(2023)	In International Conference on Mathematics and Computations	New Estimations for Zeros of Polynomials Using Numerical Radius and Similarity of Matrices
39	(2023)	AIMS Mathematics	Analytical Solutions to The Coupled Fractional Neutron Diffusion Equations with Delayed Neutrons System Using Laplace Transform Method
40	(2023)	Journal of Mathematical Inequalities	Generalized Numerical Radius Inequalities Involving Positive Semidefinite Block Matrices
41	(2023)	European Journal of Pure and Applied Mathematics	Adapting Integral Transforms to Create Solitary Solutions for Partial Differential Equations Via A New Approach
42	(2023)	Frontiers in Physics	A Solution for the Neutron Diffusion Equation in the Spherical and Hemispherical Reactors Using the Residual Power Series
43	(2023)	Applied and Computational Mathematics	Trustworthy Analytical Technique for Generating Multiple Solutions to Fractional Boundary Value Problems
44	(2024)	Journal of Applied Mathematics	Analytical Approximate Solutions of Caputo Fractional KdV-Burgers Equations Using Laplace Residual Power Series Technique
45	(2024)	Fractals	A Modern Traveling Wave Solution for Caputo Fractional Klein–Gordon Equations
46	(2024)	Atoms	The Optical Model Absorption Term in the Frame of Fractional Derivatives
47	(2024)	Fractals	A New Algorithm for Generating Power Series Solutions for A Broad Class of Fractional Pdes: Applications to Interesting Problems
48	Accepted	Progress in Fractional Differentiation and Applications	Semi-Analytical Technique for Solving the Time-Fractional Kaup-Kupershmidt Equation
49	Accepted	Journal of Mathematical Inequalities	Some Singular Value Inequalities for Matrices
50	Accepted	Filomat	Interpolating Numerical Radius Inequalities for Positive Semidefinite Block Matrices.
51	(2024)	AIP Conference Proceedings	New Algebraic Insights to the Goldbach Conjecture

Books:

#	Book Title	Publisher	Year
1	Computational Mathematics and Applications	Springer Nature	2020
2	Mathematics and Computation	Springer Nature	2023
3	Mathematical Analysis and Numerical Methods	Springer Nature	2024



Conferences:

#		Organizing Institution	Conference	Year
1	Refinements of the Heinz Inequality for Operators via the Hermite-Hadamard Inequality	Zarqa University	International Arab Conference on Mathematics and Computations	23-25/04/2014
2	Comparison of Heinz Operators Means with Different Parameters	Putra University Malaysia	International Conference on Mathematical Sciences and Statistics 2018	60-08/02/2018
3	Conference Chairman	Zarqa University	The 6 th International Arab Conference on Mathematics and Computations	24-26/04/2019
4	Conference Chairman	Zarqa University	The 7 th International Arab Conference on Mathematics and Computations	11-13/05/2022
5	Conference Chairman	Zarqa University	The 8 th International Arab Conference on Mathematics and Computations	10-12/05/2023
6	New Algebraic Insights to the Goldbach Conjecture	UKM	The 5 th International Conference on Mathematical Sciences 2023	16-17/05/2023

Supervision of Theses:

Student Name	Thesis Title	University	Year
Doaa Al-Saafin	Spectral radius, numerical radius and unitarily invariant norm inequalities in Hilbert space	Zarqa University	2016
Wafa' Al- Murshid	Comparison of various means for numbers and matrices	Zarqa University	2017
Ahmad Abu- Rahma	Inequalities related to positive semidefinite block matrices	Zarqa University	2018



Fatima Al-Saafin	Inequalities of means for numbers and matrices	Zarqa University	2020
Ahmad Al-Sawaftah	Bounds for zeros of polynomials	Zarqa University	2020
Saeed Al-Khalely	New Estimation for the Zeros of Polynomials Using Refinements of Numerical Radius Inequalities	Zarqa University	2022
Hamdan Dbabesh	Location Eigenvalues of Matrix Polynomials	Zarqa University	2022
Abeer Abu_Snainah	Generalized Hyperbolic Function and Matrix Means	Zarqa University	2022
Baha'aldeen Alnaddaf	Generalizations on Numerical Radius and Some Related Inequalities	Zarqa University	2023
Ola Ramadan	Refinements of Some Classical Inequalities for Scalars and Matrices	Zarqa University	2023
Aref Sarhan	The Numerical Radius of Block Matrices and Some Applications	Zarqa University	2023
Rawan Abu-Hafiza	Application on Singular Value Decomposition of Matrices	Zarqa University	2023
Rawan Smadi	Singular Value and Norm Inequalities for Functions of Matrices	Zarqa University	2024

Personal Information:

Name	Aliaa Abdel-Jawwad Burqan
Work Tel No.	0096253821100 - 1500
Postal Address	Zarqa 13110, Jordan