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التخصص العام: الرياضيات التطبيقية / المعادلات التفاضلية

الرتبة الأكاديمية: أستاذ دكتور بالرياضيات التطبيقية

الأهداف المهنية:

- تطوير البحث والابتكار في الرياضيات التطبيقية والمعادلات التفاضلية
- بناء تعاونات متعددة التخصصات لمعالجة مسائل واقعية
- تطوير طرائق تدريس ومناهج حديثة تعزز تعلم الطلبة وإعدادهم الأكاديمي والمهني

المعلومات الشخصية:

الرقم الفرعي:	1528
رقم الهاتف:	962 5 382 1100 + فرعي 1528
العنوان:	الزرقاء – حي شاكر؛ ص.ب. 2000، الزرقاء 13110، الأردن
الجنسية:	أردني
الحالة الاجتماعية:	متزوج

العضويات:	
جمعية الرياضيات الأمريكية بروفيدنس، رود آيلاند، الولايات المتحدة Member ID: QZAHMAA 2020-الى الآن	(1)
جمعية الرياضيات الصناعية والتطبيقية Member Number: 001050695 2020-الى الآن	(2)
الجمعية السعودية للعلوم الرياضية رقم العضوية 1022195623 2024-الى الآن	(3)

المؤهلات:	
دكتوراه في المعادلات التفاضلية، جامعة قازان الحكومية (جامعة قازان الفيدرالية)، روسيا، 2000 عنوان الأطروحة: اختزال مسألة ديريشليه وتعميمها للمعادلات الإهليلجية إلى مسائل حدية للدوال الهولومورفية	(1)
ماجستير في المعادلات التفاضلية، جامعة قازان الحكومية (جامعة قازان الفيدرالية)، روسيا، 1996 عنوان الرسالة: تطبيق التحويل التكاملي بنواة ميلن في نظرية بيسل	(2)

الخبرات التدريسية:

(1)	أستاذ دكتور، قسم الرياضيات، جامعة الزرقاء — 2023-حتى الآن
(2)	نائب عميد كلية العلوم، جامعة الزرقاء — 2023-2018
(3)	أستاذ مشارك، قسم الرياضيات، جامعة الزرقاء — 2023-2017
(4)	أستاذ مشارك، قسم الرياضيات، جامعة جدارا — 2017-2016
(5)	رئيس قسم الرياضيات، جامعة جدارا — 2017-2010
(6)	أستاذ مساعد، قسم الرياضيات، جامعة جدارا — 2016-2008
(7)	أستاذ مساعد، قسم الرياضيات، جامعة إربد الأهلية — 2008-2004

الأبحاث المنشورة:			
الرقم	عنوان البحث المنشور أو المقبول للنشر	المجلة	السنة
1	A Hybrid Approach for Solving Fractional Caputo Partial Differential Equations with Convergence Analysis	Statistics, Optimization and Information Computing	2026
2	A promising cellulosic natural fiber as prospective reinforcement in polymer composites materials	Materials Chemistry and Physics	2026
3	Double ARA–Generalized Laplace Method for Solving (2 +1)–Dimensional Nonlinear Singular Pseudoparabolic Equations	Journal of Applied Mathematics	2026
4	Seawater-immersed glass-polyester composites with optimized mechanical properties	Scientific Reports	2026
5	A comparative analysis of the impact of different treatments on Luffa Cylindrica fiber tensile properties	PLOS ONE	2025
6	Advancing Solutions for Fractional Differential Equations: Integrating the Sawi Transform with Iterative Methods	European Journal of Pure and Applied Mathematics	2025
7	Computational Solutions for Fractional Atangana-Baleanu PDEs: An Exploration of Sawi Transform and Homotopy Perturbation Method	Progress in Fractional Differentiation and Applications	2025
8	Conjugated role of variant-shaped ternary hybrid nanoparticles in MHD Jeffery–Hamel Water-EG flows: New mathematical model	International Journal of Thermofluids	2025
9	Controllability Of Intuitionistic Fuzzy Impulsive Neutral Integro-Differential Equations With Nonlocal Conditions	International Journal of Analysis and Applications	2025
10	Dynamics of the Gierer–Meinhardt reaction–diffusion system: Insights into finite-time stability and control strategies	Partial Differential Equations in Applied Mathematics	2025
11	Effects of variable thermo-physical characteristics on MHD ternary hybrid second-grade nanofluid in rotating Jeffery-Hamel flow	International Journal of Thermofluids	2025
12	Enhanced Solutions to Differential Equations Using Numerical Iterative Approach	IAENG International Journal of Applied Mathematics	2025

الأبحاث المنشورة:			
الرقم	عنوان البحث المنشور أو المقبول للنشر	المجلة	السنة
13	Exploration of a New Approach Related to Atangana-Baleanu Derivatives for Solving Fractional Partial Differential Equations	International Journal of Mathematical, Engineering and Management Sciences	2025
14	Finite time Stability and Synchronization of the Glycolysis Reaction-Diffusion model	International Journal of Neutrosophic Science	2025
15	Fuzzy Generalization of ZZ Transform	IAENG International Journal of Applied Mathematics	2025
16	Linear Fractional Differential Equations for Modeling Nonlinear Hydro Environmental Phenomena	Engineering Letters	2025
17	Role of ternary hybrid nanoparticle and EMHD on boundary layer flow with stretching-shrinking plate: Optimization analyses using RMS	Results in Physics	2025
18	Solving System of ODEs and Analyzing Chemical Reactions	Engineering Letters	2025
19	Water Absorption and Mechanical Behavior of Hybrid Reinforced Epoxy LY556 Composites: Experimental Analysis	Journal of Natural Fibers	2025
20	A Fractional Study for Solving the SIR Model and Chaotic System	IAENG International Journal of Applied Mathematics	2024
21	A new analytical algorithm for uncertain fractional differential equations in the fuzzy conformable sense	AIMS Mathematics	2024
22	A new approach in handling one-dimensional time-fractional Schrödinger equations	AIMS Mathematics	2024
23	A Novel Fractional Model Combined with Numerical Simulation to Examine the Impact of Lockdown on COVID-19 Spread	Fractal and Fractional	2024
24	A quintic B-spline technique for a system of Lane-Emden equations arising in theoretical physical applications	AIMS Mathematics	2024
25	An efficient approximate analytical technique for the fractional model describing the solid tumor invasion	Frontiers in Physics	2024

الأبحاث المنشورة:			
الرقم	عنوان البحث المنشور أو المقبول للنشر	المجلة	السنة
26	Analyzing convex univalent functions on semi-infinite strip domains	Journal of Mathematics and Computer Science	2024
27	Analyzing the Impact of Control Strategies on Visceral Leishmaniasis: A Mathematical Modeling Perspective	European Journal of Pure and Applied Mathematics	2024
28	Applying Conformable Double Sumudu – Elzaki Approach to Solve Nonlinear Fractional Problems	Progress in Fractional Differentiation and Applications	2024
29	Composite Fractional Trapezoidal Rule with Romberg Integration	CMES - Computer Modeling in Engineering and Sciences	2024
30	Computational analysis of water-based silver, copper, and alumina hybrid nanoparticles over a stretchable sheet embedded in a porous medium with thermophoretic particle deposition effects	Nanotechnology Reviews	2024
31	Double Laplace Formable Transform Method for Solving PDEs	Engineering Letters	2024
32	Effective methods for numerical analysis of the simplest chaotic circuit model with Atangana–Baleanu Caputo fractional derivative	Journal of Engineering Mathematics	2024
33	Exploring analytical results for (2+1) dimensional breaking soliton equation and stochastic fractional Broer-Kaup system	AIMS Mathematics	2024
34	Fractional Partial and Integral Differential Equations and Novel Conformable Double (Laplace -Sumudu) Transform	Applied Mathematics and Information Sciences	2024
35	Innovative Approaches to Linear Volterra Partial Integro-Differential Equations: A Laplace Residual Power Series Perspective	IAENG International Journal of Computer Science	2024
36	Investigating the Effectiveness of the Laplace Residual Power Series Approach for Volterra Integro-Differential Equation	Engineering Letters	2024

الأبحاث المنشورة:			
الرقم	عنوان البحث المنشور أو المقبول للنشر	المجلة	السنة
37	Mathematical modeling and stability analysis of the novel fractional model in the Caputo derivative operator: A case study	Heliyon	2024
38	Mittag-Leffler Functions and the Sawi Transform: A New Approach to Fractional Calculus	WSEAS Transactions on Mathematics	2024
39	Modeling COVID-19 spread and non-pharmaceutical interventions in South Africa: A stochastic approach	Scientific African	2024
40	Numerical Simulation of an Influenza Epidemic: Prediction with Fractional SEIR and the ARIMA Model	Applied Mathematics and Information Sciences	2024
41	On the thermal performance of radiative stagnation-point hybrid nanofluid flow across a wedge with heat source/sink effects and sensitivity analysis	Frontiers in Materials	2024
42	Optimized technique and dynamical behaviors of fractional Lax and Caudrey–Dodd–Gibbon models modeled by the Caputo fractional derivative	Partial Differential Equations in Applied Mathematics	2024
43	Predicting the thermal distribution in a convective wavy fin using a novel training physics-informed neural network method	Scientific Reports	2024
44	Ramification of Hall effects in a non-Newtonian model past an inclined microchannel with slip and convective boundary conditions	Applied Rheology	2024
45	Results Involving Partial Differential Equations and Their Solution by Certain Integral Transform	CMES - Computer Modeling in Engineering and Sciences	2024
46	Stability exploration in fractional h-difference equations with incommensurate orders	Arab Journal of Basic and Applied Sciences	2024
47	Stochastic modeling of influenza transmission: Insights into disease dynamics and epidemic management	Partial Differential Equations in Applied Mathematics	2024
48	Synchronization in fractional discrete neural networks: constant and variable orders cases	Arab Journal of Basic and Applied Sciences	2024

الأبحاث المنشورة:			
الرقم	عنوان البحث المنشور أو المقبول للنشر	المجلة	السنة
49	Two-phase numerical simulation of thermal and solutal transport exploration of a non-Newtonian nanomaterial flow past a stretching surface with chemical reaction	Open Physics	2024
50	A Generalized Hybrid Method for Handling Fractional Caputo Partial Differential Equations via Homotopy Perturbed Analysis	WSEAS Transactions on Mathematics	2023
51	A hybrid analytical technique for solving multi-dimensional time-fractional Navier-Stokes system	AIMS Mathematics	2023
52	A modern analytic method to solve singular and non-singular linear and non-linear differential equations	Frontiers in Physics	2023
53	A New Approach in Solving Regular and Singular Conformable Fractional Coupled Burger's Equations	WSEAS Transactions on Mathematics	2023
54	A New Computation Approach: ARA Decomposition Method	WSEAS Transactions on Mathematics	2023
55	A New Computational Technique for Analytic Treatment of Time-Fractional Nonlinear Equations Arising in Magneto-Acoustic Waves	Mathematical Problems in Engineering	2023
56	A New Perspective on the Stochastic Fractional Order Materialized by the Exact Solutions of Allen-Cahn Equation	International Journal of Mathematical, Engineering and Management Sciences	2023
57	A New Scheme for Solving a Fractional Differential Equation and a Chaotic System	European Journal of Pure and Applied Mathematics	2023
58	A Numerical Confirmation of a Fractional SEITR for Influenza Model Efficiency	Applied Mathematics and Information Sciences	2023
59	A Numerical Solution of Generalized Caputo Fractional Initial Value Problems	Fractal and Fractional	2023
60	A Perturbed Milne's Quadrature Rule for n-Times Differentiable Functions with L_p -Error Estimates	Axioms	2023
61	Adapting Integral Transforms to Create Solitary Solutions for Partial Differential Equations Via A New Approach	European Journal of Pure and Applied Mathematics	2023

الأبحاث المنشورة:			
الرقم	عنوان البحث المنشور أو المقبول للنشر	المجلة	السنة
62	Adapting partial differential equations via the modified double ARA-Sumudu decomposition method	Partial Differential Equations in Applied Mathematics	2023
63	An application of Hayashi's inequality in numerical integration	Open Mathematics	2023
64	Application of the Optimal Homotopy Asymptotic Approach for Solving Two-Point Fuzzy Ordinary Differential Equations of Fractional Order Arising in Physics	Axioms	2023
65	ARA-Homotopy Perturbation Technique with Applications	Applied Mathematics and Information Sciences	2023
66	ARA-residual power series method for solving partial fractional differential equations	Alexandria Engineering Journal	2023
67	ARA-Sumudu Method for Solving Volterra Partial Integro-Differential Equations	Applied Mathematics and Information Sciences	2023
68	Conformable Double Laplace–Sumudu Iterative Method	Symmetry	2023
69	Direct Power Series Approach for Solving Nonlinear Initial Value Problems	Axioms	2023
70	Effective transform-expansions algorithm for solving non-linear fractional multi-pantograph system	AIMS Mathematics	2023
71	Further Accurate Numerical Radius Inequalities	Axioms	2023
72	Lp-Mapping Properties of a Class of Spherical Integral Operators	Axioms	2023
73	Modified conformable double Laplace–Sumudu approach with applications	Heliyon	2023
74	New Bounds for the Eigenvalues of Matrix Polynomials	European Journal of Pure and Applied Mathematics	2023

الأبحاث المنشورة:			
الرقم	عنوان البحث المنشور أو المقبول للنشر	المجلة	السنة
75	Nth Composite Iterative Scheme via Weak Contractions with Application	International Journal of Mathematics and Mathematical Sciences	2023
76	Numerical solution for the system of Lane-Emden type equations using cubic B-spline method arising in engineering	AIMS Mathematics	2023
77	On Further Refinements of Numerical Radius Inequalities	Axioms	2023
78	On the Analytical Solution of Fractional SIR Epidemic Model	Applied Computational Intelligence and Soft Computing	2023
79	On the fibers of the tree products of groups with amalgamation subgroups	Journal of Applied Mathematics and Informatics	2023
80	On Time Fractional Partial Differential Equations and Their Solution by Certain Formable Transform Decomposition Method	CMES - Computer Modeling in Engineering and Sciences	2023
81	Solution of Integral Equations Via Laplace ARA Transform	European Journal of Pure and Applied Mathematics	2023
82	Solving fractional partial differential equations via a new scheme	AIMS Mathematics	2023
83	Trustworthy Analytical Technique for Generating Multiple Solutions to Fractional Boundary Value Problems	International Journal of Applied and Computational Mathematics	2023
84	A Fundamental Criteria to Establish General Formulas of Integrals	Journal of Applied Mathematics	2022
85	A New Approach Using Integral Transform to Solve Cancer Models	Fractal and Fractional	2022
86	A Novel Approach in Solving Improper Integrals	Axioms	2022

الأبحاث المنشورة:			
الرقم	عنوان البحث المنشور أو المقبول للنشر	المجلة	السنة
87	A Novel Numerical Approach in Solving Fractional Neutral Pantograph Equations via the ARA Integral Transform	Symmetry	2022
88	Analytical Solution of Coupled Hirota–Satsuma and KdV Equations	Fractal and Fractional	2022
89	Application of ARA-Residual Power Series Method in Solving Systems of Fractional Differential Equations	Mathematical Problems in Engineering	2022
90	Applications on Double ARA–Sumudu Transform in Solving Fractional Partial Differential Equations	Symmetry	2022
91	Exact Solutions of Nonlinear Partial Differential Equations via the New Double Integral Transform Combined with Iterative Method	Axioms	2022
92	General Master Theorems of Integrals with Applications	Mathematics	2022
93	Homotopy Analysis Method Analytical Scheme for Developing a Solution to Partial Differential Equations in Fuzzy Environment	Fractal and Fractional	2022
94	Multi-Fuzzy Rings	WSEAS Transactions on Mathematics	2022
95	A new attractive method in solving families of fractional differential equations by a new transform	Mathematics	2021
96	A new integral transform: ARA transform and its properties and applications	Symmetry	2020
97	The existence of a solution for semi-linear abstract differential equations with infinite B-chains of the characteristic sheaf	International Journal of Applied Mathematics	2018
98	On the choice of strategy for modified midzuno scheme	Far East Journal of Mathematical Sciences	2017
99	About the solution stability of Volterra integral equation with random kernel	Far East Journal of Mathematical Sciences	2016
100	Stationary connected curves in Hilbert spaces	Journal of Mathematics and Statistics	2014

الكتب:

الرقم	عنوان الكتاب	الناشر	السنة
1	Mathematics and Computation	Springer Nature	2023
2	Mathematical Analysis and Numerical Methods	Springer Nature	2024

المؤتمرات:

الرقم	عنوان البحث المقدم (ضع إشارة (-) في حال الحضور فقط)	الجهة المنظمة	السنة
1	Roll waves revisited from a contemporary perspective	AIP Conference Proceedings	2026
2	A New Analytical Approach to Fractional Calculus via Mittag-Leffler Functions and the complex Sawi Transform	Al-Zaytoonah University of Jordan / Proceeding - 12th International Conference on Information Technology: Innovation Technologies, ICIT 2025	2025
3	Complex Sawi Integral Transform and Some Applications	Al-Zaytoonah University of Jordan / Proceeding - 12th International Conference on Information Technology: Innovation Technologies, ICIT 2025	2025
4	Computational Efficiency and Accuracy in Solving Linear and Nonlinear Volterra Integral Equations via a New Approach	Springer Proceedings in Mathematics and Statistics	2025
5	Enhancing Signal Reliability in Smart Communication Channels Using a New Complex Integral Transform: Mathematical Modeling, Noise Reduction, and SDG-Aligned Digital Security	Zarqa University / 2025 Asian Conference on Communication and Networks, ASIANComNet 2025	2025
6	Impact of Aboodh Power Series Algorithm for Integral Equations	Al-Zaytoonah University of Jordan / Proceeding - 12th International Conference on Information Technology: Innovation Technologies, ICIT 2025	2025
7	Mathematical Modeling for Cryptography Using Mayan Technique	Zarqa University / 2025 Asian Conference on Communication and Networks, ASIANComNet 2025	2025

المؤتمرات:

السنة	الجهة المنظمة	عنوان البحث المقدم (ضع إشارة (-) في حال الحضور فقط)	الرقم
2025	Zarqa University / 2025 Asian Conference on Communication and Networks, ASIANComNet 2025	Mayan Technique for Solving First Order Complex Differential Equation with Engineering Problems	8
2025	Zarqa University / 2025 Asian Conference on Communication and Networks, ASIANComNet 2025	Triple SEE Transform Technique for Handling Partial Differential Equations with Applications	9
2024	Springer Proceedings in Mathematics and Statistics	A Comparative Numerical Study of a Classical Model and Fractional Model for Leishmaniasis	10
2024	Zarqa University / 2024 25th International Arab Conference on Information Technology, ACIT 2024	Analyzing Chaotic Jerk System with Hyperbolic Sine: A new algorithm for Engineering Applications	11
2024	Zarqa University / 2024 25th International Arab Conference on Information Technology, ACIT 2024	Controlling DC Motor Speed with FoPID-Controllers	12
2024	Springer Proceedings in Mathematics and Statistics	Efficient Construction Technique for Resolving Dirichlet Boundary-Value Problems in Multiply Connected Domains for Real Elliptic Equations	13
2024	Springer Proceedings in Mathematics and Statistics	General Transform Decomposition Method	14
2024	Springer Proceedings in Mathematics and Statistics	Solving Partial Integro Differential Equations Via Double Laplace-Formable Transform	15
2023	Zarqa University / 2nd International Engineering Conference on Electrical, Energy, and Artificial Intelligence, EICEEAI 2023	Prediction of Visceral Leishmaniasis Incidences Utilizing Machine Learning Techniques	16

الإشراف على طلبة الدراسات العليا:			
الرقم	عنوان الرسالة أو الأطروحة	الجامعة	السنة
1	B-Spline Method for Solving Boundary Value Problems of Differential Equations	جامعة الزرقاء	2019
2	A Sinc-Collocation Method for Solving Integro-Differential Equations of Conformable Fractional Derivative	جامعة الزرقاء	2019
3	Spectral Collocation Method for Solving Fractional Integro-Differential Equations	جامعة الزرقاء	2019
4	Solving Fractional Differential Equations of Boundary Value Problems Using the Cubic B-Spline Method	جامعة الزرقاء	2019
5	Spectral Collocation Method for Solving Fractional Integro-Differential Equations	جامعة الزرقاء	2019
6	Numerical Solutions of Nonlinear Differential Equations Using Cubic B-Spline	جامعة الزرقاء	2020
7	Laplace-Residual Power Series Method for Solving Fractional Differential Equations	جامعة الزرقاء	2021
8	Solving Initial Value Problems for Fractional Differential Equations by Cubic B-Spline Method	جامعة الزرقاء	2021
9	Solving Fractional Differential Systems by Laplace-Residual Power Series Method	جامعة الزرقاء	2021
10	Solving Fractional Differential Equations of Boundary Value Problems Using the Cubic B-Spline Method	جامعة الزرقاء	2021
11	Applications of ARA Transform in Solving Differential Equations	جامعة الزرقاء	2023
12	The Solutions of Some Types of Fractional Differential Equations Using the Power Series Method	جامعة الزرقاء	2023
13	Numerical Solutions of Stochastic Ordinary Differential Equations	جامعة الزرقاء	2023

الإشراف على طلبة الدراسات العليا:			
الرقم	عنوان الرسالة أو الأطروحة	الجامعة	السنة
14	A Hybrid Analytical-Numerical Approach for Solving Caputo Fractional Differential Equations with Proportional Delay	جامعة الزرقاء	2024
15	Analytical Solutions of Caputo Fractional Pantograph-Type Equation	جامعة الزرقاء	2024
16	Applications of the q-Laplace Transform in Quantum Calculus	جامعة الزرقاء	2024
17	Enhanced Solution Technique for Fractional Burgers' Equations Using the Modified Aboodh Transform Method	جامعة الزرقاء	2025
18	Advanced Solution Methods for Fractional Burgers' Equations via the Modified Mohand Transform	جامعة الزرقاء	2025

أنشطة خدمة المجتمع:			
الرقم	عنوان النشاط	مكان إقامة النشاط	السنة
1	باحث مشارك: نظام ذكي لإدارة المياه للزراعة المستدامة باستخدام إنترنت الأشياء والرياضيات التطبيقية	الأردن / مشروع مدعوم من صندوق دعم البحث العلمي والابتكار	2025–2027
2	رئيس مشارك للمؤتمر العربي الدولي الثامن للرياضيات والحوسبة	جامعة الزرقاء	2023
3	رئيس مشارك للمؤتمر العربي الدولي السابع للرياضيات والحوسبة	جامعة الزرقاء	2022
4	عضو اللجنة التنظيمية للمؤتمر العربي الدولي السادس للرياضيات والحوسبة	جامعة الزرقاء	2019