CURRICULUM VITAE AND PUBLICATIONS LIST

CURRICULUM VITAE

Name and Surname:	Mustafa BAYRAM
Date of Birth:	1960
Academic Title:	Professor Dr.
Work Address:	A-710
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Foreign Languages Known (Score and Year):	English, C2 Proficiency, 1989
Certificates Received:	EĞİTİM SERTİFİKASI
Area of Expertise:	Engineering and Technology Natural Sciences

Degree	Department/Program	University	Year
Doctorate	Computer Science		1993
Bachelor's Degree	Matematik	Atatürk University	1986

Doctoral Thesis/Proficiency Study/Medical Specialization Thesis Title (abstract attached) and Supervisor(s):

COMPUTER ALGEBRA APPROACH TO ENZYME KINETICS

Position Title	Workplace	Year
Professor Dr.	Biruni University	2019-Continues
Professor Dr.	İstanbul Gelişim University	2016-2018
Research Assistant		1988-1993
Research Assistant	Atatürk University	1986-1988

Supervised Doctoral Theses/Proficiency Studies in Arts:

1. Sembolik ve nümerik metotlarla enzim kinetiği problemlerinin incelenmesi (2000)

PUBLICATIONS

A. Articles published in international peer-reviewed journals:

A1. "Exploration of fractional soliton structures in high-order nonlinear Schrödinger equation in an inhomogeneous optical fiber", Modern Physics Letters B, 2025.

A2. "Fractional analysis of Benjamin-Bona-Mahony equation across natural transform iterative method: thermal engineering implementations", Scientific Reports, 2025.

A3. "Monitoring and investigation to control the brain network disease under immunotherapy by using fractional operator", Scientific Reports, 2025.

A4. "Influence of slip velocity and heat generation on magneto-nanofluid flow via divergent and convergent plates using perturbation technique", Scientific Reports, 2025.

A5. "Stability and chaos analysis of neurological disorder of complex network with fractional order comparative study", Scientific Reports, 2025.

A6. "Comparison between response surface methodology and Taguchi method for dyeing process parameters optimization in fabric manufacturing by empirical planning", Scientific Reports, 2025.

A7. "Numerical and machine learning based evaluation of ethylene glycol based hybrid nano-structured (TiO2-SWCNTs) fluid flow", Scientific Reports, 2025.

A8. "Nonlinear wave behaviors for a combined Kadomtsev–Petviashvili–Boiti–Leon–Manna–Pempinelli equation in fluid dynamics, plasma physics and nonlinear optics", Wave Motion, 2025.

A9. "Piecewise logarithmic Chebyshev cardinal functions: Application for nonlinear integral equations with a logarithmic singular kernel", Applied Numerical Mathematics, 2025.

A10. "Investigation of ABPV predict dynamics infection in honeybee colony production: Soft patterns multiscale modeling with fractional approach", Ain Shams Engineering Journal, 2025.

A11. "Stability, soliton dynamics, and bifurcation analysis of the (3+1)-dimensional Sakovich equation in fluid dynamics", Modeling Earth Systems and Environment, 2025.

A12. "A four-block scheme for nonlinear third-kind Volterra integral equations", Computational and Applied Mathematics, 2025.

A13. "Soliton dynamics related to the stochastic Gross–Pitaevskii equation in the presence of random fluctuations", Pramana - Journal of Physics, 2025.

A14. "A numerical method based on the shifted Jacobi polynomials for a class of tempered fractional quadratic integro-differential equations", Results in Applied Mathematics, 2025.

A15. "A residual-based adaptive deep learning hybrid block algorithm for partial differential equations with singularities", Ain Shams Engineering Journal, 2025.

A16. "Customized filamentation in nonlinear metamaterials", Chinese Journal of Physics, 2025.

A17. "Analytical solutions of stochastic partial differential equations in nanobioscience: exploring multiplicative noise effects", European Physical Journal Plus, 2025.

A18. "On the optical soliton solutions of the concatenation model having parabolic law with nonlocal nonlinearity and modulation instability", European Physical Journal Plus, 2025.

A19. "Chaos and proportional integral derivative (PID) control on cancer dynamics with fractal fractional operator", Results in Engineering, 2025.

A20. "Dynamical analysis, chaos and multistability of the resonant third-order nonlinear Schrödinger equation through phase portraits", Modern Physics Letters A, 2025.

A21. "Concatenation model: having the parabolic law in the presence of chromatic and spatio-temporal dispersion and investigation of multiplicative white noise effect via Itô calculus", European Physical Journal Plus, 2025.

A22. "Pure-Cubic Optical Soliton Solutions of the Nonlinear Schrödinger Equation Including Parabolic Law Nonlinearity in the Absence of the Group Velocity Dispersion", International Journal of Theoretical Physics, 2025.

A23. "Uncovering the soliton solutions and interaction aspects of combined CBS-nCBS model utilizing Bäcklund transform", European Physical Journal Plus, 2025.

A24. "Perturbations of optical solitons in magneto-optic waveguides incorporating multiplicative white noise and sixth-order dispersion: a study of the Sasa–Satsuma equation", Pramana - Journal of Physics, 2025.

A25. "Retrieval of the optical soliton solutions of the perturbed Schrödinger–Hirota equation with generalized anti-cubic law nonlinearity having the spatio-temporal dispersion", Mathematical Methods in the Applied Sciences, 2025.

A26. "Entropy analysis of Casson ternary hybrid nanofluid using convective cross diffusion model via spinning sphere based artificial neural network", Proceedings of the Institution of Mechanical Engineers, Part N: Journal of Nanomaterials, Nanoengineering and Nanosystems, 2025.

A27. "Galerkin finite element for hall and ion influences of performed MHD micropolar fluid flow with convective boundary constraints", Proceedings of the Institution of Mechanical Engineers, Part N: Journal of Nanomaterials, Nanoengineering and Nanosystems, 2025.

A28. "Numerical treatment on fractional differential-algebraic equations by an optimization technique", International Journal of Computer Mathematics, 2025.

A29. "Piecewise second kind Chebyshev functions for a class of piecewise fractional nonlinear reaction–diffusion equations with variable coefficients", Alexandria Engineering Journal, 2025.

A30. "EXPLORATION OF FRACTIONAL EFFECTS AND MULTI-STABILITY IN THE NONLINEAR (2+1)-DIMENSIONAL DAVEY-STEWARTSON FOKAS SYSTEM", Journal of Applied Analysis and Computation, 2025.

A31. "Modulation instability and soliton families of the complex Ginzburg-Landau equation having the parabolic with nonlocal law of self-phase modulation", AIMS Mathematics, 2025.

A32. "Investigating the effects of multiplicative white noise on solitons in birefringent fibers through the perturbed Kundu-Eckhaus equation with high dispersion", Indian Journal of Physics, 2025.

A33. "On the soliton solutions of the stochastic Schrödinger-Hirota equation with Kerr law and spatio-temporal dispersion", International Journal of Geometric Methods in Modern Physics, 2025.

A34. "Enhancing heat transfer performance: A comprehensive review of perforated obstacles", Revista Mexicana de Fisica, 2025.

A35. "Significance of Soret and Dufour effects on the flow of non-Newtonian fluid past over a slendering stretchable surface with multiple slip conditions: A thermodynamics investigation", Proceedings of the Institution of Mechanical Engineers, Part N: Journal of Nanomaterials, Nanoengineering and Nanosystems, 2025.

A36. "Visualization of the impact of noise of the closed-form solitary wave solutions for the stochastic Zhiber{Shabat model", Modern Physics Letters A, 2025.

A37. "Analysis of Gyrotactic Microorganism-Induced Bioconvective Transport and Flow Dynamics in Micropolar Nanofluids over an Exponentially Expanding Surface with Thermal and Solutal Effects", Proceedings of the Institution of Mechanical Engineers, Part N: Journal of Nanomaterials, Nanoengineering and Nanosystems, 2025.

A38. "Chirped and chirp-free optical soliton solutions for stochastic long-short wave resonant equations with multiplicative white noise", Physica Scripta, 2025.

A39. "Stochastic Gompertzian Model for Parathyroid Tumor Growth", Mathematical Methods in the Applied Sciences, 2025.

A40. "Rh2MnGa full Heusler alloy: Unravelled physical properties and strain-induced magnetic moment using DFT", International Journal of Modern Physics C, 2025.

A41. "Thermal Diffusion Effect Analysis of Micropolar Nanofluid Flowing on Inclined Surface: A Chemical Engineering Case Study", Heat Transfer, 2025.

A42. "Production of sorbet with persimmon using green pea aquafaba: physicochemical characterization and bioaccessibility of bioactive compounds", Journal of Food Science and Technology, 2025.

A43. "A cardinal-based approximation approach for a family of nonlinear fractional integro-differential equations involving Caputo tempered derivative", Journal of Applied Mathematics and Computing, 2025.

A44. "Investigating dispersive optical soliton dynamics in birefringent fibers with cubic nonlinearity through quintic-order concatenation model", Optical Fiber Technology, 2024.

A45. "Qualitative Analysis and Novel Exact Soliton Solutions to the Compound Korteweg–De Vries–Burgers Equation", Fractal and Fractional, 2024.

A46. "Entropy generation in Johnson–Segalman peristaltic flow with magnetic field and activation energy", ZAMM Zeitschrift fur Angewandte Mathematik und Mechanik, 2024.

A47. "Multiple soliton solutions and other travelling wave solutions to new structured (2+1)-dimensional integro-partial differential equation using efficient technique", Physica Scripta, 2024.

A48. "Optical soliton solution of the perturbed Fokas–Lenells equation having the cubic–quintic–septic law of self-phase modulation in the presence of chromatic and spatiotemporal dispersions", European Physical Journal Plus, 2024.

A49. "Investigation of soliton solutions to the Peyrard-Bishop-Deoxyribo-Nucleic-Acid dynamic model with beta-derivative", Modern Physics Letters B, 2024.

A50. "Schrödinger-Hirota equation in birefringent fibers with cubic-quantic nonlinearity and multiplicative white noise in the ito sense: Nucci’s reductions and soliton solutions", Physica Scripta, 2024.

A51. "Optical soliton solutions of the nonlinear complex Ginzburg-Landau equation with the generalized quadratic-cubic law nonlinearity having the chromatic dispersion", Physica Scripta, 2024.

A52. "On Stochastic Pure-Cubic Optical Soliton Solutions of Nonlinear Schrödinger Equation Having Power Law of Self-Phase Modulation", International Journal of Theoretical Physics, 2024.

A53. "The Discovery of Truncated M-Fractional Exact Solitons and a Qualitative Analysis of the Generalized Bretherton Model", Mathematics, 2024.

A54. "Optical soliton solution of the perturbed Biswas-Milovic equation having cubic-quintic-septic law nonlinearity in the presence of spatio-temporal and chromatic dispersion", Physica Scripta, 2024.

A55. "Discovering novel optical solitons of two CNLSEs with coherent and incoherent nonlinear coupling in birefringent optical fibers", Optical and Quantum Electronics, 2024.

A56. "Obtaining analytical solutions of (2+1)-dimensional nonlinear Zoomeron equation by using modified F-expansion and modified generalized Kudryashov methods", Engineering Computations (Swansea, Wales), 2024.

A57. "On the analytical soliton solutions of (1 + 1)-dimensional complex coupled nonlinear Higgs field model", European Physical Journal: Special Topics, 2024.

A58. "Dispersive perturbations of solitons for conformable fractional complex Ginzburg–Landau equation with polynomial law of nonlinearity using improved modified extended tanh-function method", Optical and Quantum Electronics, 2024.

A59. "Analytical solutions of simplified modified Camassa-Holm equation with conformable and M-truncated derivatives: A comparative study", Journal of Ocean Engineering and Science, 2024.

A60. "Optical solitons of higher order mathematical model with refractive index using Kudryashov method", Optical and Quantum Electronics, 2024.

A61. "On the soliton solutions to some system of complex coupled nonlinear models and the effect of the coupling coefficients", Optical and Quantum Electronics, 2024.

A62. "Optical soliton solutions of complex Ginzburg–Landau equation with triple power law and modulation instability", Optical and Quantum Electronics, 2024.

A63. "Optical soliton solutions in a distinctive class of nonlinear Schrödinger's equation with cubic, quintic, septic, and nonic nonlinearities", Optical and Quantum Electronics, 2024.

A64. "Optical soliton solutions of the perturbed fourth-order nonlinear Schrödinger-Hirota equation with parabolic law nonlinearity of self-phase modulation", Physica Scripta, 2024.

A65. "On optical soliton solutions of the higher-order Lakshmanan-Porsezian-Daniel model having the cubic-quintic-septic law in the presence of spatio-temporal and chromatic dispersion", Physica Scripta, 2024.

A66. "Examination of optical soliton solutions for the perturbed Schrödinger–Hirota equation with anti-cubic law in the presence of spatiotemporal dispersion", European Physical Journal Plus, 2024.

A67. "Unveiling hemodynamic pulsatile flow dynamics in carotid artery stenosis: Insights from computational fluid dynamics", AIP Advances, 2024.

A68. "Optical solitons of stochastic perturbed Radhakrishnan–Kundu–Lakshmanan model with Kerr law of self-phase-modulation", Modern Physics Letters B, 2024.

A69. "A comprehensive analysis of Fokas–Lenells equation using Lie symmetry method", Mathematical Methods in the Applied Sciences, 2024.

A70. "Optical soliton solutions of stochastic the third-order nonlinear Schrödinger equation with multiplicative white noise via Itô calculus", Optical and Quantum Electronics, 2024.

A71. "Bright soliton of the third-order nonlinear Schrödinger equation with power law of self-phase modulation in the absence of chromatic dispersion", Optical and Quantum Electronics, 2024.

A72. "Effects of high dispersion and generalized non-local laws on optical soliton perturbations in magneto-optic waveguides with sextic-power law refractive index", Nonlinear Dynamics, 2024.

A73. "Generating optical solitons in the extended (3 + 1)-dimensional nonlinear Kudryashov's equation using the extended F-expansion method", Optical and Quantum Electronics, 2024.

A74. "Examining the (1 + 1)-dimensional Schrödinger–Hirota equation with Kerr effect under inter-modal dispersion using the invariance theory", Optical and Quantum Electronics, 2024.

A75. "New lump interaction complexitons to the (2+1)-dimensional Korteweg-de Vries equation with electrostatic wave potential in plasmas", Journal of Ocean Engineering and Science, 2024.

A76. "Soliton solutions of the improved perturbed nonlinear Schrödinger equation having parabolic law with non-local nonlinearity in the presence of chromatic and spatio-temporal dispersion terms", Physica Scripta, 2024.

A77. "High dispersion and cubic–quintic–septic–nonic nonlinearity effects on optical solitons in the complex Ginzburg–Landau equation of eighth-order with multiplicative white noise in the Itô sense", Results in Physics, 2024.

A78. "On soliton solutions for higher-order nonlinear Schrödinger equation with cubic-quintic-septic law", International Journal of Geometric Methods in Modern Physics, 2024.

A79. "On obtaining optical solitons of the perturbed cubic-quartic model having the Kudryashov's law of refractive index", Optical and Quantum Electronics, 2024.

A80. "Series and closed form solution of Caputo time-fractional wave and heat problems with the variable coefficients by a novel approach", Optical and Quantum Electronics, 2024.

A81. "Davey-Stewartson system and investigation of the impacts of the nonlinearity", Optical and Quantum Electronics, 2024.

A82. "Nonlinear complex generalized zakharov dynamical system inconformal sense utilizing new kudryashov method", Physica Scripta, 2024.

A83. "Obtaining soliton solutions of the nonlinear (4+1)-dimensional Boiti–Leon–Manna–Pempinelli equation via two analytical techniques", International Journal of Modern Physics B, 2024.

A84. "Revealing optical soliton solutions of Schrödinger equation having parabolic law and anti-cubic law with weakly nonlocal nonlinearity", Journal of Taibah University for Science, 2024.

A85. "Retrieval of optical soliton solutions of stochastic perturbed Schrödinger-Hirota equation with Kerr law in the presence of spatio-temporal dispersion", Optical and Quantum Electronics, 2024.

A86. "On obtaining analytical soliton solutions of Drinfeld-Sokolov-Satsuma-Hirota equation via two efficient methods", Physica Scripta, 2024.

A87. "Soliton solutions of time-fractional modified Korteweg-de-Vries Zakharov-Kuznetsov equation and modulation instability analysis", Physica Scripta, 2024.

A88. "Optical solitons for the dispersive concatenation model with spatio-temporal dispersion having multiplicative white noise", Results in Physics, 2024.

A89. "Mathematical modelling of COVID-19 outbreak using caputo fractional derivative: stability analysis", Applied Mathematics in Science and Engineering, 2024.

A90. "Investigating the generalized Kudryashov's equation in magneto-optic waveguide through the use of a couple integration techniques", Journal of Optics (India), 2024.

A91. "Unveiling ductile, rare-earth-free structural materials: A DFT exploration of MnTi and MnZr", Modern Physics Letters B, 2024.

A92. "Three-Dimensional Finite Element Analysis of Cement-Cup Junction in Total Hip Prosthesis: Mechanical Stress Distribution, Crack Initiation and Rupture Dynamics", Nano, 2024.

A93. "Retrieval solitons and other wave solutions to kudryashov's equation with generalized anti-cubic nonlinearity and local fractional derivative using an efficient technique", Journal of Optics (India), 2024.

A94. "Bright soliton of the perturbed Schrödinger–Hirota equation with cubic–quintic–septic law of self-phase modulation in the presence of spatiotemporal dispersion", European Physical Journal Plus, 2024.

A95. "Bright soliton of Stochastic perturbed Biswas-Milovic equation with cubic-quintic-septic law having multiplicative white noise", Revista Mexicana de Fisica, 2024.

A96. "Stochastic higher-order Lakshmanan-Porsezian-Daniel model with cubic-quintic law nonlinearities in the presence of spatio-temporal and chromatic dispersion terms", Journal of Nonlinear Optical Physics and Materials, 2024.

A97. "Optical soliton solutions of the third-order nonlinear Schrödinger equation in the absence of chromatic dispersion", Modern Physics Letters B, 2024.

A98. "On the optical soliton solutions of the perturbed Fokas{Lenells equation having parabolic law of self-phase modulation in the presence of spatio-temporal dispersion", Modern Physics Letters B, 2024.

A99. "Optical solitons of the (1 + 1)-dimensional perturbed complex Ginzburg{Landau equation having the Kerr law in the absence of the chromatic dispersion", Modern Physics Letters B, 2024.

A100. "Synchronization and control of fractional laser chaotic systems defined based on the regularized Prabhakar derivative with incommensurate parameters", Nonlinear Dynamics, 2024.

A101. "An efficient computational method for nonlinear mixed Volterra–Fredholm integral equations", Journal of Applied Mathematics and Computing, 2024.

A102. "Stochastic perturbed Fokas-Lenells equation having the polynomial law of self-phase modulation in the presence of spatio-temporal dispersion", Journal of Optics (India), 2024.

A103. "Optical solitons in cubic-quartic form within birefringent fibers through the Schrödinger-Hirota equation addressing cubic-quintic nonlinearity", Modern Physics Letters B, 2024.

A104. "Exploring chaos, multistability, and interaction patterns in (3+1)-dimensional KdV-BBM model", Nonlinear Dynamics, 2024.

A105. "Highly dispersive optical solitons in fiber Bragg gratings for stochastic Lakshmanan–Porsezian–Daniel equation with spatio-temporal dispersion and multiplicative white noise", Results in Physics, 2023.

A106. "Optical soliton solutions of the stochastic perturbed Radhakrishnan-Kundu-Lakshmanan equation via Itô Calculus", Physica Scripta, 2023.

A107. "Optical solitons of a cubic-quartic nonlinear Schrödinger equation with parabolic law nonlinearity in optical metamaterials", International Journal of Geometric Methods in Modern Physics, 2023.

A108. "Investigating of the pure-cubic optical solitons in the presence of spatio-temporal and inter-modal dispersions", European Physical Journal Plus, 2023.

A109. "Optical soliton solutions of the nonlinear Schrödinger equation in the presence of chromatic dispersion with cubic-quintic-septic-nonicnonlinearities", Physica Scripta, 2023.

A110. "Numerical approximation of the Cauchy non-homogeneous time-fractional diffusion-wave equation with Caputo derivative using shifted Chebyshev polynomials", Alexandria Engineering Journal, 2023.

A111. "A method for solving the generalized Camassa-Choi problem with the Mittag-Leffler function and temporal local derivative", Alexandria Engineering Journal, 2023.

A112. "On the soliton solutions to the density-dependent space time fractional reaction–diffusion equation with conformable and M-truncated derivatives", Optical and Quantum Electronics, 2023.

A113. "Resonant NLSE in the presence of spatio-temporal and intermodal dispersion is dominated by a myriad of nonlinearities", Physica Scripta, 2023.

A114. "On solution of Schrödinger–Hirota equation with Kerr law via Lie symmetry reduction", Nonlinear Dynamics, 2023.

A115. "Soliton solutions of the (2 + 1)-dimensional Kadomtsev-Petviashvili equation via two different integration schemes", International Journal of Modern Physics B, 2023.

A116. "Discovering optical soliton solutions in the Biswas–Milovic equation through five innovative approaches", Optik, 2023.

A117. "Stochastic optical solitons of the perturbed nonlinear Schrödinger equation with Kerr law via Ito calculus", European Physical Journal Plus, 2023.

A118. "New wave solutions, exact and numerical approximations to the nonlinear Klein-Gordon equation", International Journal of Modern Physics B, 2023.

A119. "Soliton solutions of Heisenberg spin chain equation with parabolic law nonlinearity", Optical and Quantum Electronics, 2023.

A120. "On the dynamics of a higher-order fuzzy difference equation with rational terms", Soft Computing, 2023.

A121. "Optical soliton solutions of dispersive Schrödinger–Hirota equation with chromatic and inter-modal dispersion in a couple of law medium", Optical and Quantum Electronics, 2023.

A122. "On soliton solutions of the modified equal width equation", Engineering Computations (Swansea, Wales), 2023.

A123. "Optical solitons of improved perturbed nonlinear Schrödinger equation with cubic-quintic-septic and triple-power laws in optical metamaterials", Physica Scripta, 2023.

A124. "On the investigation of chiral solitons via modified new Kudryashov method", International Journal of Geometric Methods in Modern Physics, 2023.

A125. "Further study of eccentricity based indices for benzenoid hourglass network", Heliyon, 2023.

A126. "Optical solitons for the dispersive Schrödinger–Hirota equation in the presence of spatio-temporal dispersion with parabolic law", European Physical Journal Plus, 2023.

A127. "Optical soliton solutions of Schrödinger–Hirota equation with parabolic law nonlinearity via generalized Kudryashov algorithm", Optical and Quantum Electronics, 2023.

A128. "Optical solitons for Kundu–Mukherjee–Naskar equation via enhanced modified extended tanh method", Optical and Quantum Electronics, 2023.

A129. "Stochastic dispersive Schrödinger–Hirota equation having parabolic law nonlinearity with multiplicative white noise via Ito calculus", Optik, 2023.

A130. "Kink Soliton Dynamic of the (2+1)-Dimensional Integro-Differential Jaulent–Miodek Equation via a Couple of Integration Techniques", Symmetry, 2023.

A131. "Generalized Gegenbauer–Humbert wavelets for solving fractional partial differential equations", Engineering with Computers, 2023.

A132. "Extraction of soliton waves from the longitudinal wave equation with local M-truncated derivatives", Optical and Quantum Electronics, 2023.

A133. "Traveling wave structures of some fourth-order nonlinear partial differential equations", Journal of Ocean Engineering and Science, 2023.

A134. "On solitary wave solutions for the extended nonlinear Schrödinger equation via the modified F-expansion method", Optical and Quantum Electronics, 2023.

A135. "(3+1)-dimensional Sasa–Satsuma equation under the effect of group velocity dispersion, self-frequency shift and self-steepening", Optik, 2023.

A136. "Soliton solutions of coupled resonant Davey-Stewartson system and modulation instability analysis", Physica Scripta, 2023.

A137. "Retrieval of Optical Solitons with Anti-Cubic Nonlinearity", Mathematics, 2023.

A138. "Approximate and Exact Solutions in the Sense of Conformable Derivatives of Quantum Mechanics Models Using a Novel Algorithm", Symmetry, 2023.

A139. "On the investigation of optical soliton solutions of cubic–quartic Fokas–Lenells and Schrödinger–Hirota equations", Optik, 2023.

A140. "Solitons in dual-core optical fibers with chromatic dispersion", Optical and Quantum Electronics, 2023.

A141. "On the optical soliton solutions of time-fractional Biswas–Arshed equation including the beta or M-truncated derivatives", Optical and Quantum Electronics, 2023.

A142. "Investigation of optical soliton solutions for the perturbed Gerdjikov-Ivanov equation with full-nonlinearity", Heliyon, 2023.

A143. "Optical soliton solutions of (1 + 1)-and (2 + 1)-dimensional generalized Sasa-Satsuma equations using new Kudryashov method", International Journal of Geometric Methods in Modern Physics, 2023.

A144. "Optical soliton solutions of time-fractional coupled nonlinear Schrödinger system via Kudryashov-based methods", Optik, 2023.

A145. "ENHANCING FLOW STRUCTURE IN HEAT EXCHANGERS Analysis of Dynamic and Thermal Air-Flow Behavior with Perforated and Inclined Baffles", Thermal Science, 2023.

A146. "ENHANCING THERMAL PERFORMANCE AND SUSTAINABILITY Parabolic trough Concentrator Systems in Djelfa's Solar-Integrated Urban Design", Thermal Science, 2023.

A147. "OPTIMIZATION OF THERMAL COMFORT IN BUILDINGS VIA ANALYSIS OF A TROMBE WALL FOR ENHANCED ENERGY EFFICIENCY", Thermal Science, 2023.

A148. "ARTIFICIAL NEURAL NETWORK BASED PREDICTION OF ENGINE-OUT RESPONSES FROM A BIODIESEL FUELLED COMPRESSION IGNITION ENGINE", Thermal Science, 2023.

A149. "ENHANCING THERMAL COMFORT IN BUILDINGS Innovations in Sustainable Cooling and Heating Systems Utilizing Geothermal Energy", Thermal Science, 2023.

A150. "SIMULATION OF NEWLY DESIGNED VORTEX GENERATORS FOR OPTIMIZING FLUID MIXING EFFICIENCY IN COMPACT STATIC MIXERS WITH SINGLE-EXIT CONFIGURATION", Thermal Science, 2023.

A151. "Pure-Cubic Optical Solitons and Stability Analysis with Kerr Law Nonlinearity", Contemporary Mathematics (Singapore), 2023.

A152. "Soliton and other solutions of the (2+1)-dimensional Date-Jimbo-Kashiwara-Miwa equation with conformable derivative", Physica Scripta, 2023.

A153. "Obtaining the soliton solutions of local M-fractional magneto-electro-elastic media", Heliyon, 2023.

A154. "Analysis of the Fractional Differential Equations Using Two Different Methods", Symmetry, 2023.

A155. "Construction of Novel Bright-Dark Solitons and Breather Waves of Unstable Nonlinear Schrödinger Equations with Applications", Symmetry, 2023.

A156. "An Efficient Approach for Solving Differential Equations in the Frame of a New Fractional Derivative Operator", Symmetry, 2023.

A157. "Soliton Waves with the (3+1)-Dimensional Kadomtsev–Petviashvili–Boussinesq Equation in Water Wave Dynamics", Symmetry, 2023.

A158. "SPECIAL SOLUTIONS FOR THE LAPLACE AND DIFFUSION EQUATIONS ASSOCIATED WITH THE ALGEBRAIC NUMBER FIELD", Thermal Science, 2023.

A159. "Acquiring the solitons of inhomogeneous Murnaghan's rod using extended Kudryashov method with Bernoulli-Riccati approach", International Journal of Modern Physics B, 2022.

A160. "Obtaining optical soliton solutions of the cubic–quartic Fokas–Lenells equation via three different analytical methods", Optical and Quantum Electronics, 2022.

A161. "Optical soliton solutions of the Chen–Lee–Liu equation in the presence of perturbation and the effect of the inter-modal dispersion, self-steepening and nonlinear dispersion", Optical and Quantum Electronics, 2022.

A162. "Optical bullets with Biswas–Milovic equation having Kerr and parabolic laws of nonlinearity", Optik, 2022.

A163. "Optical solitons for Biswas–Milovic equation using the new Kudryashov's scheme", Optik, 2022.

A164. "Soliton solutions to the nonlinear higher dimensional Kadomtsev-Petviashvili equation through the new Kudryashov’s technique", Physica Scripta, 2022.

A165. "Imaging Ultrasound Propagation Using the Westervelt Equation by the Generalized Kudryashov and Modified Kudryashov Methods", Applied Sciences (Switzerland), 2022.

A166. "Two Analytical Schemes for the Optical Soliton Solution of the (2 + 1) Hirota–Maccari System Observed in Single-Mode Fibers", Universe, 2022.

A167. "Soliton solutions of the Boussinesq equation via an efficient analytical technique", Modern Physics Letters B, 2022.

A168. "Two-wave, breather wave solutions and stability analysis to the (2 + 1)-dimensional Ito equation", Journal of Ocean Engineering and Science, 2022.

A169. "Optical soliton perturbation with Fokas–Lenells equation via enhanced modified extended tanh-expansion approach", Optik, 2022.

A170. "The bell-shaped perturbed dispersive optical solitons of Biswas–Arshed equation using the new Kudryashov's approach", Optik, 2022.

A171. "On the examination of optical soliton pulses of Manakov system with auxiliary equation technique", Optik, 2022.

A172. "Comparative analysis for the nonlinear mathematical equation with new wave structures", European Physical Journal Plus, 2022.

A173. "Dispersive optical solitons of Biswas–Arshed equation with a couple of novel approaches", Optik, 2022.

A174. "Perturbation of dispersive optical solitons with Schrödinger–Hirota equation with Kerr law and spatio-temporal dispersion", Optik, 2022.

A175. "An encyclopedia of Kudryashov's integrability approaches applicable to optoelectronic devices", Optik, 2022.

A176. "Optical solitons to the (1+2)-dimensional Chiral non-linear Schrödinger equation", Optical and Quantum Electronics, 2022.

A177. "Analytical solutions of (2+1)-dimensional Calogero-Bogoyavlenskii-Schiff equation in fluid mechanics/plasma physics using the New Kudryashov method", Physica Scripta, 2022.

A178. "Analytical soliton solutions of the higher order cubic-quintic nonlinear Schrödinger equation and the influence of the model's parameters", Journal of Applied Physics, 2022.

A179. "Numerical approximations and conservation laws for the Sine-Gordon equation", Journal of Geometry and Physics, 2022.

A180. "Dark, bright and singular optical solutions of the Kaup–Newell model with two analytical integration schemes", Optik, 2022.

A181. "Optical solitons with Kudryashov's sextic power-law nonlinearity", Optik, 2022.

A182. "Derivation of optical solitons of dimensionless Fokas-Lenells equation with perturbation term using Sardar sub-equation method", Optical and Quantum Electronics, 2022.

A183. "Optical solitons of the Kudryashov Equation via an analytical technique", Optical and Quantum Electronics, 2022.

A184. "On the analytical optical soliton solutions of perturbed Radhakrishnan–Kundu–Lakshmanan model with Kerr law nonlinearity", Optical and Quantum Electronics, 2022.

A185. "On the optical soliton solutions of Kundu–Mukherjee–Naskar equation via two different analytical methods", Optik, 2022.

A186. "Novel soliton solutions of Sasa-Satsuma model with local derivative via an analytical technique", Journal of Laser Applications, 2022.

A187. "Optical solitons and other solutions to the Hirota-Maccari system with conformable, M-truncated and beta derivatives", Modern Physics Letters B, 2022.

A188. "Effects of two-equation turbulence models on the convective instability in finned channel heat exchangers", Case Studies in Thermal Engineering, 2022.

A189. "A comparison of analytical solutions of nonlinear complex generalized Zakharov dynamical system for various definitions of the differential operator", Electronic Research Archive, 2022.

A190. "Solving the fractional Jaulent–Miodek system via a modified Laplace decomposition method", Waves in Random and Complex Media, 2022.

A191. "An application of Genocchi wavelets for solving the fractional Rosenau-Hyman equation☆", Alexandria Engineering Journal, 2021.

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A193. "Optical solitons of the (2+1)-dimensional Biswas–Milovic equation using modified extended tanh-function method", Optik, 2021.

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A266. "Stability, synchronization control and numerical solution of fractional Shimizu-Morioka dynamical system", Applied Mathematics and Information Sciences, 2014.

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A269. "Guest Editorial", Journal of the Franklin Institute, 2014.

A270. "An approximate solution of fractional cable equation by homotopy analysis method", Boundary Value Problems, 2014.

A271. "A generalized q-Grüss inequality involving the Riemann-Liouville fractional q-integrals", Journal of Applied Mathematics, 2014.

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A277. "Fitting Fick's model to analyze water diffusion into chickpeas during soaking with ultrasound treatment", Journal of Food Engineering, 2011.

A278. "Solving a system of nonlinear fractional partial differential equations using three dimensional differential transform method", INTERNATIONAL JOURNAL OF THE PHYSICAL SCIENCES, 2010.

A279. "Approximate analytical solution for the fractional modified KdV by differential transform method", Communications in Nonlinear Science and Numerical Simulation, 2010.

A280. "Global asymptotic stability for a fourth-order rational difference equation", Discrete Dynamics in Nature and Society, 2009.

A281. "On the numerical solution of differential-algebraic equations with index-3", Applied Mathematics and Computation, 2006.

A282. "Numerical solution of differential-algebraic equations with index-2", Applied Mathematics and Computation, 2006.

A283. "Metabolic control analysis of trio enzymes system", Applied Mathematics and Computation, 2005.

A284. "Modelling of cooking of wheat to produce bulgur", Journal of Food Engineering, 2005.

A285. "On the numerical solution of stiff systems", Applied Mathematics and Computation, 2005.

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A287. "Determination of the sphericity of granular food materials", Journal of Food Engineering, 2005.

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A289. "Derivation of conservation relationships for catalytic cycles using MAPLE", Applied Mathematics and Computation, 2005.

A290. "The numerical solution of physical problems modeled as a systems of differential-algebraic equations (DAEs)", Journal of the Franklin Institute, 2005.

A291. "Stone, disc and hammer milling of bulgur", Journal of Cereal Science, 2005.

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A295. "Numerical solution of differential-algebraic equation systems and applications", Applied Mathematics and Computation, 2004.

A296. "Application of Gröbner basis techniques to enzyme kinetics", Applied Mathematics and Computation, 2004.

A297. "A computer program to calculate Alexander polynomial from Braids presentation of the given knot", Applied Mathematics and Computation, 2004.

A298. "Application of computer algebra matrix operation techniques to the control of metabolic networks", Applied Mathematics and Computation, 2004.

A299. "The modified successive approximations method and padé approximants for solving the differential equation with variant retarded argumend", Applied Mathematics and Computation, 2004.

A300. "A numerical solution of the elasticity problem of settled of the wronkler ground with variable coefficients", Applied Mathematics and Computation, 2004.

A301. "Influence of soaking on the dimensions and colour of soybean for bulgur production", Journal of Food Engineering, 2004.

A302. "Changes in properties of soaking water during production of soy-bulgur", Journal of Food Engineering, 2004.

A303. "Water absorption, leaching and color changes during the soaking for production of soy-bulgur", Journal of Food Process Engineering, 2004.

A304. "The ordinary successive approximations method and Padé approximants for solving a differential equation with variant retarded argument", Applied Mathematics and Computation, 2003.

A305. "Automatic calculation of minimum crossing numbers of 3-braids", Applied Mathematics and Computation, 2003.

A306. "The modified two sided approximations method and Padé approximants for solving the differential equation with variant retarded argument", Applied Mathematics and Computation, 2003.

A307. "Numerical solutions of chemical differential-algebraic equations", Applied Mathematics and Computation, 2003.

A308. "Arbitrary order numerical method for solving differential-algebraic equation by Padé series", Applied Mathematics and Computation, 2003.

A309. "On the numerical solution of differential-algebraic equations by Padé series", Applied Mathematics and Computation, 2003.

A310. "Application of computer algebra-techniques to metabolic control analysis", Computational Biology and Chemistry, 2003.

A311. "Automatic calculation of Alexander polynomials of (3,k)-Torus knots", Applied Mathematics and Computation, 2003.

A312. "Simultaneous solution of polynomial equations", Applied Mathematics and Computation, 2002.

A313. "Numerical method to solve chemical differential-algebraic equations", International Journal of Quantum Chemistry, 2002.

A314. "Derivation of conservation relationships for metabolic networks using MAPLE", Applied Mathematics and Computation, 2000.

A315. "An analysis of the kinetics of unstable enzymatic systems using MAPLE", Applied Mathematics and Computation, 2000.

A316. "Parameter estimation of an enzyme kinetic system using computer algebra techniques", Applied Mathematics and Computation, 1999.

A317. "Application of computer algebra techniques to affinity binding equations", Applied Mathematics and Computation, 1998.

A318. "Application of computer algebra techniques to enzyme kinetics", Applied Mathematics and Computation, 1998.

A319. "On a method of calculation of the first phase saturation during the process of displacement of oil by water from porous media", Applied Mathematics and Computation, 1997.

A320. "A novel method for analyzing enzyme kinetic systems", Applied Mathematics and Computation, 1997.

A321. "Automatic analysis of the control of metabolic networks", Computers in Biology and Medicine, 1996.

A322. "Using computer algebra to determine rate constants in biochemistry", Acta Biotheoretica, 1993.

B. Papers presented at international scientific meetings and published in proceedings:

B1. "Numerical Solutions for Higher Order Singular Perturbation Problems by Polynomial Based Differential Quadrature", 3rd International Conferenceon Pure and Applied Sciences, 2025.

B2. "An Efficient Legendre Wavelet-Galerkin Based Approximation for the One-Dimensional Heat Equation", International Conference on Computational Methods in Applied Sciences, 2019.

B3. "Numerical Approaches for solving the Coupled System of Burgers' Equations with Time-Fractional Derivative using Gegenbauer wavelet", International Conference on Computational Methods in Applied Sciences, 2019.

B4. "Multicriteria optimization model for choosing of basic wavelet functions: Interval Type-2 Intuitionistic Fuzzy Logic", 7th International Conference on Applied Analysis and Mathematical Modeling, 2018.

B5. "A Hybrid Method for the Fuzzy System MCDM Problems with Interactive Criteria", 7th International Conference on Applied Analysis and Mathematical Modeling, 2018.

B6. "Numerical Simulation of the Heston Model", 7th International Conference on Applied Analysis and Mathematical Modeling, 2018.

B7. "Stochastic Delay Differential Equations with Numerical Solutions", 7.th International Conference on Applied Analysis and Mathematical Modeling, 2018.

B8. "Numerical Approximations on Nonlinear Stochastic Differential Equations", 7.th International Conference on Applied Analysis and Mathematical Modeling, 2018.

B9. "Oscillation theorems for q-fractional difference equations", 7th International Conference on Applied Analysis and Mathematical Modeling, 2018.

B10. "A Stochastic Model for Parathyroid Tumours", 3rd International Conference on Computational Mathematics and Engineering Sciences, CMES 2018, 2018.

B11. "Simulation of Stochastic Differential Equations", 3.rd International Conference on Computational Mathematics and Engineering Sciences, 2018.

B12. "Estimating Enzyme Kinetic Parameters using Computer Algebra Techniques", 4th International Conference on Pure and Applied Sciences, 2017.

B13. "On the oscillation of fractional nonlinear difference equations", 4nd International Conference on Pure Applied Science: Renewable Energy, 2017.

B14. "Some Oscillation Theorems for Second Order Neutral Delay Differential Equations", 4nd International Conference on Pure Applied Science: Renewable Energy, 2017.

B15. "Polynomial Based Differential Quadrature for Numerical Solutions of Kuramoto-Sivashinsky Equation", SCICADE 2017, 2017.

B16. "A Stochastic Model of Human Breast Cancer Growth", International Conference on Mathematics and Computational Science and Engineering,, 2017.

B17. "Numerical Simulation of Stochastic Oscillator", International Conference on Mathematics and Computational Science and Engineering, 2017.

B18. "Oscillation Behavior of Solution of Nonlinear Fractional Neutral Differential Equations", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B19. "Oscillation Properties of Second-Order Neutral Functional Dynamic Equations on Time Scales", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B20. "Oscillation Results for Fractional Partial Differential Equations", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B21. "Numerical Solutions of Vector Stochastic Differential Equations", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B22. "Stability of Strong Numerical Schemes for Stochastic Differential Equations", International Conference on Applied Analysis and Mathematical Modeling (ICAAMM 2017), 2017.

B23. "Numerical Solutions of Stochastic SIS Epidemic Model", International Conference on Applied Analysis and Mathematical Modeling (ICAAMM 2017), 2017.

B24. "Application of Sinc-Galerkin Method for Solving Fractional Partial Differential Equations", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B25. "Application of Wavelet-Galerkin Approximation Techniques on the Partial Differential Equations via Maple", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B26. "The Legendre Wavelet Operational Matrix Method and Its Applications on High Order Non-Linear Differantial Equations", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B27. "Numerical Solution of Fractional Bagley-Torvik Equation by the Legendre Wavelet Operational Matrix Method", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B28. "On Solving Uncertain Random Matrix Games", International Conference on Applied Analysis and Mathematical Modeling, 2017.

B29. "Nonlinear solutions of the space- and time-fractional coupled Burgers equations", ICAAMM-2017, 2017.

B30. "Stochastıc Runge-Kutta Methods In A Gompertzıan Stochastıc Model", 2nd Internatıonal Conference On Computatıonal Mathematıcs And Engıneerıng Scıences-(Cmes2017), 2017.

B31. "Maximum Likelihood Parameter Estimation Method for Tumor Growth", International Conference on Mathematics and Engineering (ICOME 2017), 2017.

B32. "Second Order Stochastic Differential Equations in Finance", INTERNATIONAL CONFERENCE ON MATHEMATICS AND ENGINEERING, 2017.

B33. "Runge-Kutta Methods for Stochastic Differential Equations", 3rd International Conference on Pure and Applied Sciences, 2017.

B34. "Explicit Runge-Kutta Methods for a Stochastic Model in Tumour Growth", 3rd International Conference on Pure and Applied Sciences, 2017.

B35. "An Efficient Nonlinear Technique For Systems of Fractional Differential Equations", ICAAMM-2017, 2007.

C. National/international books written or chapters in books:

C1. National/international books written:

C1.1. "Diferansiyel Denklemler", Aktif basım, 1997.

D. Articles published in national peer-reviewed journals:

D1. "Numerical analysis of a novel mathematical model of measles-pneumonia co-infection with treated-vaccinated compartment", Ain Shams Engineering Journal, 2025.

D2. "A reliable strategy for a category of third-kind nonlinear fractional integro-differential equations", Chaos, Solitons and Fractals, 2025.

D3. "Studying the stability of the cholera fractional model and its simulation using generalized hat basis functions", Results in Physics, 2025.

D4. "Application of a fractal fractional operator to nonlinear glucose–insulin systems: Adomian decomposition solutions", Computers in Biology and Medicine, 2025.

D5. "Shifted Chebyshev polynomials method for Caputo-Hadamard fractional Ginzburg–Landau equation", Results in Physics, 2025.

D6. "Modified hat functions for constrained fractional optimal control problems with ψ-Caputo derivative", Communications in Nonlinear Science and Numerical Simulation, 2025.

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D8. "Artificial intelligence and numerical simulation based assessment of trihybrid structured flow over a curved geometry: Thermalized case analysis", Results in Engineering, 2025.

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D22. "Retrieval of optical solitons: Complex cubic–quintic Ginzburg–Landau equation augmented with the anti-cubic law", Optik, 2023.

D23. "Investigation of optical soliton solutions of higher-order nonlinear Schrödinger equation having Kudryashov nonlinear refractive index", Optik, 2023.

D24. "New Fractional Modelling, Analysis and Control of the Three Coupled Multiscale Non-Linear Buffering System", International Journal of Applied and Computational Mathematics, 2022.

D25. "Soliton Solutions of (2 + 1) Dimensional Heisenberg Ferromagnetic Spin Equation by the Extended Rational sine- cosine and sinh- cosh Method", International Journal of Applied and Computational Mathematics, 2021.

D26. "Exact traveling wave solutions of the whitham-broer-kaup-like equation with time-dependent coefficients", Applied Mathematics and Information Sciences, 2019.

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D28. "Oscillatory behavior of solutions of differential equations with fractional order", Applied Mathematics and Information Sciences, 2017.

D29. "Modeling and resource scheduling of real-time unsplittable data transfers", Applied Mathematics and Information Sciences, 2015.

D30. "Convexity of certain q -integral operators of p -valent functions", Abstract and Applied Analysis, 2014.

D31. "Recent developments in integral transforms, special functions, and their extensions to distributions theory", Abstract and Applied Analysis, 2013.

D32. "Approximates method for solving an elasticity problem of settled of the elastic ground with variable coefficients", Applied Mathematics and Information Sciences, 2013.

D33. "Coefficient estimates and other properties for a class of spirallike functions associated with a differential operator", Abstract and Applied Analysis, 2013.

D34. "A numerical method for partial differential algebraic equations based on differential transform method", Abstract and Applied Analysis, 2013.

D35. "Efficient variational approaches for deformable registration of images", Abstract and Applied Analysis, 2012.

D36. "Application of computer algebra matrix operation techniques to the enzymes kinetics systems", Malaysian Journal of Mathematical Sciences, 2012.

D37. "Comparison of numerical solutions of time-fractional reaction-diffusion equations", Malaysian Journal of Mathematical Sciences, 2012.

D38. "Metabolic control analysis in enzymes kinetics", Malaysian Journal of Mathematical Sciences, 2012.

D39. "Dynamics of a higher - order nonlinear rational difference equation", International Journal of Physical Sciences, 2011.

D40. "On the dynamics of xn+1 = xn-32xn + xn + 2xn-3 + a/xn-32 + 2xnxn-3 + 1+a", Applied Mathematical Sciences, 2010.

D41. "On the positive solutions of the difference equation system", Applied Mathematical Sciences, 2010.

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D43. "Chebyshev approximation for numerical solution of differential-algebraic equation", International Journal of Applied Mathematics and Statistics, 2004.

D44. "Color-sorting systems for bulgar production", Cereal Foods World, 2003.

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E. Papers presented at national scientific meetings and published in proceedings:

E1. "A simple general purpose technique for interfacing between computer algebra and numerical analysis systems", teoretical biyology, 1993.