

# Dr. MUHAMMAD ARSHAD

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**Father's Name:** Muhammad Aslam  
**Date of Birth:** 10-10-1987  
**Passport No.:** EB1919983  
**Nationality:** Pakistani  
**Postal Address:** House No. 252, Faisal colony No. 2 Okara, Pakistan  
**Languages Skills:** English, Urdu, Punjabi  
**Main Qualification:** Ph.D Applied Mathematics  
And Post Doctorate  
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**Researchgate Link:** <https://www.researchgate.net/profile/Muhammad-Arshad-86>



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| <b>Objective</b>           | To pursue a challenging career in the field of Mathematics having attractive working environment, prospects of learning and growth, in-line with educational qualification, skill, proficiency and experience and to utilize my capabilities to the fullest to improve and excel. I can use my skills and abilities to do my best in the field of research, management and education which I have learned during my education.                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Work Experience</b>     | <ul style="list-style-type: none"> <li>❖ Assistant Professor, Department of Mathematics &amp; Statistics, University of Agriculture, Faisalabad, Pakistan (17 February, 2022 to date)</li> <li>❖ Assistant Professor, Department of Mathematics &amp; Statistics, The University of Lahore, Defense Road, Lahore (11 October, 2021 to 16 February, 2022)</li> <li>❖ Post Doctoral Research Fellow at Jiangsu University, Zhenjiang China (27 Aug, 2018 to 26 September, 2021).</li> <li>❖ working as Visiting Lecturer in Mathematics department at University of Education, Lahore, Okara Campus, Pakistan (Sep., 2013 to July 2015).</li> <li>❖ Lecturer, Govt. Shalimar college baghban pura Lahore, Pakistan (March, 2010 to March, 2011).</li> <li>❖ Also serving as a reviewer for more than 30 SCI-indexed journals.</li> </ul> |
| <b>Achievement</b>         | <ul style="list-style-type: none"> <li>❖ Awarded CSC scholarship from (Sep, 2015- July, 2018).</li> <li>❖ Received Outstanding international student scholarship in 2017 by Chinese government.</li> <li>❖ Awarded 14<sup>th</sup> JSU top ten Youth students at Jiangsu University in 2018.</li> <li>❖ Awarded 14<sup>th</sup> JSU top 100 Youth students at Jiangsu University in 2018.</li> <li>❖ Awardees of Excellent doctor thesis by Jiangsu University in the year of 2018.</li> <li>❖ having more than 2500 citations in reputed international journals of mathematical and engineering sciences.</li> <li>❖ Editorial board member of Journal "Modern Subsea Engineering and Technology.</li> <li>❖ Listed among the world's Top 2% scientist, published by standford University, USA</li> </ul>                             |
| <b>Research Grants</b>     | <ul style="list-style-type: none"> <li>❖ 2017- China Research Innovation Program of Postgraduates in General Universities of Jiangsu, China (Grant No. KYLX16_0897).</li> <li>❖ 2019-China Postdoctoral Science Foundation Research Funding (Grant No. 2019M651715).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Professional Skills</b> | <ul style="list-style-type: none"> <li>❖ Matlab, Mathematica, Maple, Latex</li> <li>❖ Windows XP, widows 7, Word, Excel</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Thesis</b>              | <ul style="list-style-type: none"> <li>❖ The Soliton structure and stability analysis solutions for some nonlinear wave systems. (Ph.D)</li> <li>❖ Use Adomian Decomposition Method ( ) to solve Differential Algebraic Equations (DAEs). ( M.phil)</li> <li>❖ Numerical Differentiation (M.Sc)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Education                       | <ul style="list-style-type: none"> <li>❖ <b>Ph.D in Applied Mathematics (Control Science &amp; Engineering)</b><br/>Jiangsu University, Zhenjiang, China <b>2018</b></li> <li>❖ <b>M.Phil.( Applied Mathematics)</b> <b>2012</b><br/>University of Engineering and Technology Lahore, Pakistan</li> <li>❖ <b>M.Sc.( Applied Mathematics)</b> <b>2009</b><br/>University of Engineering and Technology Lahore, Pakistan</li> <li>❖ <b>B.Sc.(Mathematics A &amp; B, statistics)</b> <b>2006</b><br/>University of the Punjab, Lahore</li> <li>❖ <b>F.Sc. (Pre-Engineering)</b> <b>2004</b><br/>BISE Lahore</li> <li>❖ <b>Matric (Science)</b> <b>2002</b><br/>BISE Lahore</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Students Supervised             | <ul style="list-style-type: none"> <li>❖ <b>No of PhD students Co-Supervised: 02</b></li> <li>❖ <b>No of Master students Supervised: 32</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Major courses in M.phil and PhD | <ul style="list-style-type: none"> <li>❖ <b>Advance Numerical Analysis</b></li> <li>❖ <b>Solution of Partial Differential Equations</b></li> <li>❖ <b>Calculus and Operational Research</b></li> <li>❖ <b>Algebra and Nonlinear ODE dynamical systems</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Research Interest               | <ul style="list-style-type: none"> <li>❖ <b>Solitary Wave Solutions by using symbolic computational Methods</b></li> <li>❖ <b>Numerical solutions of PDEs by using semi-analytical techniques</b></li> <li>❖ <b>Stability analysis and bifurcation theory of dynamical system</b></li> <li>❖ <b>Fractional Differential Equations</b></li> <li>❖ <b>Nonlinear Dynamics by perturbation and computational techniques</b></li> <li>❖ <b>Novel structure of rational solitons and their interaction phenomena</b></li> <li>❖ <b>Scientific simulation of Fluid dynamics problems by using Ansys Fluent (Finite volume method)</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Membership and Conferences      | <ul style="list-style-type: none"> <li>❖ <b>Life member of Punjab Mathematical Society (PMS)</b></li> <li>❖ <b>Third international conference on statistical Sciences (2010) at College of Statistical and Actuarial Sciences Punjab university Lahore, Pakistan</b></li> <li>❖ <b>Presenting paper in 6<sup>th</sup> Sino-Foreign Post-graduate academic forum of Jiangsu University, China.</b></li> <li>❖ <b>International Workshop on Nonlinear Analysis and Reaction-Diffusion Equations (June 3-5, 2017), Jiangsu University, Zhenjiang, China.</b></li> <li>❖ <b>More than 10 other conferences/Workshops (Organizer, Committee member, Focal person etc).</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Publications                    | <ol style="list-style-type: none"> <li>1. <a href="#">Muhammad Arshad</a>, A. R. Seadawy, Dianchen Lu, Jun Wang, Travelling wave solutions of generalized coupled Zakharov–Kuznetsov and dispersive long wave equations, <b>Results in Physics</b>, 6 (2016) 1136-1145. (SCI)</li> <li>2. <a href="#">Muhammad Arshad</a>, A. R. Seadawy, Dianchen Lu, Modulation stability and optical soliton solutions of nonlinear Schrodinger equation with higher order dispersion and nonlinear terms and its applications, <b>Superlattices and Microstructures</b> 112 (2017) 422-434. (SCI)</li> <li>3. <a href="#">Muhammad Arshad</a>, D. Lu, Jun Wang, (N+1)-dimensional fractional reduced differential transform method for fractional order partial differential equations, <b>Communications in Nonlinear Science and Numerical Simulation</b> 48 (2017) 509-519. (SCI)</li> <li>4. <a href="#">Muhammad Arshad</a>, A. R. Seadawy, Dianchen Lu, Elliptic function and Solitary Wave Solutions of higher-order nonlinear Schrodinger dynamical equation with fourth-order dispersion and cubic-quintic nonlinearity and its stability, <b>European Physical Journal Plus</b> (2017) 132: 371. (SCI)</li> <li>5. <a href="#">Muhammad Arshad</a>, A. R. Seadawy, D. Lu, J. Wang, Travelling wave solutions of Drinfel’d–Sokolov–Wilson, Whitham–Broer–Kaup and (2+1)-dimensional Broer–Kaup–Kupershmit equations and their applications, <b>Chinese J. Physics</b> 55 (2017) 780-797. (SCI)</li> <li>6. A. R. Seadawy, <a href="#">Muhammad Arshad</a>, and Dianchen Lu, Stability analysis of new exact traveling-wave solutions of new coupled KdV and new coupled Zakharov-Kuznetsov systems, <b>European Physical Journal Plus</b> (2017) 132: 162. (SCI)</li> <li>7. D. Lu, A.R. Seadawy, <a href="#">Muhammad Arshad</a>, Applications of extended simple equation method on unstable nonlinear Schrödinger equations, <b>Optik</b> 140 (2017) 136-144. (SCI)</li> <li>8. <a href="#">Muhammad Arshad</a>, A. R. Seadawy, Dianchen Lu, Optical soliton solutions of the</li> </ol> |

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- generalized higher-order nonlinear Schrödinger equations and their applications, **Optical and Quantum Electronics** (2017) 49:421. (SCI)
9. Dianchen Lu, A. R. Seadawy, [Muhammad Arshad](#), Jun Wang, New solitary wave solutions of  $(3 + 1)$ -dimensional nonlinear extended Zakharov-Kuznetsov and modified KdV-Zakharov-Kuznetsov equations and their applications, **Results in Physics**, 7 (2017) 899-909. (SCI)
10. Dianchen Lu, Chen Yue, [Muhammad Arshad](#), Traveling Wave Solutions of Space-Time Fractional Generalized Fifth-Order KdV Equation, **Advances in Mathematical Physics**, Volume 2017, Article ID 6743276, 6 pages. (SCI)
11. [Muhammad Arshad](#), A. R. Seadawy, Dianchen Lu, Exact bright-dark solitary wave solutions of the higher-order cubic-quintic nonlinear Schrödinger equation and its stability, **Optik** 138 (2017) 40–49. (SCI)
12. [Muhammad Arshad](#), A. R. Seadawy, Dianchen Lu, Bright-dark solitary wave solutions of generalized higher-order nonlinear Schrödinger equation and its applications in optics, **Journal of electromagnetic waves and applications**, 31(16) (2017) 1711-1721. (SCI)
13. [Muhammad Arshad](#), Dianchen Lu, Jun Wang, Fractional sub-equation method for a generalized space-time fractional Fisher equation with variable coefficients, **Nonlinear Science Letter A**, Vol.8, No.2 (2017) 162-170. (SCI)
14. [Muhammad Arshad](#), A. R. Seadawy, Dianchen Lu, Jun Wang, Modulation instability analysis of modify unstable nonlinear Schrödinger dynamical equation and its optical soliton solutions, **Results in Physics** 7 (2017) 4153-4161. (SCI)
15. D. Lu, J. Wang, [Muhammad Arshad](#)\*, Abdullah, A. Ali, Fractional Reduced Differential Transform Method for Space-Time Fractional Order Heat-Like and Wave-Like Partial Differential Equations, **Journal of Advanced Physics**, 6 (4) (2017) 598–607. (SCI)
16. [Muhammad Arshad](#), Aly R. Seadawy, Dianchen Lu, Wang Jun, Optical soliton solutions of unstable nonlinear Schrödinger dynamical equation and stability analysis with applications, **Optik** 157 (2018) 597–605. (SCI)
17. [Muhammad Arshad](#), A. R. Seadawy, D. Lu, Modulation stability and dispersive optical soliton solutions of higher order nonlinear Schrödinger equation and its applications in mono-mode optical fibers, **Superlattices and Microstructures** 113 (2018) 419-429. (SCI)
18. [Muhammad Arshad](#)\*, Dianchen Lu, Jun Wang, Abdullah, Exact Traveling Wave Solutions of a Fractional Sawada-Kotera Equation, **East Asian J. on Applied Mathematics**, 8(2) (2018) 211-223. (SCI)
19. Fida Hussain, [Muhammad Arshad](#), Solution of eighth order boundary value problems by one dimensional differential transform method, **Int. J. Mathematical Archive**-9(5) (2018) 71-77. (International)
20. Dianchen Lu, Aly R. Seadawy, [Muhammad Arshad](#), Bright-Dark solitary wave and Elliptic function solutions of unstable nonlinear Schrodinger equation and their applications, **Optical and Quantum Electronics** (2018) 50:23. (SCI)
21. N. Nasreen, Dianchen Lu, [Muhammad Arshad](#), Optical soliton solutions of nonlinear Schrodinger equation with second order spatio-temporal dispersion and its modulation instability, **Optik** 161 (2018) 221-229. (SCI)
22. A. R. Seadawy, Dianchen Lu, [Muhammad Arshad](#), Stability analysis of solitary wave solutions for coupled and  $(2+1)$ -dimensional cubic Klein-Gordon equations and their applications, **Communications in Theoretical Physics**, 69 (2018) 676-686. (SCI)
23. Dianchen Lu, A.R. Seadawy, [Muhammad Arshad](#), Elliptic function solutions and travelling wave solutions of nonlinear Dodd-Bullough-Mikhailov, two-dimensional Sine-Gordon and coupled Schrödinger-KdV dynamical models, **Results in Physics**, 10 (2018) 995-1005. (SCI)
24. M. A. Zahid, S. Sarwar, M. Arshad, Asma, [Muhammad Arshad](#), New Solitary Wave Solutions of Generalized Space-Time Fractional Fifth Order Laxs and Sawada Kotera KdV type equations in mathematical physics, **J. Advanced Phys.**, 7(3) (2018) 342–349. (ESCI)
25. A. R. Seadawy, [Muhammad Arshad](#), and Dianchen Lu, Modulation stability analysis and solitary wave solutions of nonlinear higher-order Schrodinger dynamical equation with second-order spatiotemporal dispersion, **Indian Journal of Physics** 93(8) (2019) pp 1041–1049. (SCI)

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26. Dianchen Lu, A. R. Seadawy, J. Wang, [Muhammad Arshad\\*](#), Umer Farooq, Soliton Solutions of Generalized Third-Order Nonlinear Schrödinger Equation by two Mathematical Methods and its Stability, **Pramana-Journal of Physics** (2019) 93:44. (SCI)
27. N. Nasreen, A.R. Seadawy, Dianchen Lu, [Muhammad Arshad](#), Construction of modulation instability analysis and optical soliton solutions of perturbed nonlinear Schrödinger dynamical equation with power law nonlinearity in non-kerr medium, **Results in Physics**, 13 (2019) 102263. (SCI)
28. [Muhammad Arshad](#), A.R. Seadawy, Dianchen Lu, Study of soliton solutions of higher-order nonlinear Schrödinger dynamical model with derivative non-Kerr nonlinear terms and modulation instability analysis, **Results in Physics**, 13 (2019) 102305. (SCI)
29. [Muhammad Arshad\\*](#), Dianchen Lu, M.-Ur Rehman, I. Ahmed, A.M. Sultan, Optical Solitary Wave and Elliptic function Solutions of Fokas-Lenells Equation in Presence of Perturbation Terms and its Modulation Instability, **Physica Scripta** 94 (2019) 105202 (10pp). (SCI)
30. [Muhammad Arshad](#), Aly R. Seadawy, Dianchen Lu and Abdullah, Novel Solitons and Elliptic function solutions of (1+1)-dimensional nonlinear nonlinear Schrödinger equation with derivative non-kerr nonlinear terms and its applications, **Modern Physics Letters B** 33(22) (2019) 1950253 (16 pages). (SCI)
31. [Muhammad Arshad](#), A. R. Seadawy, D. Lu, A. Ali, Dispersive Solitary wave solutions of strain wave dynamical model and its stability, **Communications in Theoretical Physics** 71 (2019) 1155-1162. (SCI)
32. [Muhammad Arshad](#), A. R. Seadawy, D. Lu, Study of bright-dark Solitons of Strain Wave Equation in Micro-structured Solids and its Applications, **Modern Physics Letters B** 33(33) (2019) 1950417 (12 pages). (SCI)
33. N. Nasreen, Aly R. Seadawy, Dianchen Lu, [Muhammad Arshad](#), Solitons and elliptic function solutions of higher-order dispersive and perturbed nonlinear Schrödinger equations with the power-law nonlinearities in non-Kerr medium, **European Physical Journal Plus** (2019) 134: 485. (SCI)
34. A. M. Sultan, Dianchen Lu, [Muhammad Arshad\\*](#), H. Ur Rehman, M. Shoaib Saleem, Soliton Solutions of Higher Order Dispersive Cubic-Quintic Nonlinear Schrödinger Equation and its Applications, **Chinese Journal of Physics**, 67 (2020) 405-413. (SCI)
35. Aly R. Seadawy, N. Nasreen, Dianchen Lu, [Muhammad Arshad](#), Arising wave propagation in nonlinear media for the (2+1)-dimensional Heisenberg ferromagnetic spin chain dynamical model, **Physica A**, 538 (2020) 122846. (SCI)
36. A. R. Seadawy, [Muhammad Arshad](#), and Dianchen Lu, Dispersive optical solitary wave solutions of strain wave equation in micro-structured solids and its applications, **Physica A**, 540 (2020) 123122. (SCI)
37. Dianchen Lu, A. R. Seadawy, [Muhammad Arshad](#), Solitary Wave and elliptic function solutions of Sinh-Gordon equation and its Applications, **Modern Physics Letters B** 33(35) (2019) 1950436 (15 pages). (SCI)
38. Dianchen Lu, A. R. Seadawy, [Muhammad Arshad](#), Elliptic function soliton solutions of the higher-order nonlinear dispersive Kundu-Eckhaus dynamical equation with applications and stability **Indian Journal of Physics** 95 (2021) 691-704. (SCI)
39. A. Sarwar, Tao Gang, [Muhammad Arshad\\*](#), I. Ahmed, Construction of bright-dark solitary waves and elliptic function solutions of space-time fractional partial differential equations and their applications, **Physica Scripta** 95 (2020) 045227. (SCI)
40. C. Yue, Dianchen Lu, [Muhammad Arshad\\*](#), N. Nasreen, X. Qian, Bright-Dark and Multi Solitons Solutions of (3+1)-Dimensional Cubic-Quintic Complex Ginzburg--Landau Dynamical Equation with Applications and Stability, **Entropy** 22 (2020) 202. (SCI)
41. [Muhammad Arshad](#), Aly R. Seadawy, Dianchen Lu, Farman Ullah Khan, Optical solitons of the paraxial wave dynamical model in kerr media and its applications in nonlinear optics, **International Journal of Modern Physics B** 34 (2020) 2050078. (SCI)
42. [Muhammad Arshad](#), Aly R. Seadawy, Dianchen Lu, Farhan Ali, Solitary wave solutions of Kaup-Newell optical fiber model in mathematical physics and its modulation instability, **Modern Physics Letters B**, 34(26) (2020) 2050277. (SCI)
43. A. R. Seadawy, [Muhammad Arshad](#), Dianchen Lu, The weakly nonlinear wave propagation theory for the Kelvin-Helmholtz instability in magneto hydrodynamics flows,

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- Chaos, Solitons & Fractals**, 139 (2020) 110141. (SCI)
44. A. R. Seadawy, [Muhammad Arshad](#), Dianchen Lu, The pulses propagation beyond ultra-short range in the systems of optical communication via higher-order nonlinear Schrödinger equation with derivative non-Kerr nonlinear terms, **Indian Journal of Physics** 95 (2021) 2047-2056. (SCI)
  45. Li Yue, Dianchen Lu, [Muhammad Arshad\\*](#), Xu Xu, New Exact Traveling Wave Solutions of the Unstable Nonlinear Schrödinger Equations and their Applications, **Optik** 226 (2021) 165386. (SCI)
  46. Xiaoyong Qian, Dianchen Lu, [Muhammad Arshad\\*](#), K. Shehzad, Novel Traveling Wave Solutions and Stability Analysis of Perturbed Kaup-Newell Schrodinger Dynamical Model and its Applications, **Chinese Physics B** 30(2) (2021) 020201. (SCI)
  47. [Muhammad Arshad](#), Aly R. Seadawy, Dianchen Lu, M. Shoaib Saleem, Elliptic function solutions, modulation instability and optical solitons analysis of the paraxial wave dynamical model with kerr media, **Optical and Quantum Electronics** 53 (2021) 7. (SCI)
  48. Shahzad Sarwar, Khaled M. Furati, [Muhammad Arshad](#), Abundant wave solutions of conformable space-time fractional order Fokas wave model arising in physical sciences, **Alexandria Engineering Journal** 60 (2021) 2687-2696. (SCI)
  49. Xinting Hu, [Muhammad Arshad\\*](#), Lu Xiao, N. Nasreen, A. Sarwar, Bright-Dark and Multi wave Novel Solitons Structures of Kaup-Newell Schrodinger Equations and their Applications, **Alexandria Engineering Journal** 60 (2021) 3621-3630. (SCI)
  50. A. Oad, [Muhammad Arshad\\*](#), M. Shoaib, Dianchen Lu, Li Xiaohong, Novel Soliton Solutions of two-mode Sawada-Kotera Equation and its Applications, **IEEE Access** 9 (2021) 127368-127381. (SCI)
  51. A. R. Seadawy, [Muhammad Arshad](#), Dianchen Lu, The weakly nonlinear wave propagation of the generalized third-order nonlinear Schrödinger equation and its applications, **Waves in Random and Complex Media** 32(2) (2022) 819-831. (SCI)
  52. [Naveed Hussain](#), A. N. Al-Kenani, [Muhammad Arshad](#), Muhammad Asif, The Sharp Upper Estimate Conjecture for the Dimension  $\delta_k(V)$  of New Derivation Lie Algebra, **Mathematics**, 10(15) (2022) 2618. (SCI)
  53. [Muhammad Arshad](#), A. R. Seadawy, A. Sarwar, F. Yasin, Novel analytical solutions and optical soliton structures of fractional-order perturbed Kaup–Newell model and its application, **J. of Nonlinear Optical Physics & Materials**, 32(4) (2023) 2350032. (SCI)
  54. A. Sarwar, T. Gang, [Muhammad Arshad\\*](#), Iftikhar Ahmed, M.O. Ahmad, Abundant solitary wave solutions for space-time fractional unstable nonlinear Schrödinger equations and their applications, **Ain Shams Engineering Journal**, 14 (2023) 101839. (SCI)
  55. A. Tassaddiq, M. Tanveer, M. Azhar, [Muhammad Arshad](#), F. Lakhani, Escape Criteria for Generating Fractals of Complex Functions Using DK-Iterative Scheme, **Fractal and Fractional**, 7(1) (2023) 76. (SCI)
  56. A. Sarwar, [Muhammad Arshad](#), M. Farman, A. Akgul, I. Ahmed, M. Bayram, S. Rezapour, M. De La Sen, Construction of novel bright-dark solitons and breather waves of unstable nonlinear Schrodinger equations with applications, **Symmetry**, 15(1) (2023) 99. (SCI)
  57. K. Shehzad, A. R. Seadawy, Jun Wang, [Muhammad Arshad](#), Multi peak solitons and breather types wave solutions of unstable NLSEs with stability and applications in optics, **Optical and Quantum Electronics** 55 (2023) 7. (SCI)
  58. Jun Wang, K. Shehzad, A. R. Seadawy, [Muhammad Arshad\\*](#), F. Asmat, Dynamic study of multi-peak solitons and other wave solutions of new coupled KdV and new coupled Zakharov–Kuznetsov systems with their stability, **Journal of Taibah University for Science**, 17(1) (2023) 2163872. (SCI)
  59. [Muhammad Arshad](#), A. R. Seadawy, M. Tanveer, F. Yasin, Study on Abundant Dust-Ion-Acoustic Solitary Wave Solutions of a (3+1)-Dimensional Extended Zakharov–Kuznetsov Dynamical Model in a Magnetized Plasma and Its Linear Stability, **Fractal and Fractional**, 7(9) (2023) 691. (SCI)
  60. K. Shehzad, A. R. Seadawy, Jun Wang, [Muhammad Arshad](#), The dynamical study and analysis of diverse bright-dark and breathers wave solutions of nonlinear evolution equations and their applications, **Modern Physics Letters B**, 38(16) (2024) 2341013. (SCI)

## Publications

61. N. Nasreen, M. N. Rafiq, U. Younas, [Muhammad Arshad](#), M. Abbas, M. R. Ali, Stability analysis and dynamics of solitary wave solutions of the (3+1)-dimensional generalized shallow water wave equation using the Ricatti equation mapping method, **Results in Physics**, 56 (2024) 107226. (SCI)
62. K. Shehzad, J. Wang, [Muhammad Arshad\\*](#), M. Ghamkhar, Exploration of different multi-peak solitons and vibrant breather type waves' solutions of nonlinear Schrödinger equations with advanced dispersion and cubic–quintic 12nonlinearity, unveiling their applications, **Journal of Nonlinear, Complex and Data Science**, 25(2) (2024) 147-157. (SCI)
63. N. Nasreen, A. R. Seadawy, Dianchen Lu, [Muhammad Arshad](#), Optical fibers to model pulses of ultrashort via generalized third-order nonlinear Schrödinger equation by using extended and modified rational expansion method, **J. of Nonlinear Optical Physics & Materials**, 33(04) (2024) 2350058. (SCI)
64. K. Shehzad, Jun Wang, Aly R. Seadawy, [Muhammad Arshad](#), I. Ahmed, Dynamic Description of soliton solutions of nonlinear Schrödinger equation with higher order dispersion and nonlinear terms, **Physica Scripta**, 99 (2024) 125284. (SCI)
65. M. U. Attar, [Muhammad Arshad](#), Aly R. Seadawy, I. Ahmed, M. Tanveer, Exploration conversations laws, diferent rational solitons and vibrant type breather wave solutions of the modify unstable nonlinear Schrödinger equation with stability and its multidisciplinary applications, **Optical and Quantum Electronics** 56(3) (2024) 420. (SCI)
66. J. Wang, K. Shehzad, [Muhammad Arshad](#), A. R. Seadawy, Physical constructions of kink, anti-kink optical solitons and other solitary wave solutions for the generalized nonlinear Schrödinger equation with cubic–quintic nonlinearity, **Optical and Quantum Electronics** 56 (2024) 758. (SCI)
67. [Muhammad Arshad\\*](#), S. F. Aldosary, S. Batool, I. Hussain, [Naveed Hussain](#), Exploring fractional-order new coupled Korteweg-de Vries system via improved Adomian decomposition method, **Plos one**, 19 (5) (2024), e0303426. (SCI)
68. K. Shehzad, Jun Wang, [Muhammad Arshad](#), Madiha Ghamkhar, Electromagnetic effects on solitons propagation of the (3+1) dimensional extended Zakharov-Kuznetsov dynamical model with applications, **Physica Scripta**, 99 (2024) 095528. (SCI)
69. F. Yasin, M. H. Alshehri, [Muhammad Arshad](#), Y. Shang, Z. Afzal, Exploring dynamics of multi-peak and breathers-type solitary wave solutions in generalized higher-order nonlinear Schrödinger equation and their optical applications, **Alexandria Engineering Journal**, 105 (2024) 402-413. (SCI)
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| References   | ❖ will be furnished on demand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |