

Curriculum Vitae

Personal Information

- Name: *Emad Ahmad A. Az-Zo'bi*
- Date of Birth: May/07/1980
- Nationality: *Jordan*
- Material Status: Married
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Qualifications

- Ph.D of Mathematics & Statistics 2011 - Partial Differential Equations (PDEs) - University of Jordan – Department of Mathematics & Statistics - Thesis Title: Theory and Computations for Systems of Conservation Laws of Mixed Hyperbolic-Elliptic Type - Average: 3.4, Rating: very good.
- MSc of Mathematics & Statistics 2005 – Approximation Theory - Al al-Bayt University – Faculty of Science – Department of Mathematics - Thesis Title: Some Exact Inequalities of Hardy-Littlewood-Polya Type - Average: 90.63, Rating: Excellent
- BSc of Mathematics & Statistics 2002 - Al al-Bayt University – Faculty of Science – Department of Mathematics - Average: 76.2, Rating: Very Good

Experience

- Mutah University (Jordan) 2020 - Now – Prof. of Applied Mathematics.
- Mutah University (Jordan) 2015 - 2020 – Associate Prof. of Applied Mathematics.
- Mutah University (Jordan) 2011 - 2015 – Assistant Prof. of Applied Mathematics.
- Mutah University (Jordan) 2011-2021 – Supervisor and member of discussion committee for a number of MSc and PhD students.
- King Saud University (KSA) 2010-2011 – Instructor.
- University of Jordan (Jordan) 2006-2010 – Part-time Lecturer.
- Al-Balqa' Applied University (Jordan) 2005-2006 - Part-time Lecturer.
- Ministry of Education (Jordan) – 2002-2007 – Teacher of Mathematics

Courses Taught

- PDEs and Theory of ODEs.
- Numerical Analysis.
- Computational Methods.
- Principles of Applied Mathematics.
- Calculus.
- Statistics & Probability.
- Linear Algebra.
- Euclidean Geometry.
- Number Theory.

Research Interests

- Convergence and stability of numeric-analytic methods for PDEs.
- Applied mathematical modeling (Soliton waves, Conservation laws).
- Exact solutions of PDEs.

Publications

1. E.A. Az-Zo'bi, L. Akinyemi, A.O. Alledawi. Construction of optical solitons for time-fractional generalized model in nonlinear media. *Modern Physics Letters B*. 2021. *Accepted*.
2. M. Senol, E.A. Az-Zo'bi, L. Akinyemi, A. Alledawi. Novel soliton solutions of the generalized (3+1)-dimensional conformable KP and KP–BBM equations. *Computational Sciences and Engineering 1 (1)* (2021). 10.22124/CSE.2021.19356.1003

3. E.A. Az-Zo'bi, W.A. Alzoubi, L. Akinyemi, M. Şenol & B.S. Masaedeh. A variety of wave amplitudes for the conformable fractional $(2 + 1)$ -dimensional Ito equation. *Modern Physics Letters B*, 2021, 2150254. <https://doi.org/10.1142/S0217984921502547>
4. E.A. Az-Zo'bi, W.A. AlZoubi, L. Akinyemi, M. Şenol, Islam W. Alsaraireh & M. Mamat. Abundant closed-form solitons for time-fractional integro-differential equation in fluid dynamics. *Opt Quant Electron* 53, 132 (2021). <https://doi.org/10.1007/s11082-021-02782-6>
5. E.A. Az-Zo'bi, MO Al-Amr, A Yıldırım, WA AlZoubi. Revised reduced differential transform method using Adomian's polynomials with convergence analysis. *Mathematics in Engineering, Science and Aerospace (MESA)*. 2020; 11(4): 827-840
6. E.A. Az-Zo'bi, F.D. Wrikat. On Algebraic binding number of simple graphs. *Indian Journal of Natural Sciences*. 2020; 10(59): 18453- 18456.
7. E.A. Az-Zo'bi, New kink solutions for the van der Waals p-system, *Mathematical Methods in the Applied Sciences*, 42 (18) (2019) 6216-6226.
8. E.A. Az-Zo'bi, K. Al-Khaled, A. Darweesh, Numeric-analytic solutions for nonlinear oscillators via the modified multi-stage decomposition method. *Mathematics*, 7 (2019) 550.
9. E.A. Az-Zo'bi, Peakon and solitary wave solutions for the modified Fornberg-Whitham equation using simplest equation method. *International Journal of Mathematics and Computer Science* 14 (3) (2019), 635-645.
10. E.A. Az-Zo'bi, The residual power series algorithm for solving variable-depth shallow water equations, *Sci. Int. (Lahore)*, 31 (3) (2019) ,393-396.
11. E.A. Az-Zo'bi, Solitary and periodic exact solutions of the viscosity-capillarity van der Waals gas equations, *Applications and Applied Mathematics: An International Journal*, 14 (1) (2019) . 349 – 358.
12. E.A. Az-Zo'bi, Analytic treatment for generalized $(m+1)$ -dimensional partial differential equations, *J. of The Korea Society for Industrial and Applied Mathematics*, 22 (4) (2018) 289-294.
13. E.A. Az-Zo'bi, Analytic Simulation for 1D Euler-Like Model in Fluid Dynamics, *Journal of Advanced Physics Vol. 7*, pp. 330–335, 2018.
14. E.A. Az-Zo'bi, A reliable analytic study for higher-dimensional telegraph equation, *J. Math. Computer Sci.*, 18 (2018), 423–429.
15. E.A. Az-Zo'bi, A. Yıldırım, W.A. AlZoubi, The residual power series method for the one-dimensional unsteady flow of a van der Waals gas, *Physica A* 517 (2019), 188–196.
16. E.A. Az-Zo'bi, Exact Analytic Solutions for Nonlinear Diffusion Equations via Generalized Residual Power Series Method, *International Journal of Mathematics and Computer Science*, 14 (1) (2019), 69–78.
17. E.A. Az-Zo'bi, Exact Series Solutions of One-Dimensional Finite Amplitude Sound Waves, *Sci. Int. (Lahore)*, 30 (6) (2018), 817-820.
18. E.A. Az-Zo'bi, M.M. Qousini, Modified Adomian-Rach Decomposition Method for Solving Nonlinear Time-Dependent IVPs, *Applied Mathematical Sciences*, 11 (8) (2017) 387 - 395.
19. E.A. Az-Zo'bi, M. Marashdeh & K. Al Dawoud, Numerical Simulation of One-Dimensional Shallow Water Equations, *International Journal of Sciences: Basic and Applied Research* 23 (2) (2015) 196-203.
20. E.A. Az-Zo'bi, Analytic-Numeric Simulation of Shock Wave Equation Using Reduced Differential Transform Method, *Science International (Lahore)* 27 (3) (2015) 1749-1753.
21. E.A. Az-Zo'bi, K. Al Dawoud & M. Marashdeh, Numeric-analytic solutions of mixed-type systems of balance laws, *Applied Mathematics and Computation* 265 (2015) 133–143
22. E.A. Az-Zo'bi, New Applications of Adomian Decomposition Method, *Middle-East Journal of Scientific Research* 23 (4) (2015) 735-740. (ISI)
23. E.A. Az-Zo'bi, On the Convergence of Variational Iteration Method for Solving Systems of Conservation Laws, *Trends in Applied Sciences Research* 10 (3) (2015) 157-165.
24. E.A. Az-Zo'bi, On the Reduced Differential Transform Method and its Application to the Generalized Burgers-Huxley Equation, *Applied Mathematical Sciences*, 8 (177) (2014) 8823–8831.
25. E.A. Az-Zo'bi & K.Al-Dawoud, Semi-analytic solutions to Riemann problem for one-dimensional gas dynamics, *Scientific Research and Essays*, 9(20) (2014) 880-884.
26. E.A. Az-Zo'bi, M.F. Marashdeh & R.F. Uzbashy, The Fundamental Group of Intuitionistic Fuzzy Topological Spaces, *Applied Mathematical Sciences*, 8 (157) (2014) 7829-7843.
27. E.A. Az-Zo'bi, An Approximate Analytic Solution for Isentropic Flow by An Inviscid Gas Equations, *Archives of Mechanics*, 66 (3) (2014) 203-212.

28. E.A. Az-Zo'bi, Exact Analytic Solution for Telegraph Equation by Reduced Differential Transform Method, *European Journal of Scientific Research* 107 (3) (2013) 425-43.
29. E.A. Az-Zo'bi, Construction of Solutions for Mixed Hyperbolic Elliptic Riemann Initial Value System of Conservation Laws, *Applied Mathematical Modeling*, 37 (2013) 6018-6024.
30. E.A. Az-Zo'bi, Modified Laplace decomposition method, *World Applied Sciences Journal* 18 (11) (2012) 1481-1486.
31. E.A. Az-Zo'bi, Convergence and stability of modified Adomian decomposition method, Lap Lambert academic publishing (2012).
32. E.A. Az-Zo'bi & K. Al-khaled, A new convergence proof of the Adomian decomposition method for a mixed hyperbolic elliptic system of conservation laws, *Applied Mathematics and Computation* 217(8) (2010) 4248-4256.
33. E.A. Az-Zo'bi, "A New Generalization of Bojanov Varma's Inequality", *Int. Journal of Math. Analysis*, 3 (14) (2009) 667 – 671.

Submitted Papers

- Stable optical solitons for higher-order non-Kerr NLSE via the modified simple equation method.
- New soliton solutions for the higher-dimensional non-local Ito equation.
- Semi-analytic treatment of mixed hyperbolic-elliptic Cauchy problem modeling three phase flow in porous media.

Citations

- *Scopus*. 114 citations, h-index=7.
- *Google Scholar*. 207 citations, h-index=9, i-index=9.

Activities

- *Mathematica & Matlab*.
- Latex (Scientific WorkPlace).
- TOT (Trainer of Trainers).
- Math Zone Training Workshop, McGraw Hill Education.
- Windows (7/8/10), Microsoft Office 365 (Word, Excel, Access, Power Point), Internet (licensed from the International Computer Driven License - ICDL). Microsoft Teams. Moodle.

Languages

- Arabic mother tongue,
- English; Fluent.

References

- Prof. Dr. Kamel M. Al-Khaled, Jordan University of Science and Technology, Jordan. Email: kamel@just.edu.jo. Mobile: +962 795010519.
- Prof. Dr. Abdul-Majid Wazwaz, Saint Xavier University, USA. Email: wazwaz@sxu.edu. Tel: +1 (773) 779-9061
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