



Zaid M. Odibat
Department of Mathematics
Faculty of Science
Al-Balqa Applied University
Al-Salt, Jordan



Personal Information

Academic Rank	Professor
E-mail	z.odibat@gmail.com odibat@bau.edu.jo
Telephone	+962 79 6669951
Date of Birth	16-11-1971
Nationality	Jordanian
Marital status	Married
Address	Department of Mathematics, Faculty of Science, Al-Balqa Applied University, Al-Salt 19117, Jordan www.researchgate.net/profile/Zaid_Odibat

Academic Qualification:

Degree	University / Country	Year
Ph. D.	University of Jordan / Jordan	2002
M. Sc.	University of Jordan / Jordan	1997
B. Sc.	Yarmouk University / Jordan	1994

Employment History:

Sep. 2018 - present	Professor , Department of Mathematics, Faculty of Science, Al-Balqa' Applied University, Jordan
Sep. 2017 – Sep. 2018	Professor , School of Basic Sciences and Humanities, German Jordanian University, Jordan
Sep. 2015 – Sep. 2016	Vice President for Academic Affairs , Al-Balqa' Applied University, Jordan
Oct. 2012 - Sep. 2017	Professor , Department of Mathematics, Faculty of Science, Al-Balqa' Applied University, Jordan

Sep. 2011 – Sep. 2014	Dean , Faculty of Science, Al-Balqa' Applied University, Jordan
Oct. 2012 - Oct. 2013	Lecturer , Department of Mathematics, American University of Madaba, Jordan
Sep. 2010 - Sep. 2011	Dean , Prince Abdullah Bin Ghazi Faculty of Science and IT, Al-Balqa' Applied University, Jordan
Sep. 2009 – Oct. 2012	Associate Professor , Department of Applied Science Prince Abdullah Bin Ghazi Faculty of Science and IT, Al-Balqa' Applied University, Jordan
Sep. 2008 - Sep. 2009	Invited Professor , Faculty of Science and Technology, University of Le Havre, France
Sep. 2007 -Sep. 2008	Vice Dean of Prince Abdullah Bin Ghazi Faculty of Science and IT , Al-Balqa' Applied University, Jordan
Sep. 2005 - Sep. 2007	Head of Department of Basic Science , Prince Abdullah Bin Ghazi Faculty of Science and IT, Al-Balqa' Applied University, Jordan
2002 - Aug. 2008	Assistant Professor , Prince Abdullah Bin Ghazi Faculty of Science and IT, Al-Balqa' Applied University, Jordan
1997-2002	Mathematics Lecturer , Prince Abdullah Bin Ghazi Faculty of Science and IT, Al-Balqa' Applied University, Jordan
1994-1997	Mathematics teacher , Ministry of Education

Specialization: Applied Mathematics

Research Interest: Numerical analysis, Ordinary and partial differential equations, Fractional calculus, Numerical solution of fractional nonlinear systems, Control theory, Nonlinear dynamics, Chaos, Optimization techniques.

Academic Honors and Grants

- A scholarship from Al-Balqa' Applied University to get the Ph. D. degree in Applied Mathematics from the University of Jordan (1998-2002).
- Scopus award for Jordanian Scientists (2009).
- The Second “International Association for Mathematics and Computers in Simulation” IMACS 2009 Most Successful Paper Award
- Classified as one of the top scientists in the world in Fractional Differential Equations according to Thomson ISI Web of knowledge (2010).

- The [h Index=40](#) according to Scopus Database (2019).
- The Islamic Educational, Scientific and Cultural Organization Prize “[ISESCO Prize in Sciences and Technology](#)” (2010).
- [Thomson Reuters Highly Cited Researcher](#) (2015, 2016, 2017,2018)

Editorial activities

Managing Editor: Arab Journal of Mathematics and Mathematical Sciences
 Editor: Jordan Journal of Mathematics and Statistics
 Honor Member International Association for Mathematics and Computers in Simulation (IMACS)

Membership

- Jordan Research Group in Applied Mathematics.
- Member of the Jordanian Mathematics Society.

Reviewer

- Applied Mathematics and Computations (Elsevier)
- Applied Mathematics Letters (Elsevier)
- Applied Mathematical Modeling (Elsevier)
- Chaos, Solitons and Fractals (Elsevier)
- Communications in Nonlinear Science and Numerical Simulation (Elsevier)
- Physics Letters A (Elsevier)
- Journal of Computational & Applied Mathematics (Elsevier)
- International Journal of Computer Mathematics (Taylor & Francis)
- Numerical Methods for Partial Differential Equations (Wiley)
- Computers and Mathematics with Applications (Elsevier)
- International Journal of Nonlinear Sciences & Numerical Simulation (Freund Publishing House Ltd)
- Nonlinear Analysis: Theory, Methods and Applications (Elsevier)
- Nonlinear Analysis: Real World Applications (Elsevier)
- Mathematical Methods in The Applied Sciences (Wiley)
- Communications in Nonlinear Science and Numerical Simulation (Elsevier)
- Nonlinear Dynamics (Springer Netherlands)
- Numerical Algorithms (Springer Netherlands)
- Physica D: Nonlinear Phenomena (Elsevier)
- Journal of Mathematical Analysis and Applications (Elsevier)
- Physica Scripta (IOPscience)
- International Journal of Bifurcation & Chaos (World Scientific)
- Journal of Computational Physics (Elsevier)
- Computer Physics Communications (Elsevier)
- Referee for several international and local journals.

Conference / Workshop Organization

- Co-Chair - The International Conference on Fractional Differentiation and its Applications (ICFDA) , 2018, Amman, Jordan.
- Program Committee - The Second Jordanian International Conference on Computer Science and Engineering, Jordan, December 2006.
- The Fourth International Workshop on Advanced Computation for Engineering Applications (ACEA08), July 2008, Jordan.
- Scientific Committee - Complex Systems and Self-organization Modeling, Workshop at 20th European Simulation and Modeling Conference, Toulouse France, October 23-25, 2006.
- The 2nd International Symposium on Nonlinear Dynamics, Shanghai, China, 27-30 Oct., 2007.
- Emergent Properties in Natural and Artificial Complex Systems, Workshop at European Conference of Complex Systems, Dresden, Germany, October 4-5, 2007.
- The 3rd International Conference on Complex Systems and Applications, University of Le Havre, France, June 29 - July 02, 2009.
- Complex System and Self-Organization Modeling, Workshop at ESM'2009, Leicester, United Kingdom, Oct. 26-28, 2009.

Other Professional and Academic Activities:

Committee Chair	Mathematics curriculum plan for Department of Mathematics at Al-Balqa' Applied University, Jordan
External Examiner (PhD Thesis)	"Dynamics data structures for complex systems" by Laui Jaff, Le Havre University, France, March 2007. "A numerical study on systems of initial and boundary value problems using single term Haar wavelet method" by Balaji, Anna University, India, 2014.
Member	Several internal committees in Faculty of Science at Al-Balqa' Applied University
Member	Graduate studies, scientific research development and planning Committees in Faculty of Science at Al-Balqa' Applied University.
Member	Establishment team of specialized BSc and MSc programs in science at Al-Balqa' Applied University.
Member	Dean's council at Al-Balqa' Applied University (2010-2016).
Member	Employment and Promotion Committee at Al-Balqa' Applied University (2015-2016).
Member	Scientific research council at Al-Balqa' Applied University (2010-2015).

Member	Ph.D. and Master thesis examining committees.
Examiner	Applications for promotion to associate and full professors.

Graduate Student Supervision/Co-supervision

- “Modified homotopy analysis method: Application for linear and nonlinear ODEs of fractional order” by Ahmad El-Ajou (The University of Jordan), Ph. D. dissertation defended on 2009.
- "Solving reactor neutron diffusion equations for different geometries using the homotopy perturbation method" by kafa khaswneh (Al-Balqa Applied University), M. Sc. thesis defended on 2009.
- “Functional Optimization using Genetic Algorithm” by Mohamed Doha (University of Le Havre, France), M. Sc. thesis defended on 2009.
- “Approximate Analytical solutions for Fractional Differential Equations” by M. Hamarsheh (Universiti Sains Malaysia), Ph. D. Thesis, 2015.
- “On the chaotic dynamics and synchronization of fractional-order discrete-time systems” by Souaad Azil (The University of Jordan), Ph.D. Thesis, 2019.
- "The optimized homotopy analysis method for solving nonlinear partial differential equations" by Lina Awad (Al-Balqa Applied University), M. Sc. Thesis, 2020.
- “The optimized decomposition method for handling initial value problems of fractional ordinary and partial differential equations” by Marwa Laoubi (The University of Jordan), Ph.D. Thesis, 2020.
- “An optimized computational algorithm of homotopy analysis method for solving nonlinear coupled systems of partial differential equations” by Alaa Alqudah (The University of Jordan), Ph.D. Thesis, 2020.

Publications

(a) Journal Papers

1. A. Alawneh, **Z. Odibat**, K. Nishimoto, Negative power series solutions for a class of linear ordinary differential equations using N-fractional method, *Journal of Fractional Calculus*, 21 (2002), 29-39.
2. **Z. Odibat**, N. Shawagfeh, N-Fractional calculus method to a class of linear integro-differential equations, *Journal of Fractional Calculus*, 22 (2002), 83-89.
3. **Z. Odibat**, Particular solution to the fractional differential equation ($\alpha \in \mathbf{R}^+$, $r \in \mathbf{R}^+ - \mathbf{Z}^+$, a ; const.), *Journal of Fractional Calculus*, 22 (2002), 77-81.

4. **Z. Odibat**, A. Alawneh, Z-function and solutions of fractional differential equations, *Mathematica Balkanica*, Vol. 18 (2004), 397-404.
5. **Z. Odibat**, A. Alawneh, Fractional Green's function for the fractional differential equation with constant coefficients, *Journal of Concrete and Applicable Mathematics*, Vol. 2, No. 4 (2004).
6. **Z. Odibat**, R. Al-Lamy, K. Nishimoto, Negative power series solutions for a class of differential equations including the ones of Legendre and Chebyshev, *Journal of Fractional Calculus*, Vol.28 (2005).
7. **Z. Odibat**, S. Momani, Application of variational iteration method to nonlinear differential equations of fractional order, *International Journal of Nonlinear Sciences & Numerical Simulation*, 7(1) (2006), 27-35.
8. S. Momani, **Z. Odibat**, Analytical solution of a time-fractional Navier–Stokes equation by Adomian decomposition method, *Applied Mathematics and Computation*, 177(2) (2006), 488-494.
9. **Z. Odibat**, Approximations of fractional integrals and Caputo fractional derivatives, *Applied Mathematics and Computation*, 178(2) (2006), 527-533.
10. **Z. Odibat**, Rectangular decomposition method for fractional diffusion-wave equations, *Applied Mathematics and Computation*, 179 (1) (2006), 92-97.
11. **Z. Odibat**, S. Momani, Approximate solutions for boundary value problems of time-fractional wave equation, *Applied Mathematics and Computation*, 181(1) (2006), 767-774.
12. S. Momani, **Z. Odibat**, Analytical approach to linear fractional partial differential equations arising in fluid mechanics, *Physics Letters A*, 355(4-5) (2006), 271-279.
13. S. Momani, S. Abuasad and **Z. Odibat**, Variational iteration method for solving nonlinear boundary value problems, *Applied Mathematics and Computation*, 183(2) (2006), 1351-1358.
14. **Z. Odibat**, A reliable modification of the rectangular decomposition method, *Applied Mathematics and Computation*, 183(2), (2006), 1226-1234.
15. **Z. Odibat**, S. Momani, Analytical solution for the time-fractional Navier–Stokes equation, *Advances in Theoretical and Applied Mathematics*, 1(2) (2006), 97-107.
16. S. Momani, **Z. Odibat**, Numerical comparison of methods for solving linear differential equations of fractional order, *Chaos, Solitons & Fractals*, 31 (5) (2007), 1248-1255.
17. S. Momani, **Z. Odibat**, Numerical approach to differential equations of fractional order, *Journal of Computational and Applied Mathematics*, 207(1) (2007), 96-110.

18. S. Momani, **Z. Odibat**, Homotopy perturbation method for nonlinear partial differential equations of fractional order, *Physics Letters A*, 365(5-6) (2007), 345-350.
19. **Z. Odibat**, S. Momani, A reliable treatment of homotopy perturbation method for Klein Gordon equations, *Physics Letters A*, 365(5-6) (2007), 351-357.
20. **Z. Odibat**, A new modification of the homotopy perturbation method for linear and nonlinear operators, *Applied Mathematics and Computation*, 189(1) (2007), 746-753.
21. **Z. Odibat**, S. Momani, Fractional Green function for linear time-fractional inhomogeneous partial differential equations in fluid mechanics, *Journal of Applied Mathematics and Computing*, 24 (1) (2007), 167-178.
22. **Z. Odibat**, S. Momani, Numerical solution of Fokker–Planck equation with space- and time-fractional derivatives, *Physics Letters A*, 369(5-6) (2007), 349-358.
23. S. Momani, **Z. Odibat**, Comparison between homotopy perturbation method and the variational iteration method for linear fractional partial differential equations, *Computers and Mathematics with Applications*, 54(7-8) (2007), 910-919.
24. **Z. Odibat**, N. Shawagfeh, Generalized Taylor's formula, *Applied Mathematics and Computation*, 186(1) (2007), 286-293.
25. **Z. Odibat**, Solitary solutions for the nonlinear dispersive $K(m,n)$ equations with fractional time derivatives, *Physics Letters A*, 370(3-4) (2007), 295-301.
26. S. Momani, **Z. Odibat**, V. Erturk, Generalized differential transform method for solving a space- and time-fractional diffusion-wave equation, *Physics Letters A*, 370(5-6) (2007), 379-387.
27. **Z. Odibat**, S. Momani, Numerical methods for nonlinear partial differential equations of fractional order, *Applied Mathematical Modelling*, 32(1) (2008), 28-39.
28. **Z. Odibat**, S. Momani, Modified homotopy perturbation method: Application to quadratic Riccati differential equation of fractional order, *Chaos, Solitons & Fractals*, 36(1) (2008), 167-174.
29. S. Momani, **Z. Odibat**, A. Alawneh, Variational iteration method for solving the space- and time-fractional KdV equation, *Numerical Methods for Partial Differential Equations*, 24(1) (2008), 262-271.
30. **Z. Odibat**, S. Momani, A generalized differential transform method for linear partial differential equations of fractional order, *Applied Mathematics Letters*, 21(2) (2008), 194-199.
31. **Z. Odibat**, S. Momani, V. Erturk, Generalized differential transform method: Application to differential equations of fractional order, *Applied Mathematics and Computation*, 197 (2) (2008), 467-477.

32. **Z. Odibat**, Compact and noncompact structures for nonlinear fractional evolution equations, *Physics Letters A*, 372(8) (2008), 1219-1227.
33. V. Erturk, S. Momani and **Z. Odibat**, Application of generalized differential transform method to multi-order fractional differential equations, *Communications in Nonlinear Science and Numerical Simulation*, 13(8) (2008), 1642-1654.
34. **Z. Odibat**, S. Momani, An algorithm for the numerical solution of differential equations of fractional order, *Journal of Applied Mathematics and Informatics*, 26(1-2) (2008), 15-27.
35. **Z. Odibat**, Construction of solitary solutions for nonlinear dispersive equations by variational iteration method, *Physics Letters A*, 372 (22) (2008), 4045-4052.
36. S. Momani, **Z. Odibat**, A novel method for nonlinear fractional partial differential equations: Combination of DTM and generalized Taylor's formula, *Journal of Computational and Applied Mathematics*, 220 (1-2) (2008), 85-95.
37. **Z. Odibat**, Reliable approaches of variational iteration method for nonlinear operators, *Mathematical and Computer Modelling*, 48 (1-2) (2008), 222-231.
38. **Z. Odibat**, Differential transform method for solving Volterra integral equation with separable kernels, *Mathematical and Computer Modelling*, 48 (7-8) (2008), 1144-1149.
39. S. Momani, **Z. Odibat**, I. Hashim, Algorithms for nonlinear fractional partial differential equations: A selection of numerical methods, *Topological Methods in Nonlinear Analysis*, 31 (2) (2008), 211-226.
40. **Z. Odibat**, S. Momani, Applications of variational iteration and homotopy perturbation methods to fractional evolution equations, *Topological Methods in Nonlinear Analysis*, 31 (2) (2008), 227-234.
41. **Z. Odibat**, S. Momani, Analytical comparison between the homotopy perturbation method and variational iteration method for differential equations of fractional order, *International Journal of Modern Physics B*, 22 (23) (2008), 1-18.
42. S. Momani, **Z. Odibat**, Numerical Solution of the space-time fractional advection-dispersion equation, *Numerical Methods for Partial Differential Equations*, 24(6) (2008), 1416-1429.
43. **Z. Odibat**, S. Momani, A. Alawneh, Approximate analytical solution of the space- and time- fractional Burgers equations, *Journal Européen des Systèmes Automatisés*, 42(6-8) (2008), 627-638.
44. **Z. Odibat**, S. Momani, Fractional Green's function for fractional partial differential equations, *Journal Européen des Systèmes Automatisés*, 42(6-8) (2008), 639-651.

45. **Z. Odibat**, Compact structures in a class of nonlinearly dispersive equations with time-fractional derivatives, *Applied Mathematics and Computation*, 205(1) (2008), 273-280.
46. **Z. Odibat**, Exact solitary solutions for variants of the KdV equations with fractional time derivatives, *Chaos, Solitons & Fractals*, 40(3) (2009), 1264-1270.
47. **Z. Odibat**, Computational algorithms for computing the fractional derivatives of functions, *Mathematics and Computers in Simulation*, 79(7) (2009), 2013-2020.
48. **Z. Odibat**, Computing eigenlements of boundary value problems with fractional derivatives, *Applied Mathematics and Computation*, 215(8) (2009), 3017-3028.
49. **Z. Odibat**, S. Momani, The variational iteration method: An efficient scheme for handling fractional partial differential equations in fluid mechanics, *Computers and Mathematics with Applications*, 58 (11-12) (2009), 2199-2208.
50. K. Khasawneh, S. Dababneh, **Z. Odibat**, A solution of the neutron diffusion equation in hemispherical symmetry using the homotopy perturbation method, *Annals of Nuclear Energy*, 36(11-12) (2009), 1711-1717.
51. **Z. Odibat**, On the approximations of integrals using homotopy perturbation method, *International Journal of Computer Mathematics*, 87(1) (2010), 53–62.
52. M. Zurigat, S. Momani, **Z. Odibat**, A. Alawneh, The homotopy analysis method for handling systems of fractional differential equations, *Applied Mathematical Modelling*, 34(1) (2010), 24-35.
53. **Z. Odibat**, S. Momani, Hang Xu, A reliable algorithm of homotopy analysis method for solving nonlinear fractional differential equations, *Applied Mathematical Modelling*, 34(3) (2010), 593-600.
54. **Z. Odibat**, Analytic study on linear systems of fractional differential equations, *Computers and Mathematics with Applications*, 59 (3) (2010), 1171-1183.
55. **Z. Odibat**, C. Bertelle, M. A. Aziz-Alaoui, G. H. Duchamp, A Multi-step differential transform method and application to non-chaotic or chaotic systems, *Computers and Mathematics with Applications*, 59 (4) (2010) 1462-1472.
56. **Z. Odibat**, A study on the convergence of variational iteration method, *Mathematical and Computer Modelling*, 51(9-10) (2010), 1181-1192.
57. **Z. Odibat**, N. Corson, M. A. Aziz-Alaoui, C. Bertelle, Synchronization of chaotic fractional-order systems via linear control, *International Journal of Bifurcation and Chaos*, 20(1) (2010), 81-97.

58. **Z. Odibat**, Adaptive feedback control and synchronization of non-identical chaotic fractional order systems, *Nonlinear Dynamics*, 60(4) (2010), 479–487.
59. A. El-Ajou, **Z. Odibat**, S. Momani, A. Alawneh, Construction of analytical solutions to fractional differential equations using homotopy analysis method, *IAENG International Journal of Applied Mathematics*, 40(2) (2010), 43-51.
60. **Z. Odibat**, A study on the convergence of homotopy analysis method, *Applied Mathematics and Computation*, 217(2) (2010), 782-789.
61. **Z. Odibat**, On Legendre polynomials approximation with the VIM or HAM for numerical treatment of nonlinear fractional differential equations, *Journal of Computational and Applied Mathematics*, 235(9) (2011), 2956-2968.
62. S. Dababneh, K. Khasawneh, **Z. Odibat**, An alternative solution of the neutron diffusion equation in cylindrical symmetry, *Annals of Nuclear Energy*, 38(5) (2011), 1140-1143.
63. V. Erturk, **Z. Odibat**, S. Momani, An approximate solution of a fractional order differential equation model of human T-cell lymphotropic virus I (HTLV-I) infection of CD4⁺ T-cells, *Computers and Mathematics with Applications*, 62(3) (2011), 996-1002.
64. V. Erturk, **Z. Odibat**, S. Momani, The multi-step differential transform method and its application to determine the solutions of non-linear oscillators, *Advances in Applied Mathematics and Mechanics*, 4(4) (2012), 422-438.
65. **Z. Odibat**, A note on phase synchronization in coupled chaotic fractional order systems, *Nonlinear Analysis: Real World Applications*, 13(2) (2012), 779-789.
66. V. Erturk, S. Momani and **Z. Odibat**, Application of Multi-step differential transform method for the analytical and numerical solutions of the density dependent Nagumo telegraph equation, *Romanian Journal of Physics*, 57(7-8) (2012), 1065-1078.
67. **Z. Odibat**, A. Bataineh, An adaptation of HAM for reliable treatment of strongly nonlinear problems: Construction of homotopy polynomials, *Mathematical Methods in the Applied Sciences*, 38(5) (2015), 991-1000.
68. A. Ouannas, **Z. Odibat**, Generalized synchronization of different dimensional chaotic dynamical systems in discrete-time, *Nonlinear Dynamics*, 81(1) (2015), 765-771.
69. M. Hamarsheh, A. Ismail, **Z. Odibat**, Optimal homotopy asymptotic method for solving fractional relaxation-oscillation equation, *Journal of Interpolation and Approximation in Scientific Computing*, 2015(2) (2015), 98-111.
70. A. Ouannas, **Z. Odibat**, On inverse generalized synchronization of continuous chaotic dynamical systems, *International journal of Applied and Computational Mathematics*, 2(1) (2016), 1-11.

71. M. Hamarsheh, A. Ismail, **Z. Odibat**, An analytical solution for fractional order Riccati equations using optimal homotopy asymptotic method, *Applied Mathematical Sciences*, 10(23)(2016), 1131-1150.
72. A. Ouannas, **Z. Odibat**, N. Shawagfeh, A. Alsaedi, B. Ahmad, Universal chaos synchronization control laws for general quadratic discrete systems, *Applied Mathematical Modelling*, 45(2017), 636-441.
73. **Z. Odibat**, A Riccati equation approach and travelling wave solutions for nonlinear evolution equations, *International Journal of Applied and Computational Mathematics*, 3(1)(2017), 1-13.
74. **Z. Odibat**, S. Kumar, N. Shawagfeh, A. Alsaedi, T. Hayat, A study on the convergence conditions of generalized differential transform method, *Mathematical Methods in the Applied Sciences*, 40(1)(2017), 40-48.
75. A. Ouannas, G. Grassi, T. Ziar, **Z. Odibat**, On a function projective synchronization scheme for non-identical fractional-order chaotic (hyperchaotic) systems with different dimensions and orders, *Optik-International Journal for Light and Electron Optics*, 136(2017), 513-523.
76. S. Kumar, A. Kumar, **Z. Odibat**, A nonlinear fractional model to describe the population dynamics of two interacting species, *Mathematical Methods in the Applied Sciences*, 40(11) (2017), 4134-4148.
77. **Z. Odibat**, N. Corson, M.A. Aziz-Alaoui, A. Alsaedi, Chaos in fractional order cubic Chua system and synchronization, *International Journal of Bifurcation and Chaos*, 27(10) (2017), 1750161.
78. A. Ouannas, **Z. Odibat**, Fractional analysis of co-existence of some types of chaos synchronization, *Chaos, Solitons & Fractals*, 105(2017), 215-223.
79. O. Abu Arqub, **Z. Odibat**, M. Al-Smadi, Computing bifurcations behavior of time-fractional partial integrodifferential equations of Robin functions in Hilbert space with error bounds and error estimates, *Nonlinear Dynamics*, 94(3)(2018), 1819-1834.
80. A. Ouannas, **Z. Odibat**, A. Alsaedi, A. Hobiny, T. Hayat, Investigation of Q-S synchronization in coupled chaotic incommensurate fractional order systems, *Chinese Journal of Physics*, 56(2018), 1940-1948.
81. A. Ouannas, **Z. Odibat**, N. Shawagfeh, A new Q-S synchronization results for discrete chaotic systems, *Differential Equations and Dynamical Systems*, 27(4)(2019), 413-422.
82. A. Ouannas, M. Abdelli, **Z. Odibat**, X. Wang, VT. Pham, G. Grassi, A. Alsaedi, Synchronization control in reaction-diffusion systems: Application to Lengyel-Epstein system, *Complexity*, (2019), DOI: <https://doi.org/10.1155/2019/2832781>.
83. **Z. Odibat**, On the optimal selection of the linear operator and the initial approximation in the application of the homotopy analysis method to nonlinear fractional differential equations, *Applied Numerical Mathematics*, 137(2019), 203-212.

84. **Z. Odibat**, S. Kumar, A robust computational algorithm of homotopy asymptotic method for solving systems of fractional differential equations, *Journal of Computational and Nonlinear Dynamics*, 14(8)(2019), 081004.
85. A. Ouannas, A. Khennaoui, **Z. Odibat**, V. Pham, G. Grassi, On the dynamics, control and synchronization of fractional-order Ikeda map, *Chaos, Solitons & Fractals*, 123(2019), 108-115.
86. **Z. Odibat**, D. Baleanu, A linearization-based approach of homotopy analysis method for non-linear time-fractional parabolic PDEs, *Mathematical Methods in the Applied Sciences*, 42(2019), 7222-7232.
87. **Z. Odibat**, An optimized decomposition method for nonlinear ordinary and partial differential equations, *Physica A: Statistical Mechanics and its Applications*, 541(2020), 123323.
88. **Z. Odibat**, Fractional power series solutions of fractional differential equations by using generalized Taylor series, *Applied and computational Mathematics*, 19(1)(2020), 47-58.
89. S. Kumar, A. Kumar, **Z. Odibat**, M. Abdhaifallah, K. Nisar, A comparison study of two modified analytical approach for the solution of nonlinear fractional shallow water equations in fluid flow, *AIMS Mathematics*, 5(4)(2020), 3035-3055.
90. **Z. Odibat**, N. Shawagfeh, An optimal linearization-based predictor-corrector algorithm for the simulation of nonlinear FDEs, *Physica Scripta*, 95(2020), 065202.
91. **Z. Odibat**, An improved optimal homotopy analysis algorithm for nonlinear differential equations, *Journal of Mathematical Analysis and Applications*, 488(2020), 124089.
92. **Z. Odibat**, D. Baleanu, Numerical simulation of initial value problems with generalized Caputo-type fractional derivatives, *Applied Numerical Mathematics*, 156(2020), 94-105.

(b) Book Chapters

93. **Z. Odibat**, C. Bertelle, Application of Homotopy Perturbation Method for Ecosystems Modelling, in the Book “*Complex Systems and Self-organization Modelling*”, Springer Berlin / Heidelberg, 2009. (ISBN: 978-3-540-88072-1).

(c) Conference Papers

94. **Z. Odibat**, A. Alawneh, Z-function and solutions of fractional differential equations. Presentation at the International Congress MASSEE'2003. Borovets, Bulgaria, 2003.
95. **Z. Odibat**, C. Bertelle, Application of homotopy perturbation method for ecosystems modeling. *Proceedings of the 20th annual European Simulation and Modelling Conference (ESM'2006)*. Toulouse, France, 2006.

96. **Z. Odibat**, C. Bertelle, G. Duchamp, Numerical approach for interaction systems solving using Differential transform method – Application to Lotka-Volterra System, Presentation at MACIS EcoSummit 2007, Beijing, China, 2007.
97. **Z. Odibat**, S. Momani, A. Alawneh, Analytic study on time-fractional Schrodinger equations: Exact solutions by GDTM, *Journal of Physics: Conference Series*, 96 (2008).
98. A. El-Ajou, **Z. Odibat**, A. Alawneh, Numerical approximation for population growth model, *Proceedings of the Fourth International Workshop on Advanced Computation for Engineering Applications (ACEA08)*, July 23-24, 2008, Jordan.
99. **Z. Odibat**, A note on chaos control and synchronization of fractional order systems, The 3rd International Conference on Complex Systems and Applications, University of Le Havre, Le Havre, Normandy, France, June 29- July 02, 2009.

Conferences and Workshops Attended

- International Conference on Technology in Mathematics Education, “**ICTME**” Beirut-Lebanon, July 5-7, 2000
- International Congress of Mathematical Society of South Eastern Europe “**MASSEE 2003**”, Borovets-Bulgaria, September 15-21, 2003
- The 20th annual European Simulation and Modelling Conference (**ESM'2006**), Toulouse, France, October 23-25, 2006.
- The Second Jordanian International Conference on Computer Science and Engineering “**JICCSE'2006**”, Al-Balqa Applied University, Jordan, 2006.
- The International Symposium on Nonlinear Dynamics “**ISND**”, Shanghai, China, 2007.
- The Fourth International Workshop on Advanced Computation for Engineering Applications (**ACEA'2008**), Al-Balqa' Applied University, Jordan, July 23-24, 2008.
- The 3rd International Conference on Complex Systems and Applications (**ICCSA'2009**), University of Le Havre, Le Havre, Normandy, France, June 29- July 02, 2009.
- The First National Conference on Fractional Order Systems and Applications “**SOFA 2010**”, Skikda, Algeria, May 18-19, 2010.
- The International Conference on Fractional Differentiation and its Applications “**ICFDA 2018**”, Amman, Jordan, July 16-18, 2018.

Research Visits

- Invited professor, Le Havre University, Le Havre, France, January-February 2008.

- Invited professor, Le Havre University, Le Havre, France, September 2008-September 2009.

Invited Talks

- “Fractional calculus: fractional integrals and derivatives”, Mathematics department, Le Havre University, Le Havre, France, April 2007.
- "Computational Algorithms for Solving Systems and Evaluating Integrals", Mathematics department, Le Havre University, Le Havre, France, January 2008.
- “Fractional Calculus: Definitions, Numerical Methods and Applications in Control Systems and Multi-scale Processes”, LIPN, Paris 13 University, Paris, France, December 2008.
- Invited plenary speaker on “Notes on Chaos Control and Synchronization of Chaotic Fractional order systems” at the First National Conference on Fractional Order Systems and Applications “**SOFA 2010**”, Skikda, Algeria, May 2010.

References

Prof. Abdul-Majid Wazwaz Department of Mathematics Saint Xavier University USA email: wazwaz@sxu.edu	Prof. M. A. Aziz-Alaoui Appl. Math. Lab. Le Havre University FRANCE email: aziz@univ-lehavre.fr
Prof. Shaher Momani Department of Mathematics University of Jordan, Amman JORDAN. email: shaherm@ju.edu.jo	Prof. Ahmed Alawneh Department of Mathematics, University of Jordan, Amman JORDAN. email: aalawneh@ju.edu.jo
Prof. Cyrille Bertelle Le Havre University FRANCE email: cyrille.bertelle@gmail.com	Prof. Gerard Duchamp LIPN, Paris 13 University FRANCE email: gheduchamp@gmail.com

Computer skills

OS:	Windows
CAS:	Mathematica, MatLab, Mathcad
Programming:	C++, Pascal, Fortran
Text Processing:	Latex, Word