

CURRICULUM VITAE

Belal Batiha, Ph.D.

Personal Data

Name : Belal Mohammed Abdel-Rahman Batiha
Date & Place of Birth : 01 September 1979, Jordan
Sex : Male
Nationality : Jordanian
Name of Current Employer : Jadara University, Jordan
Telephone No. : 00962782114963
Email : b.bateha@jadara.edu.jo, belalbatiha2002@yahoo.com
Title of Position Held : Associate Professor
Fields of Specialization : Applied Mathematics
Published Papers : 33
Published Books : 3
Citations by Scopus : 400
H-index : 11
Citations by Google Scholar : 929
H-index : 17

Academic Qualifications

Doctor of Philosophy: Applied Mathematics, National University of Malaysia (UKM) in 2008, Title of PhD Thesis: Numerical solutions of ordinary and partial differential equation by variational iteration method.

According to QS World University Rankings 2021 UKM is in the rank of 141 (www.topuniversities.com/universities/universiti-kebangsaan-malaysia-ukm)

Master of Science: Mathematics, National University of Malaysia (UKM) in 2005, with excellent degree (First Class), Title of Master Thesis: Solving linear and nonlinear partial differential equations by using the Adomian decomposition method.

Bachelor of Science: Mathematics, Faculty of Arts and Science, Al al-Bayt University, Jordan in 2002.

Research

Long-term project

1. STGL-011-2006 (SAGA P24c) (UKM). Solving nonlinear problems of physics via semi-analytical methods. Sept 2006 – Sept 2008.

Short-term project

1. Solving linear and nonlinear DE by numerical methods. Jadara University. Sept 2018 – Sept 2019.
2. Numerical solution of some nonlinear DE. Jadara University. Sept 2019 – Sept 2020.
3. Solving DE and PDE by the Daftardar-Gejji and Jafari method (DJM). Jadara University. Sept 2020 – Sept 2021.

Research Interests

My general research interests are in the areas of applied mathematics, differential equations and numerical methods.

Publications

Journals

(In preparation)

1. **B. Batiha**, Modified Differential Transformation Method for Singular IVPs of Generalized Emden–Fowler type.

(Submitted)

1. **B. Batiha**, New Application of Daftardar-Gejji and Jafari method to the quadratic Riccati differential equation, Journal of Differential Equations.
2. **B. Batiha**, Numerical simulations of the dispersive partial differential equations using Daftardar-Gejji and Jafari Method, Communications in Nonlinear Science and Numerical Simulation.
3. **B. Batiha**, Solving One Species Lotka-Volterra Equation by Daftardar-Gejji and Jafari Method, Advances in Applied Mathematics.

(Published)

1. **B. Batiha**, New Solution of the Sine-Gordon Equation by the Daftardar-Gejji and Jafari Method, Symmetry 2022, Volume 14, Issue 1, 57.
2. Ahmed Salem Heilat, Hamzeh Zureigat, Raed Hatamleh, **Belal Batiha**, 2021, A New Spline Method for Solving Linear Two-Point Boundary Value Problems, European Journal of Pure And Applied Mathematics, Vol. 14, No. 4, 2021, 1283-1294.
3. R. Abdelrahim, Z. Omar , O. Alayed , **Belal Batiha**, 2019, Hybrid third derivative block method for the solution of general second order initial value problems with generalized one step point, European Journal of Pure And Applied Mathematics, Vol. 12, No. 3, 2019, 1199-1214.
4. Alayed, O., **Belal Batiha**, Abdelrahim, R., Jawarneh, A., 2019, On the numerical solution of the nonlinear Bratu type equation via quintic B-spline method , Journal of Interdisciplinary Mathematics, DOI: 10.1080/09720502.2019.1624305
5. F. Ghanim and **Belal Batiha**, 2018, New applications of generalized hypergeometric functions and linear operator with Hurwitz-Lerch-Zeta function, Nonlinear Functional Analysis and Applications (NFAA), Vol. 23, 2018, 431- 442.
6. A. A. Farooq, **Belal Batiha**, A. M. Siddiqui , 2017, Lifting of a Jeffrey fluid on a vertical belt under the simultaneous effects of magnetic field and wall slip conditions, International Journal of Engineering & Technology, **6** (3) (2017) 101-104.
7. **Belal Batiha**, Firas Ghanim, 2017, Solving strongly nonlinear oscillators by new numerical method, International Journal of Pure and Applied Mathematics, **116** (1) 115–124.
8. R Yulita, **B Batiha**, M Taib, 2016, Solutions of fractional Zakharov–Kuznetsov equations by fractional complex transform, International Journal of Applied Mathematical Research, **5** (1) 24–28.
9. **Belal Batiha**, 2015, A new efficient method for solving quadratic Riccati differential equation, International Journal of Applied Mathematical Research, **4** (1) 24–29.

10. **Belal Batiha**, 2014, The solution of the prey and predator problem by differential transformation method, *International Journal of Basic and Applied Sciences*, **4** (1) 36–43.
11. A. A. Farooq, **Belal Batiha**, A. M. Siddiqui , 2013, A numerical study of thin film flow of a non-Newtonian fluid on a vertically moving belt using variational iteration approach, *International Journal of Applied Mathematical Research*, **2** (2) 325–337.
12. R. Yulita Molliq, **Belal Batiha**, 2012, Approximate Analytic Solutions of Fractional Zakharov–Kuznetsov Equations By Fractional Complex Transform, *International Journal of Engineering and Technology*, **1** (1) 1–13.
13. **Belal Batiha**, 2012, Comparison of Numerical Methods for Solving One Species Lotka–Volterra Equation, *Annals of Oradea University - Mathematics Fascicula*, Tom XIX, (1), 243–253.
14. **Belal Batiha**, 2012, The variational iteration method for solving nonlinear oscillators, *Applied Mathematical Sciences*, **6** (36), 1771–1777 .
15. Abdul-Monim Batiha , **Belal Batiha**, 2011, A new method for solving epidemic model, *Australian Journal of Basic and Applied Sciences*, **5**(12), 3122–3126.
16. Abdul-Monim Batiha , **Belal Batiha**, 2011 Differential transformation method for a reliable treatment of the nonlinear biochemical reaction model, *Advanced Studies in Biology*, **3** (8), 355–360.
17. Khaled Batiha, **Belal Batiha**, 2011, A New Algorithm for Solving Linear Ordinary Differential Equations, *World Applied Sciences Journal*, **15** (12), 1774–1779.
18. Khaled Batiha, **Belal Batiha**, 2011, A Reliable Algorithm for solving Cauchy-Euler Differential Equation, *Australian Journal of Basic and Applied Sciences*, **5**(11), 2161–2169.
19. **B. Batiha**, K. Batiha, 2010, An Analytic Study of the $(2 + 1)$ -Dimensional Potential Kadomtsev-Petviashvili Equation, *Advances In Theoretical and Applied Mechanics* , Vol. 3, no. 11, 513 – 520
20. **B. Batiha**, 2010, A variational iteration method for solving the Bratu-type model *Hacetatepe Journal of Mathematics and Statistics*, **39**, 23–29.
21. **B. Batiha**, 2009, Application of variational iteration method to linear partial differential equations. *Applied Mathematical Sciences*, **3**(50): 2491–2498.
22. **B. Batiha**, 2009, Numerical Solution of a Class of Singular Second- Order IVPs by Variational Iteration Method, *International Journal of Mathematical Analysis*, **3**(40):1953–1968.
23. **B. Batiha**, 2009, A variational iteration method for solving the nonlinear Klein-Gordon equation. *Australian Journal of Basic and Applied Sciences*, **3**(4): 3876–3890.

24. **B. Batiha**, M.S.M. Noorani & I. Hashim. 2008. Application of variational iteration method to the generalized Burgers-Huxley equation. *Chaos, Solitons & Fractals* **36**(3): 660–663 (Elsevier, ISSN 0960-0779, Impact Factor 2005: 1.938).
25. **B. Batiha**, M.S.M. Noorani, I. Hashim & K. Batiha. 2008. Numerical simulations of systems of PDEs by variational iteration method . *Phys. Lett. A* **372**(6): 822–829 (Elsevier, ISSN: 0375-9601, Impact Factor 2005: 1.550)
26. **B. Batiha**, M.S.M. Noorani, I. Hashim. 2008. The solution of the one species Lotka-Volterra equation using variational iteration method. *Malaysian Journal of Mathematical Sciences* **2**(2): 55–60.
27. **B. Batiha**, M.S.M. Noorani & I. Hashim. 2007. Numerical simulation of the generalized Huxley equation by He's variational iteration method. *Appl. Math. Comput.* **186**: 1322–1325 (Elsevier, ISSN 0096-3003, Impact Factor 2005: 0.688)
28. **B. Batiha**, M.S.M. Noorani, I. Hashim. 2007. Variational iteration method for solving multispecies Lotka-Volterra equations. *Comput. Math. Applics.* **54**(7-8): 903–909 (Elsevier, ISSN: 0898-1221, Impact Factor 2005: 0.430).
29. **B. Batiha**, M.S.M. Noorani, I. Hashim. 2007. A numerical solution of the sine-Gordon equation using variational iteration method. *Phys. Lett. A* **370**(5-6): 437–440 (Elsevier, ISSN: 0375-9601, Impact Factor 2005: 1.550)
30. **B. Batiha**, M.S.M. Noorani, I. Hashim, E.S. Ismail. 2007. The multistage variational iteration method for a class of nonlinear system of ODEs. *Physica Scripta* **76**: 388–392.(IOP, ISSN 0031-8949 (Print) ISSN 1402-4896 (Online) , Impact Factor 2005: 1.161).
31. **B. Batiha**, M.S.M. Noorani, I. Hashim. 2007. Approximate analytical solution of coupled sine-Gordon equation by variational iteration method. *Physica Scripta* **76**: 445–448.(IOP, ISSN 0031-8949 (Print) ISSN 1402-4896 (Online) , Impact Factor 2005: 1.161).
32. **B. Batiha**, M.S.M. Noorani, I. Hashim. 2007. Application of variational iteration method to heat- and wave-like equations. *Phys. Lett. A* **369**(1-2): 55–61 (Elsevier, ISSN: 0375-9601, Impact Factor 2005: 1.550)
33. **B. Batiha**, M.S.M. Noorani, I. Hashim. 2007. Solving Riccati differential equation using variational iteration method. *Int. Math. Forum* **2** (56): 2759–2770 (Hikari, ISSN 1312-7594).
34. **B. Batiha**, M.S.M. Noorani, I. Hashim. 2007. Numerical solutions of the nonlinear integro-differential equations, *Int. J. Open Problem Compt. Math.* **1**: 75–83.
35. I. Hashim, M.S.M. Noorani, **B. Batiha**. 2006. A note on the Adomian decomposition method for the generalized Huxley equation, *Applied Mathematics and Computation*, 181(2):1439-1445

Conferences

1. **Belal Batiha**, Variational iteration method to Bratu equations, Southeastern–Atlantic Regional Conference on Differential Equations, October 16–17, 2009, Mercer University, Macon, GA, United States.
2. **Belal Batiha**, Application of variational iteration method to Bratu–type equations, The 12th Symposium of Mathematics and its Applications, 5 – 7th November 2009, TIMISOARA, Romania.
3. **B. Batiha**, M.S.M. Noorani and I. Hashim. The Multistage Variational Iteration Method for Solving Multispecies Lotka-Volterra Equations. ICMBio, KL. 4–6 Sept 2007. (AIP)
4. **B. Batiha**, M.S.M. Noorani and I. Hashim. Application of variational iteration method to the third-order dispersive equation. pp. 156–159 *Int. Conf. Research Educ. Math.* 10–12 April 2007.
5. S. Zenian, **B. Batiha**, I. Hashim. 2007. Numerical Comparisons of AGE Method and Adomian Decomposition Method for the Solution of Fourth-Order Parabolic Equation. pp. 260–265 *Int. Conf. Research Educ. Math.* 10–12 April 2007.
6. **B. Batiha**, M.S.M. Noorani & I. Hashim. The solution of the one species Lotka-Volterra equation using variational iteration method. NCMBio, KL. 22-23 August 2006. UPM.

Books

1. **Belal Batiha**, 2012, *Variational Iteration Method and Its Applications*, LAP LAMBERT Academic Publishing, Germany, ISBN 978-3-8465-9081-2.
2. **Belal Batiha**, 2012, *Calculus, The Easy Way*, LAP LAMBERT Academic Publishing, Germany, ISBN 978-3-659-14836-1.
3. **Belal Batiha**, Khaldoun Batiha, Khaled Batiha, *The Simple Reference in Maple*, Amman, Jordan, 2011.

Editorial Board

1. The Journal of Advanced Research in Scientific Computing, Institute of Advanced Scientific Research, USA.
2. Applied Mathematics, Scientific & Academic Publishing, USA.

International Referee/Reviewer

1. Computers and Mathematics with Applications. (Elsevier)
2. Mathematical and Computer Modelling. (Elsevier)

3. Physics Letters A (Elsevier)
4. Applied Mathematics and Computation. (Elsevier)
5. Journal of Computational and applied Mathematics. (Elsevier)
6. Advances in Water Resources. (Elsevier)
7. International Journal of Open Problems in Computer Science and Mathematics.
8. International Journal of Nonlinear Science.

Membership of Societies

1. Marquis Who's Who in the world, since 2008.
2. Member of the Jordanian Mathematics Society, since 2008.
3. Member of Jordan Research Group in Applied Mathematics (JRGAM), since 2011.

Honors, Academic Awards, Achievements

1. Best researcher in Jadara University/Jordan in the year 2021.
2. PhD scholarship from National University of Malaysia (UKM) (2005 - 2008).
3. First class honors in Master Degree, National University of Malaysia (UKM).

Experiences

Institution name : Jadara University
Location of work : Jordan, Irbid
Position : Associate Professor
Period : 01/09/2018 – Now
Position : Vice Dean of Scientific Research
Period : 07/10/2021 – Now
Position : Head of Mathematics Department
Period : 08/10/2019 – 06/10/2021

Institution name : Higher Colleges of Technology
Location of work : UAE, Abu Dhabi
Position : Assistant Professor
Period : 01/03/2011 – 31/07/2017

Institution name : UAE Naval College
Location of work : UAE, Abu Dhabi
Position : Assistant Professor
Period : 15/02/2010 – 28/02/2011

Institution name : Qassim University
Location of work : Al-Qassim, Kingdom of Saudi Arabia
Position : Assistant Professor
Period : 03/10/2009 to 01/02/2010

Institution name : Philadelphia University
Location of work : Amman, Jordan
Position : Assistant Professor
Period : 01/10/2008 to 01/10/2009

Institution name : National University of Malaysia
Location of work : Bangi, Malaysia
Position : Instructor
Period : 01/08/2005 to 18/07/2008

Institution name : Bremen University
Location of work : Bremen, Germany
Position : Tutor and Research Assistant
Period : 06/02/2002 to 17/11/2004

Languages

- (1) Language : Arabic
Skill level : Mother tongue

- (2) Language : English
Skill level : Fluently speaking and writing

- (3) Language : Germany
Skill level : Good in speaking and writing (test DAF)

Courses Taught

Calculus 1	Calculus 2
Linear algebra 1	Linear algebra 2
Numerical analysis 1	Numerical analysis 2
Differential Equations 1	Differential Equations 2
Mathematics for Computing	Discrete Structures
Probability and Statistics	Computer Applications
Information and the Internet	Advance Programming Language 2 (Java)
Foundation Mathematics	Mathematics for Naval Sciences
Research Methods	Partial Differential Equations
Geometry	