



# Associate Professor Nidal Anakira

## Curriculum Vitae

### Personal information

Full Name **Nidal Ratib Sulaiman Anakira**, .  
Gender **Male**, .  
Date and Place of Birth **20/01/1978**, *Irbid*, Jordan, .  
Marital Status **Married**, .

### Education

2011–2015 **Ph.D in Applied Mathematics- Differential Equations**, *School of Mathematical Sciences*, National University of Malaysia (UKM),Bangi, Malaysia, .  
Advisor: Professor Ishak Hashim

### Research Interests

Description Applied mathematics / Numerical solution for solving different kinds of differential equations ordinary and partial equation, delay differential equation, boundary value problems and initial value problems, approximate analytical solution for differential equation, Numerical and analytical solution for fractional differential equation and Fuzzy differential equations.

### Important Links

Google Scholar  
<https://scholar.google.com.my/citations?user=ETLVxUAAAAAJ>  
researchgate  
<https://www.researchgate.net/profile/Nidal-Anakira/experience>

### Experience

2015–1/3/2020 **Assistant Professor** , *Head of Mathematic Department*, Faculty of Science and Information Technology, Irbid National University.  
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1/3/2020– to present **Associate Professor** , *Head of Mathematic Department*, Faculty of Science and Information Technology, Irbid National University.

2003–2007 **Teacher**, *Ministry of Education*, Secondary School (Jordan).

2007–2011 **Teacher**, *in Abu Dhabi Education Council*, Al-Ain ,(united Arab emirates).

## Technical Skills

1. A quality evaluator accredited to the Accreditation Commission for Higher Education and Quality Assurance.
2. International Computer Driving License 2003 (ICDL ).
3. Test of English as a Foreign Language 2008( TOFEL ).
4. Applications:TEX, LateX, Bibtex, Microsoft Office,and other common productivity packages for Windows.
5. Mathematica Experience: Linear algebra, Nonlinear Numerical Methods Analytical Solutions, Plots Options, and Programming.
6. Training course for new teachers 2003, Ministry of education (Jordan).
7. Training course for new teachers 2007, Abu Dhabi Education Council (united Arab emirates).
8. Workshop in the development of mathematics book for grades sixth and seventh 2009, (Abu Dhabi Education Council).
9. Workshop in Wolfram mathematica 2014, National University of Malaysia (UKM).
10. Well organized and excellent attention to detail.
11. Can work under pressure and meet deadlines.
12. Possess good skills in communication.
13. Able to work independently, and complete work on time

## Courses Taught at University Level

1. Numerical Analysis 1
2. Numerical Analysis 2
3. Advanced Numerical Analysis (Master Degree)
4. Subjects Glass in Applied Mathematics (Master Degree)
5. Research Methodology (Master Degree)
6. Ordinary Differential Equation 1
7. Ordinary Differential Equation 2

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8. Partial Differential Equation 1
9. Ordinary Differential Equation 1 (Master Degree)
10. Statistics and Probability 1
11. Statistics and Probability 2
12. Calculus II
13. Calculus III

## Mathematical Expertise

Description Fractional calculus, Differential Equation, Numerical and Analytical Methods for Solving Differential Equations

## Languages

Arabic **Mother tongue**

English **Very Good**

## Research Supervision: MSc Students

1. Thanaa Al-Fakeeh: Applications of homotopy analysis method for solving linear and nonlinear ordinary differential equations.
2. Ahmad Jihad: Applications of homotopy analysis method for solving linear and nonlinear delay differential equations.
3. Salah Al-shorman: Residual power series method for solving various kinds of delay differential equations.
4. Shadi Al-Ahmad: Differential transformation method for solving different kinds of differential equations, (2020).
5. Amjad Amaireh: Numerical solutions for linear and nonlinear boundary value problems
6. Mousa Rababah: Numerical solutions for linear and nonlinear initial value problems
7. Reem Kanaan: Numerical solutions for solving third order ordinary differential equations linear and nonlinear
8. Mohmoud Al-Ahmad :Residual Power series method for solving initial value problems

## Was a committee member of the following theses:

1. Abd Al-Rhman Al-Shatnawi, January 13, 2022. Solutions of Fractional Differential Equations with Two Parameters Using Bernstein Polynomials, B.Sc. Mathematics, Yarmouk University.
2. Rahsed A. Alrababah, 17, January, 2022, The Osculating Polynomial and Numerical Integration, Irbid National University.
3. Majida Al-Momani, 19, January, 2022, Stability of Autonomous System, Irbid National University.
4. Ahmad Abu Alasal, 15, January, 2022, Coefficients Estimate of Certain Subclasses Bi-Bazilevic Functions, Irbid National University.
5. Mouath Mahmoud Alzayadneh, 2021: Other generalization of paracompact space.

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6. Elham Magableh, 19, February, 2021: Cayley Hamilton Theorem.
7. Omar Nabeel Al-Najar, 6 March, 2021: On fekete-szgo functional problem for BL-univalent functions.
8. Maya Mohmoud Al-najjar 5 April, 2021 Fractional dynamical system study of a discrete Lotka-Voltera model, [University of Jordan](#).
9. Ola Abd Al-Kareem Dalalaa 20, April, 2020: Astudy of certain operators and subclasses of analytic p- valent functions.
10. S April, 2020: Zeros of polynomials
11. Thabet Bani Ata Jan, 2020; Expansion of real functions in bivariate kind of bernoulli and euler polynomials and applications to quadrature rules.
12. Ameen Fathi Qasem Jan, 2020 Numerical Quadrature rule using Hermit interpolation polynomials.
13. Mohammad Jamal damlakhi Jan, 2020: general principles for higher order partial differential equations.
14. Hassan Mohammad albarakat August, 2019: test of convergence of double sequence and series of real numbers and functions.
15. Abdullah Mahmoud Shabaneh August 2019 : Basic concept of the fundamental group of topological graphs.
16. Muath Al-Sheyab Jun 2019: A study of compact open topological on function space.
17. Amro Hamaydeh Jan 2019: Basic concepts of semidirect product groups.
18. Omar Taha Sulaiman May, 2018: Numerical solutions of fractional differential equations using finite difference method.
19. Ahmad Nawafleh 2018: Basic concept of the congruences of group.
20. Osyed Mohammad alazzam 2018: study of the young and heinz inequalities.
21. Khaled Aljamal 2018: Basic concepts of the generators of groups.
22. Naji Mohmoud Al-zu'bi December 2018: Finding zeros of nonlinear equations by modified Adomian decomposition method, [Jordan University of Science and Technology](#)
23. Mohmoud Al-Jamous Jan 2018: Results on eigenvalues inequalities of matrices.
24. Mariam Mahafzah August 2018: Closed ideal topological space.

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## PROCEEDINGS

1. **Anakira Nidal**, a new accurate procedure for solving nonlinear delay differential equations, 1st online Yarmouk mathematics conference on differential equations: Analysis, modeling and numerical computation (**DEAMN-2021**), 18-20 September, Irbid-Jordan
2. N. Anakira, . Mathematical methods in biological and related science, West Asia Mathematical School (WAMS- Irbid Jordan), **2021**.
3. A. F. Jameel., A. H. Shather., **N. Anakira**, A. K. Alomari,. & (2019, December). Comparison for the approximate solution of the second order fuzzy nonlinear differential equation with fuzzy initial conditions, The 8<sup>th</sup> international conference on computer engineering ana mathematical sciences(ICCEMS 2019),langkawi, Malaysia, info@iccems.com.
4. **Anakira, N.** (2019, April). Solution of system of ordinary differential equations by optimal homotopy asymptotic method. In AIP Conference Proceedings (Vol. 2096, No. 1, p. 020023). AIP Publishing.
5. **N. R. Anakira**, Adaptive Optimal Homotopy Asymptotic Method for Solving Quadratic Riccati differential equation, The Third International Conference on recent advances in pure and applied Mathematics (ICRAPAM 2016), Bodrum, Mugla-Turky.
6. **N. R. Anakira**, A. K. Alomari, and I. Hashim, Adaptive Optimal Homotopy Asymptotic Method for Solving Riccati differential equation, The 2014 International Arab Conference on Mathematics and Computations (IACMC), Zarqa University, Jordan
7. **N. R. Anakira**, A. K. Alomari, and I. Hashim, Application of optimal homotopy asymptotic method for solving linear delay differential equations , The 2013 UKM FST Postgraduate Colloquium, AIP Conf. Proc. 1571, 1013-1019 (2014).

## Publications

1. Jameel, Ali Fareed, Hafeed H. Saleh, Amirah Azmi, Abedel-Karrem Alomari, **Nidal Ratib Anakira**, and Noraziah Haji Man. "Efficient approximate analytical methods for nonlinear fuzzy boundary value problem." International Journal of Electrical & Computer Engineering (2088-8708) 12, no. 2 (**2022**).
2. **Anakira, Nidal**, Ali Jameel, Mohmmad Hijazi, Abedel-Karrem Alomari, and Noraziah Man. "A new approach for solving multi-pantograph type delay differential equations." International Journal of Electrical & Computer Engineering (2088-8708) 12, no. 2 (**2022**).
3. Al-Ahmad, S., Mamat, M., **Anakira, N.** & Alahmad, R. (**2022**). Modified differential transformation method for solving classes of non-linear differential equations. TWMS Journal Of Applied And Engineering Mathematics, 12(1), 107-119.
4. Jameel, Ali F., **N. R. Anakira**, A. K. Alomari, and Noraziah H. Man. "Solution and Analysis of the Fuzzy Volterra Integral Equations via Homotopy Analysis Method." CMES-COMPUTER MODELING IN ENGINEERING & SCIENCES 127, no. 3 (**2021**): 875-899.

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5. Hashim, Dulfikar Jawad, Ali Fared Jameel, Teh Yuan Ying, A. K. Alomari, and **N. R. Anakira**. "Optimal homotopy asymptotic method for solving several models of first order fuzzy fractional IVPs." *Alexandria Engineering Journal* (2021).
6. Shather, A. H., A. F. Jameel, **N. R. Anakira**, A. K. Alomari, and Azizan Saaban. "Homotopy analysis method approximate solution for fuzzy pantograph equation." *International Journal of Computing Science and Mathematics* 14, no. 3 (2021): 286-300.
7. **Anakira, N. R.**, M. S. Hijazi, A. F. Jameel, A. K. Alomari, R. M. Batyha, and M. Almahameed. "Modified residual power series method for solving system of differential algebraic equations." *J. Math. Comput. Sci.* 11, no. 6 (2021): 8458-8471.
8. **Anakira, N. R.** "A new accurate procedure for solving nonlinear delay differential equations." *J. Math. Comput. Sci.* 11, no. 4 (2021): 4673-4685.
9. Alomari, A. K., Muhammed I. Syam, **N. R. Anakira**, and A. F. Jameel. "Homotopy Sumudu transform method for solving applications in physics." *Results in Physics* 18 (2020): 103265.
10. Jameel, Ali F., Akram H. Shather, **N. R. Anakira**, A. K. Alomari, and Azizan Saaban. "Comparison for the approximate solution of the second-order fuzzy nonlinear differential equation with fuzzy initial conditions." *Mathematics and Statistics* 8, no. 5 (2020): 527-534.
11. Jameel, A. F., **N. R. Anakira**, A. H. Shather, Azizan Saaban, and A. K. Alomari. "Numerical algorithm for solving second order nonlinear fuzzy initial value problems." *International Journal of Electrical and Computer Engineering (IJECE)* 10, no. 6(2020): 6497-6506.
12. **N. R. Anakiraa**, H. Abdelkarim, M. Abu-Dawas Homotopy Sumudu Transformation Method for Solving Fractional Delay Differential Equations. *Gen.Lett. Math.*, 9(1) (2020), 33-41
13. **Anakira, N. R.**, Al-Shorman, M. M., & Jameel, A. F.(2019), An Accurate Approximate Solutions of Multipoint Boundary Value Problems. *General Letters in Mathematics*, Vol. 7, No. 1, Sep 2019, pp.31-38
14. **Anakira, N. R.**, Shather, A. H., Jameel, A. F., Alomari, A. K., & Saaban, A. (2019). Direct solution of uncertain bratu initial value problem. *International Journal of Electrical and Computer Engineering (IJECE)*, 9(6), 5075-5083.
15. Ali. Jameel,**Nidal Anakira**, AbdulKareem Alomari, Azizan Saaban, Mohammad Al Mahameed,(2019), A New Approximate Solution of the Fuzzy Delay Differential Equations. *International Journal of Mathematical Modelling and Numerical Optimisation*,9(3), 221-240.
16. Majid M Hamed, Ali F Jameel, **N. R. Anakira**, A. Saaban, Farah A Abdullah,(2019), Numerical Treatment of Fractional Tumor Immune System Model by Adam-Bashforth Moulton Method. *Journal of Engineering and Applied Sciences*,14 (2), 495-501.

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17. A.F JAMEEL, **N. R. Anakira**, A.-K. Alomari, D. Alsharo, A. Saaban. (2019), New Semi-Analytical Method for Solving Two Point Nth Order Fuzzy Boundary Value Problem. *International Journal of Mathematical Modelling and Numerical Optimisation*,9(1),12-31.
18. **N. R. Anakira**, Ali. F. Jameel, A. K. Alomari, A Saaban, M. A. Shakatreh, and A. Odat,(2019), Approximate Approach for solving two Point Fuzzy Boundry value problem. *Italian journal of pur and applied mathematics*.
19. Ali FJameel Azizan Saaban Sarmad A Altaie **Nidal. R. Anakira** A. K. Alomari and N.Ahmad. (2018). Solving first order nonlinear fuzzy differential equations using Optimal Homotopy Asymptotic Method. *International Journal of Pure and Applied Mathematics*, 118(1), 49-64.
20. Ali. F. Jameel, **N. R. Anakira**, M. M. Rashidi, A. K. Alomari, A Saaban, M. A. Shakatreh, (2018). Differential Transformation Method for Solving Higher Fuzzy Initial Value Problems. *Italian Journal of Pure and Applied Mathematics*, (39), 194-208..
21. **N. R. Anakira** and M. Al-Hwari, (2018). Generalized and New Bounds For the Zeros Of Polynomials, *JP journal of Algebra, Number Theory and Application*,40(3), 367-376
22. Alomari, A. K., Muhammed Syam, Mohammad F. Al-Jamal, A. Sami Bataineh, **N. R. Anakira**, and A. F. Jameel. "Modified Legendre Operational Matrix of Differentiation for Solving Strongly Nonlinear Dynamical Systems." *International Journal of Applied and Computational Mathematics* 4, no. 5 (2018): 117.
23. **N. R. Anakira**, (2018). Optimal Homotopy Asymptotic Medthod for Solving Multi-Pantograghh Type Delay Differential Equations, *Advances in Differential Equations and Control Processes*, Volume 19, Issue 3, pp, 191 - 204.
24. **Anakira, N. R**, Jameel, A., Alomari, A. K., Saaban, A., Almahameed, M., & Hashim, I. (2018). Approximate Solutions of Multi-Pantograph Type Delay Differential Equations Using Multistage Optimal Homotopy Asymptotic Method. *Journal of Mathematical and Fundamental Sciences*, 50(3), 221-232.
25. **Anakira, N. R.** (2017). NUMERICAL SOLUTION FOR SOLVING THE QUADRATIC RICCATI DIFFERENTIAL EQUATIONS BY MULTISTAGE OPTIMAL HOMOTOPY ASYMPTOTIC METHOD. *Far East Journal of Mathematical Sciences*, 101(4), 839.
26. **Anakira, N. R.**, Alomari, A. K., Jameel, A. F., & Hashim, I. (2017). Multistage optimal homotopy asymptotic method for solving boundary value problems with robin boundary conditions. *Far East Journal of Mathematical Sciences*, 102(8), 1727-1744.
27. Jameel, A. F., **Anakira, N. R**, Alomari, A. K., Hashim, I., & Momani, S. (2016). A New Approximation Method for Solving Fuzzy Heat Equations. *Journal of Computational and Theoretical Nanoscience*, 13(11), 7825-7832.
28. Jameel, A., **Anakira, N. R.**, Alomari, A. K., Hashim, I., & Shakhatreh, M. A. (2016). Numerical

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solution of  $n^{\text{th}}$  order fuzzy initial value problems by six stages. J. Nonlinear Sci. Appl, 9, 627-640.


29. **Anakira, N. R.**, Alomari, A. K., Jameel, A. F., & Hashim, I. (2016). Multistage optimal homotopy asymptotic method for solving initial-value problems. Journal of Nonlinear Science and Applications, 9(4), 1826-1843.
30. Mahmood, R. M., & **Anakira, N. R** (2016). ON GROUPS ACTING ON TREES OF INFINITE CYCLIC SUBGROUPS OF FINITE INDEX. JP Journal of Geometry and Topology, 19(1), 69.
31. Alomari, A. K., **Anakira, N. R.**, & Hashim, I. (2014). Multiple solutions of problems in fluid mechanics by predictor optimal homotopy asymptotic method. Advances in Mechanical Engineering, 6, 372537.
32. **Anakira, N. R.**, Alomari, A. K., & Hashim, I. (2013). Optimal homotopy asymptotic method for solving delay differential equations. Mathematical Problems in Engineering, 2013.
33. Alomari, A. K., **Anakira, N. R.**, Bataineh, A. S., & Hashim, I. (2013). Approximate solution of nonlinear system of BVP arising in fluid flow problem. Mathematical Problems in Engineering, 2013.
34. **Anakira, N. R.**, Alomari, A. K., & Hashim, I. (2013). Numerical scheme for solving singular two-point boundary value problems. Journal of Applied Mathematics, 2013.

I hereby declare that the information provided in this C. V. is true complete and correct to the best of my knowledge and belief.

Signature: Anakira Nidal.....

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