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Department of Mathematics,
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Qualification

Degree	Branch	Institution / University	Year of Passing
Doctorate Degree	Mathematics	Bishop Heber College (Autonomous)	2011
M. Phil	Mathematics	Bharathidasan University	1990
M. Sc.	Mathematics	Periyar E.V.R. College	1988
B. Sc.	Mathematics	Thiruvalluvar College	1984

Ph.D. Details

Title of Thesis		Area of Specialization	
Applicability of Single Term Walsh Series Technique in Solving Higher Order Systems of Initial Value Problems		Numerical Analysis of Differential Equations	
Research Supervisor	Research Centre	Year of Award	
Dr. D. Paul Dhayabaran	Bishop Heber College (Autonomous)	November 2011	

Additional Qualification

Name of Course	Place of Study	Date	Duration
PGDCA	Bharathidasan University	1998	

Work Experience

Name of Institution	Address of Institution	Designation	From	To
Bishop Heber College (Autonomous)		Associate Professor	21-09-1998	

Teaching / Research Experience

U.G. : 24 years **P.G. :** 22 years **M.Phil.** 16 years **Ph.D.** 8 years

Table of Contents

1.	Conferences / workshops / Seminars Attended	2
2.	Research Papers Presented	14
3.	Publication in Journals	32
4.	Publication in Books	1
5.	Books Published / Edited	0
6.	Conferences / Workshops / Seminars Organised	0
7.	Research Projects	0
8.	Resource Person	0
9.	Consultancy	0
10.	Awards Recieved	0
11.	Patent	0
12.	Extension Activities Undertaken	0
13.	Professional Membership	0
14.	M.Phil. / Ph.D. Produced	34 / 5

1. International level Conference on **"International Conference on Applied Mathematics and Bio-inspired Computations"** sponsored by CSIR organized by Bishop Heber College at Tiruchirappalli during 10/01/2019 to 11/01/2019.
2. International level Conference on **"First Bodhi International Conference on Humanities Arts and Science"** sponsored by University of Putra organized by University of Putra at Malaysia during 24/08/2018 to 27/08/2018.



1. **"Solving Delay Differential Equations Using Least Square Method Based on Successive Integration Technique"** in the International conference on *International Conference on Recent Trends in applied Mathematics* sponsored by , organized by at Loyola College, Chennai during 24/02/2023 to 25/02/2023.
2. **"Solving Neutral Delay Differential Equations Using Galerkin Weighted Residual Method and its Residual Error Correction with Various Polynomials"** in the International conference on *International Conference on Graphs, Networks and Combinatorics* sponsored by , organized by at Ramanujan College, Delhi during 10/01/2023 to 12/01/2023.
3. **"Polynomial Collocation Methods Based on Successive Integration Technique for Solving Neutral Delay Differential Equations"** in the International conference on *fifth International conference on Applied Mathematical Models* sponsored by , organized by at PSG College of Technology, Coimbatore during 04/01/2023 to 06/01/2023.
4. **"Solving Delay Differential Equations Using Galerkin Weighted Residual Method and its Residual Error Correction with Various Polynomials"** in the International conference on *International Conference on Mathematical Methods and computation* sponsored by , organized by at Jamal Mohamed College, Trichy during 21/12/2022 to 22/12/2022.
5. **"Application of 2-Stage Implicit RKHeM Method for Solving Delay Differential Equations"** in the International conference on *International Conference on Scientific and Technological Advancements for Reliable and Sustainable - Future* sponsored by , organized by at Bishop Heber College, Trichy during 16/11/2022 to 18/11/2022.
6. **"Numerical Solution of Intuitionistic Fuzzy Differential Equations using Exponential Runge Kutta Method"** in the International conference on *International Conference on Recent Advances in Pure and Applied Mathematics* sponsored by , organized by Raja Doraisingam Government Arts College at Sivagangai during 27/08/2019 to 28/08/2019.
7. **"A New One Step Inverse Polynomial Single Step Method for Solving Viral Model with Delayed Immune Response"** in the International conference on *International Conference on Recent Advances in Pure and Applied Mathematics* sponsored by , organized by Raja Doraisingam Government Arts College at Sivagangai during 27/08/2019 to 28/08/2019.
8. **"Higher Order Derivative Runge Kutta Method for Solving Delay Differential Equations"** in the International conference on *International Conference on Recent Advances in Pure and Applied Mathematics* sponsored by , organized by Raja Doraisingam Government Arts College at Sivagangai during 27/08/2019 to 28/08/2019.
9. **"Two Stage Multiderivative Runge Kutta Method for Delay Differential Equations"** in the International conference on *International Conference on New Trends in Mathematical Modeling with Applications* sponsored by , organized by Sri Vidya Mandir Arts and Science College at Krishinagiri during 29/07/2019 to 30/07/2019.
10. **"Kamal Decomposition Method for Solving Nonlinear Delay Differential Equations"** in the International conference on *International Conference on Mathematical Methods and Computation* sponsored by , organized by Jamal Mohamed College at Tiruchirappalli during 20/02/2019 to 21/02/2019.
11. **"Mahgoub Decomposition Method for solving Nonlinear Delay Differential Equations"** in the International conference on *International Conference on Applied Mathematics and Bio-inspired Computations* sponsored by CSIR, organized by P.G.Research Department of Mathematics, Bishop Heber College at Tiruchirappalli – 620017 during 10/01/2019 to 11/01/2019.
12. **"A new one-step method for solving stiff and non-stiff delay differential equations using Lagrange interpolation"** in the International conference on *International Conference on Modern Trends in Mathematics* sponsored by , organized by Hajee Karutha Rowther Howdia College at Theni during 10/09/2018 to 01/01/1900.

13. **"Stability Analysis of Composite Runge Kutta Methods for Delay Differential Equations Using Different Interpolations"** in the International conference on *1st Bodhi International Conference on "Humanities, Arts and Science - 2018" (BICOHAS-18)* sponsored by , organized by UNIVERSITI PUTRA MALAYSIA (UPM), Malaysia and Bishop Heber College at UNIVERSITI PUTRA MALAYSIA (UPM), Malaysia during 24/08/2018 to 27/08/2018.
14. **"Exponential Runge Kutta Methods For Solving Fuzzy Differential Equations"** in the National conference on *National Conference on Emerging Trends in Mathematical Sciences* sponsored by , organized by S. A. Engineering College at Chennai during 22/12/2016 to 01/01/1900.



1. **"Application of inverse Runge kutta method for solving infectious diseases model with delayed immune response"** published in The International Journal of analytical and experimental model analysis (PEER REVIEW) Vol. 13, Issue No. 6, June 2021 ISSN : 0886 9367.
2. **"Integral Transforms Based Decomposition Methods for Delay Differential Equations"** published in Compliance Engineering Journal (PEER REVIEW) Vol. 12, Issue No. 5, May 2021 ISSN : 0898 3577.
Impact factor , Scopus Index , h - index 5, Citation index
3. **"Fourth Order Inverse Runge Kutta Method for Solving Delay Differential Equations"** published in Compliance Engineering Journal (PEER REVIEW) Vol. 12, Issue No. 2, February 2021 ISSN : 0898 3577.
Impact factor , Scopus Index , h - index 5, Citation index
4. **"Third Order Inverse Runge Kutta Method for Solving Delay Differential Equations"** published in The International journal of analytical and experimental modal analysis (PEER REVIEW) Vol. 13, Issue No. 1, January 2021 ISSN : 0886 9367.
5. **"Generalized Rational Multi Step Method for Delay Differential Equations"** published in IAENG International Journal of Applied Mathematics (PEER REVIEW) Vol. 50, Issue No. 1, March 2020 ISSN : 1992 9986.
6. **"Analysis of Composite Runge Kutta Methods and New One Step Technique for Stiff Delay Differential Equations"** published in IAENG International Journal of Applied Mathematics (PEER REVIEW) Vol. 49, Issue No. 3, August 2019 ISSN : 1992 9986.
Impact factor , Scopus Index , h - index 5, Citation index
7. **"A Class of 2-Step Fourth Order Rational Multi step Methods for Solving Delay Differential Equations"** published in International Journal for Research in Engineering Application and Management (PEER REVIEW) Vol. 5, Issue No. 2, July 2019 ISSN : 2454 9150.
8. **"A New One Step Method for Solving Stiff and Non Stiff Delay Differential Equations using Lagrange Interpolation"** published in Journal of Applied Science and Computations (PEER REVIEW) Vol. 6, Issue No. 3, May 2019 ISSN : 1076 5131.
9. **"Kamal Decomposition Method for Solving Nonlinear Delay Differential Equations"** published in Bulletin of Pure and Applied Sciences Mathematics and Statistics (PEER REVIEW) Vol. 38E, Issue No. 1, April 2019 ISSN : 2320 3226.
10. **"Mahgoub Decomposition Method for Solving Nonlinear Delay Differential Equations"** published in International Journal of Research in Advent Technology (PEER REVIEW) Vol. , Issue No. , March 2019 ISSN : 2321 9637.
11. **"Numerical Solution of Intuitionistic Fuzzy Differential Equations using Exponential Runge Kutta Method"** published in Advances in Mathematics Scientific Journal (PEER REVIEW) Vol. 8, Issue No. 3, March 2019 ISSN : 1857 8438.
Impact factor , Scopus Index , h - index 5, Citation index

12. **"Mohand Decomposition Method for solving nonlinear pantograph delay differential equations"** published in Journal of Emerging Technologies and Innovative Research (E-JOURNAL) Vol. 6, Issue No. 2, February 2019 ISSN : 2349-5162.
13. **"A combined method of a new integral transform and Adomian decomposition method for solving nonlinear pantograph delay differential equations"** published in International Journal of Research and Analytical Reviews (E-JOURNAL) Vol. 6, Issue No. 1, February 2019 ISSN : 2348-1269.
14. **"An Application of Exponential Polynomial Single Step Method for Solving Viral Model with Delayed Immune Response"** published in Advances in Mathematics Scientific Journal (SELECT) Vol. 8, Issue No. 3, February 2019 ISSN : 1857 8438.
Impact factor , Scopus Index , h - index 5, Citation index
15. **"Higher Order Derivative Runge Kutta Method for Solving Delay Differential Equations"** published in Advances in Mathematics Scientific Journal (PEER REVIEW) Vol. 8, Issue No. 3, February 2019 ISSN : 1857 8438.
Impact factor , Scopus Index , h - index 5, Citation index
16. **"A New One Step Rational Method for Solving Stiff and Non-Stiff Delay Differential Equations"** published in Journal of Emerging Technologies and Innovative Research (PEER REVIEW) Vol. 5, Issue No. 9, November 2018 ISSN : 2349 5162.
17. **"Stability Analysis of Composite Runge Kutta Methods for Delay Differential Equations using Different Interpolations"** published in BODHI International Journal of Research in Humanities, Arts and Sciences (PEER REVIEW) Vol. 3, Issue No. 11, September 2018 ISSN : 2456 5571.
18. **"Solving Nonlinear Fractional Differential Equation Using Mahgoub Adomian Decomposition Method"** published in Journal of Emerging Technologies and Innovative Research (PEER REVIEW) Vol. 5, Issue No. 7, July 2018 ISSN : 2349 5162.
19. **"Mahgoub Transform Method for Solving Linear Fractional Differential Equations"** published in International Journal of Mathematics Trends and Technology (PEER REVIEW) Vol. 58, Issue No. 4, June 2018 ISSN : 2231 5373.
20. **"Numerical Solution of Non-linear Fuzzy Differential Equations using Single Term Walsh Series Technique"** published in International Journal of Mathematics Trends and Technology (E-JOURNAL) Vol. 45, Issue No. 1, May 2017 ISSN : 2231-5373.
21. **"Exponential Runge-Kutta Methods for Solving Fuzzy Differential Equations"** published in Global Journal of Pure and Applied Mathematics (PEER REVIEW) Vol. 13, Issue No. 1, January 2017 ISSN : 0973-1768.
22. **"Comparative Analysis of Finite Difference Schemes for Solving Heat Equation"** published in Aryabhatta Journal of Mathematics and Informatics (PEER REVIEW) Vol. 8, Issue No. 2, September 2016 ISSN : 2394 9309.
23. **"Solving Delay Differential Equations with Constant Lags using RKCeM Method"** published in International Journal of Innovative Research in Science, Engineering and Technology (PEER REVIEW) Vol. 5, Issue No. 4, April 2016 ISSN : 2319-8753.

24. **"Application of RKHeM Method for Solving Delay Differential Equations with Constant Lags"** published in International Journal of Innovative Research in Science, Engineering and Technology (PEER REVIEW) Vol. 5, Issue No. 3, April 2016 ISSN : 2319-3980.
25. **"Solving Delay Differential Equations with Constant Lags using RKHaM Method"** published in International Journal of Science and Research (PEER REVIEW) Vol. 5, Issue No. 4, April 2016 ISSN : 2277-8179.
26. **"Solving Higher Order Linear System of Time-Varying Fuzzy Differential Equations using Generalized STWS Technique"** published in International Journal of Science and Research (PEER REVIEW) Vol. 5, Issue No. 4, April 2016 ISSN : 2319-7064.
27. **"Numerical Solution of Higher Order Linear Fuzzy Differential Equations using Generalized STWS Technique"** published in International Journal of Innovative Research in Science, Engineering and Technology (PEER REVIEW) Vol. 5, Issue No. 3, March 2016 ISSN : 2319-8753.
28. **"Applicability of STWS Technique in Solving Linear System of Stiff Delay Differential Equations with Constant Delays"** published in Recent Research in Science and Technology (PEER REVIEW) Vol. 3, Issue No. 10, January 2011 ISSN : 2076-5061.
29. **"Comparison of Single Term Walsh Series Technique and Extended RK Methods Based on Variety of Means to Solve Stiff Non-linear Systems"** published in Recent Research in Science and Technology (PEER REVIEW) Vol. 3, Issue No. 9, January 2011 ISSN : 2076-5061.
30. **"An Application of STWS Technique in Solving Stiff Nonlinear System High Irradiance Responses (HIRES) of Photomorphogenesis"** published in Recent Research in Science and Technology (PEER REVIEW) Vol. 3, Issue No. 6, January 2011 ISSN : 2076-5061.
31. **"Generalized STWS Technique for higher order time-varying singular systems"** published in International Journal of Computer Mathematics (PEER REVIEW) Vol. 84, Issue No. 3, March 2007 ISSN : 0020-7160.
32. **"Numerical solution of higher order systems of IVPs using generalized STWS technique"** published in Applied Mathematics and Computation (PEER REVIEW) Vol. 180, Issue No. 1, September 2006 ISSN : 0096-3003.

Publication in Books - 1

1. **Vector Integration.** *Vector Calculus and Trigonometry.* Chennai : New Century Book House, January 2020.

Signature of Staff
(A.EMIMAL KANAGA PUSHPAM)