

# CURRICULUM VITAE



## Dr. DEVENDRA KUMAR

Department of Mathematics,

Assistant Professor, Jagan Nath Gupta Institute of Engineering and Technology,

Jaipur-302055, Rajasthan, India

**Mobile No.:** +91-9460905223

Email: [devendra.maths@gmail.com](mailto:devendra.maths@gmail.com)

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## ACADEMIC QUALIFICATION

- ❖ Ph.D. in Mathematics from University of Rajasthan, Jaipur: April, 2012.
- ❖ M.Sc. (Mathematics) from University of Rajasthan in 2005.
- ❖ B.Sc. from M.D.S. University, Ajmer in 2003.

## PERSONAL PROFILES

Father's Name	:	Shri Harhman Das Swami
Date of Birth	:	15 July, 1982
Marital status	:	Married
Sex	:	Male
Nationality	:	Indian
Language known	:	Hindi & English
Hobbies	:	Reading Books & Listening to Music.

## **TEACHING EXPERIENCE: 8 YEARS**

Presentably working as an Assistant Professor in the department of Mathematics Jagan Nath Gupta Institute of Engineering and Technology- Jaipur, from September-08– Continuing.

## **RESEARCH FIELDS**

Fractional Calculus, Special Functions, Mathematical Modelling, Nonlinear Dynamics, Numerical Methods and Analytical Methods.

## **MEMBER OF EDITORIAL BOARD**

1. International Journal of Modern Theoretical Physics.
2. International Journal of Mathematics And its Applications.

## **MEMBERSHIP IN PROFESSIONAL BODIES**

1. Special functions and their applications (SFA)
2. International Association of Engineers (IAENG)

## **MISCELLANEOUS**

### *Computer Skills*

1. Mathematical Software: Maple, Mathematica.
2. Typesetting Software: Microsoft Word, Latex.

## **RESEARCH PUBLICATIONS: 39**

### **Published/Accepted Papers in Refereed National and International Journals: 37**

**(2013)**

1. Jagdev Singh, **Devendra Kumar** and A. Kilicman, Application of Homotopy Perturbation Sumudu Transform Method for Solving Heat and Wave-Like Equations, Malaysian Journal of Mathematical Science 7(1) (2013), 79-95.

2. Jagdev Singh, **Devendra Kumar** and A. Kilicman, Homotopy perturbation method for fractional gas dynamics equation using sumudu transform, *Abstract and Applied Analysis*, Vol. 2013, Article ID 934060, 8 pages (2013), <http://dx.doi.org/10.1155/2013/934060>.
3. **Devendra Kumar**, Jagdev Singh and Sushila, Application of homotopy analysis transform method to fractional biological population model, *Romanian Reports in Physics*, 65(1) (2013), 63-75.
4. Jagdev Singh, **Devendra Kumar** and Sunil Kumar, New treatment of fractional Fornberg-Whitham equation via Laplace transform, *Ain Shams Engineering Journal* (2013), <http://dx.doi.org/10.1016/j.asej.2012.11.009> (**A Journal of Elsevier**).
5. Jagdev Singh, **Devendra Kumar** and Sunil Kumar, A reliable algorithm for solving discontinued problems arising in nanotechnology, *Scientia Iranica* (2013), 10.1016/j.scient.2013.02.017 (**A Journal of Elsevier**).
6. Jagdev Singh, **Devendra Kumar** and Sushila, On the solutions of fractional reaction-diffusion equations, *Le Matematiche* 68(1) (2013), 23-32.
7. **Devendra Kumar**, Jagdev Singh and A. Kilicman, An efficient approach for using sumudu transform, *Abstract and Applied Analysis*, 2013 (2013), Article ID 608943, 8 pages.
8. Jagdev Singh and **Devendra Kumar**, An application of homotopy perturbation transform method to fractional heat and wave-like equations, *Journal of Fractional Calculus and Applications* 4(2) (2013), 290-302.
9. **Devendra Kumar** and Jagdev Singh, New fractional-calculus results involving general class of multivariable polynomials and multivariable H-function, *International Journal of Modern Mathematical Sciences* 7(1) (2013), 26-40.
10. **Devendra Kumar**, Jagdev Singh and Sunil Kumar, A reliable treatment of biological population model by using Laplace transform, *International Journal of Modern Mathematical Sciences* 7(2) (2013), 132-142.
11. Sunil Kumar, Jagdev Singh and **Devendra Kumar**, New Homotopy Analysis Transform Algorithm to Solve Volterra Integral Equation, *Ain Shams Engineering Journal* (2013), Doi: 10.1016/j.asej.2013.07.004 (**A Journal of Elsevier**).

12. Sumit Gupta, Jagdev Singh and **Devendra Kumar**, Applications of homotopy perturbation transform method for solving time-dependent functional differential equations, *International Journal of Nonlinear Science* 16(1) (2013), 37-49.
13. **Devendra Kumar**, Jagdev Singh and Sunil Kumar, Analytic and approximate solutions of space- and time-fractional telegraph equations via Laplace transform, *Walailak Journal of Science and Technology*, (2013) (accepted for publication).
14. Jagdev Singh, **Devendra Kumar** and Sushila Rathore, Application of Laplace decomposition method in singular system of transistor circuits, *World Applied Sciences Journal*, (2013) (accepted for publication).
15. **Devendra Kumar**, Jagdev Singh and Sushila, Application of Homotopy Perturbation Transform Method to Linear and Nonlinear Schrödinger Equations, *International Journal of Nonlinear Science* (2013) (accepted for publication).
16. Sunil Kumar, **Devendra Kumar**, U.S. Mahabaleswar, A new adjustment of Laplace transform for fractional Bloch equation in NMR flow, *Application and Applied Mathematics: An International Journal*, (2013) (accepted for publication).
17. Jagdev Singh and **Devendra Kumar**, On the distribution of mixed sum of independent random variables one of them associated with general class of polynomials and H-function, *Journal of Applied Mathematics, Statistics and Informatics*, (2013) (accepted for publication).
18. V.B.L. Chaurasia and **Devendra Kumar**, Use of transcendental functions in electric circuit theory, *Acta Ciencia Indica*, (2013) (accepted for publication).
19. Sunil Kumar and **Devendra Kumar**, Fractional Modelling for BBM-Berger Equation by Using New Homotopy Analysis Transform Method, *Journal of the Association of Arab Universities for Basic and Applied Sciences* (2013) (accepted for publication) (**A Journal of Elsevier**).
20. Sumit Gupta, **Devendra Kumar** and Jagdev Singh, Application of He's homotopy perturbation method for solving nonlinear wave-like equations with variable coefficients, *International Journal of Advances in Applied Mathematics and Mechanics* (2013) (accepted for publication).

## (2012)

21. Jagdev Singh, **Devendra Kumar** and Sushila Rathore, Application of homotopy perturbation transform method for solving linear and nonlinear Klein-Gordon equations, *Journal of Information and Computing Science* 7(2) (2012), 131-139.
22. V.B.L. Chaurasia and **Devendra Kumar**, Solutions of Unified fractional Schrödinger equations, *IRSN Mathematical Physics Vol. 2012* (2012), Article ID 935365, doi:10.5402/2012/935365.
23. V.B.L. Chaurasia and **Devendra Kumar**, On the solutions of integral equations of Fredholm type with special functions, *Tamsui Oxford Journal of Information and Mathematical Sciences* 28(1) (2012), 49-61.
24. **Devendra Kumar**, Jagdev Singh and Sushila Rathore, Sumudu decomposition method for nonlinear equations, *International Mathematical Forum* 7(11) (2012), 515-521.
25. Jagdev Singh, **Devendra Kumar** and Sushila, Homotopy perturbation algorithm using Lapalce transform for gas dynamics equation, *Journal of Applied Mathematics, Statistics and Informatics* 8(1) (2012), 55-61.
26. Jagdev Singh, **Devendra Kumar**, Sushila and Sumit Gupta, Application of homotopy perturbation transform method to linear and non-linear space-time fractional reaction-diffusion equations, *The Journal of Mathematics and Computer Science*, 5(1) (2012), 40-52.
27. Sushila Rathore, **Devendra Kumar**, Jagdev Singh and Sumit Gupta, Homotopy analysis sumudu transform method for nonlinear equations, *Int. J. Industrial Mathematics*, 4(4) (2012), 301-314.

## (2011)

28. V.B.L. Chaurasia and **Devendra Kumar**, Solution of the time-fractional Navier-Stokes equation, *General Mathematics Notes* 4(2) (2011), 49-59.
29. Jagdev Singh, **Devendra Kumar** and Sushila, Homotopy perturbation sumudu transform method for nonlinear equations, *Adv. Theor. Appl. Mechanics*, 4(4) (2011), 165-175.
30. **Devendra Kumar**, Jagdev Singh and Sushila, Sumudu homotopy perturbation technique, *Global Journal of Science Frontier Research* 11(6) (2011), 59-64.

(2010)

31. V.B.L. Chaurasia and **Devendra Kumar**, A Family of Fractional Integrals Pertaining to Multivariable I-Function, *Applied Mathematical Sciences* 4 (31) (2010), 1535- 1545.
32. V.B.L. Chaurasia and **Devendra Kumar**, On the solutions of generalized fractional kinetic equations, *Adv. Studies Theor. Phys.* 4 (16) (2010), 773-780.
33. V.B.L. Chaurasia and **Devendra Kumar**, Application of sumudu transform in fractional differential equation associated with RLC electrical circuit, *International Journal of Computational Science and Mathematics* 2 (3) (2010), 177-183.
34. V.B.L. Chaurasia and **Devendra Kumar**, Application of special functions and SIRP in wireless communication fading statistics, *Global Journal of Science Frontier Research* 10 (5) (2010), 14-19.
35. V.B.L. Chaurasia and **Devendra Kumar**, The integration of certain product involving special functions, *SCIENTIA Series A: Mathematical Sciences* 19 (2010), 7-12.
36. V.B.L. Chaurasia and **Devendra Kumar**, Distribution of the linear combination of stochastic variables pertaining to special functions, *International Journal of Engineering Science and Technology* 2(4) (2010), 394-399.
37. V.B.L. Chaurasia and **Devendra Kumar**, Application of sumudu transform in the time-fractional Navier-Stokes equation with MHD flow in porous media, *Journal of Applied Sciences Research* 6 (11) (2010), 1814-1821.

**Published/Accepted Papers in Proceeding of International Conference: 02**

1. Jagdev Singh and **Devendra Kumar**, New Analytical Approach for Fractional Cubic Nonlinear Schrödinger Equation via Laplace Transform, Series: *Advances in Intelligent Systems and Computing*, Vol. 236 (2013), Proceedings of the Second International Conference on Soft Computing for Problem Solving (SocProS 2012), December 28-30, 2012 (**Springer**).
2. **Devendra Kumar** and Jagdev Singh, New Reliable Algorithm for Fractional Harry Dym Equation, Series: *Advances in Intelligent Systems and*

Computing, Vol. 236 (2013), Proceedings of the Second International Conference on Soft Computing for Problem Solving (SocProS 2012), December 28-30, 2012 (**Springer**).

## **RESEARCH PAPERS PRESENTED IN CONFERENCES: 08**

1. Presented a paper titled “The integration of certain product involving special functions” in the 21th Annual Conference of Rajasthan Ganita Parishad on Recent trends in Mathematics & Actuarial Sciences organized by Central University of Rajasthan, Jaipur on Feb 20-21, 2010.
2. Presented a paper titled “Solutions of Fractional Schrödinger Equations by Integral Transform Method” in International conference on Special functions and their applications (ICSFA-2011) & Symposium on works of Ramanujan organized by JNV, Jodhpur on July 28-30, 2011.
3. Presented a paper titled “Application of Laplace decomposition method in singular system of transistor circuits” in National Conference on Numerical and Mathematical Modeling in Electrical Engineering and Applied Sciences organized by Poornima College of Engineering, Jaipur on January 21, 2012.
4. Presented a paper titled “Exact solutions of Poisson Equations for Electrostatic Potential Problems by Homotopy Perturbation Transform Method” in National Conference on Role of Electronics & Instrumentation Engineering for Rural Development organized by JaganNath Gupta Institute of Engineering and technology, Jaipur on Feb. 27-28, 2012.
5. Presented a paper “Some fractional calculus results for the product of special functions associated with a class of Feynman integrals” in International conference on Special functions and their applications (ICSFA-2012) & Symposium on works of Ramanujan organized by Department of Mathematics, SVNIT, Surat on June 27-29, 2012.
6. Presented a paper titled “Application of transcendental functions in electric circuit theory” in UGC Sponsored-National Seminar on Recent Advances in Applied Mathematics and 16<sup>th</sup> Prof. P.D. Verma Memorial Lecturer-2012 organized by the Department of Mathematics, University of Rajasthan, Jaipur on July 29, 2012.

7. Presented a paper titled “New reliable algorithm for fractional Harry Dym equation” in the Second International Conference on "Soft Computing for Problem Solving (SocProS 2012) organized by JK Lakshmipat University, Jaipur on December 28 - 30, 2012.
8. Presented a paper titled “A reliable algorithm for analytical solution of fractional biological population model of animals” in UGC Sponsored-National Seminar on Recent Advances in Applied Mathematics and 17<sup>th</sup> Prof. P.D. Verma Memorial Lecturer-2013 organized by the Department of Mathematics, University of Rajasthan, Jaipur on September 14, 2013.

### **CONFERENCES ATTENDED**

1. Attended the 19th Annual Conference of Rajasthan Ganita Parishad “Numerical Techniques and Their applications in Mathematics” organized by Jaipur Engineering College, Jaipur on January 18-19, 2008.
2. Attended the National Conference on “Recent Developments in Engineering Mathematics & Information Technology” organized by Poornima College of Engineering, Jaipur on December 25-26, 2009.
3. Attended the National Conference on “Recent Advances in Microwave Tubes, Devices and Communication Systems” organized by JaganNath Gupta Institute of Engineering and technology, Jaipur on March 4-5, 2011.

### **WORKSHOP ATTENDED**

1. Attained a national workshop on “Application of Mathematics in field of Engineering” organized by Department of Mathematics, RIET, Jaipur on Nov. 3, 2012.

### **BOOK PUBLICATIONS**

1. Engineering Mathematics-I, Saroj Publications, 2008.
2. Engineering Mathematics-II, Vigyan & Takniki Prakashan, 2013.



## **PROFESSIONAL SERVICE AS A REVIEWER IN REPUTED INTERNATIONAL JOURNALS**

1. Scientia Iranica
2. Walailak Journal of Science and Technology
3. International Journal of Special Functions and Application
4. Progress in Applied Mathematics
5. International Journal of Modern Mathematical Sciences
6. International Journal of Modern Theoretical Physics
7. Zeitschrift fuer Naturforschung A
8. Computers in Biology and Medicine