CURRICULUM VITAE

1. Dr. VINAY KANWAR
2. Father's Name: Sh. Bishan Singh
3. Date of birth: 12-12-1969 (12th December, Nineteen sixty nine)
4. Present Designation: Professor-Mathematics (Since January, 2015)
5. Address for Correspondence: University Institute of Engineering and Technology, Panjab University, Chandigarh-160014, India.
6. E-mail: vmithil@yahoo.co.in; vkanwar@pu.ac.in
7. (a) Nationality: Indian (b) Passport No.: M2714414
8. Martial Status: Married
9. Academic Qualification: Ph.D (Mathematics, Himachal Pradesh University, Shimla, 1996)
10. Title of Ph.D Thesis: Hydrodynamic and Hydromagnetic Instabilities that arise either from velocity shear or double-diffusive convection.
11. Name of Supervisor: **Prof. Mihir B. Banerjee** (Bhatnagar Awardee)**,** Department of Mathematics, H.P. University Shimla-171005, Himachal Pradesh, India.
12. Field of Research: Numerical Analysis, Fluid Dynamics
13. Teaching experience: 21 Years.
14. R & D experience (DRDO): 3.5 years
15. Fellowships and Awards:

1.	Awarded Gold-medal in M.Phil.-Mathematics	H. P. University, Shimla	1991-1992
2	Awarded JRF during M.Phil.	H. P. University, Shimla	1991-1992
3	Awarded SRF during Ph.D.	H. P. University, Shimla	1992-1995

16. Ph. D. students guided: (Awarded = 04 & ongoing = 04)

1.	Dr. Sanjeev Kumar	School of Mathematics, Thapar University, Patiala	2012
2	Dr. Ramandeep Behl	Department of Mathematics, King Abdulaziz	2103

		University, Jeddah, Saudi Arabia	
3	Dr. Gurjinder Singh	Department of Mathematics, IK Gujral Technical University, Jalandhar	2016
4.	Dr. Munsih Kansal	School of Mathematics, Thapar University, Patiala	2017
5.	Mona Narang	Department of Mathematics, D.A.V. College, Chandigarh	Going to submit shortly
6.	Raj Bala	Department of Mathematics, Govt. Degree College, Barwala, Haryana	Going to submit shortly

17. PhD Dissertations External Examiner = 04 (PhD thesis)+01(for NBHM)

18. Reviewer: Mathematical Reviews (MathSciNet) & other many International Journals of Mathematics

19. Membership of Professional Institutions, Associations, Societies

(i) Member BOS (Mathematics), I.K. Gujral, Punjab Technical University, Jalandhar, Punjab

(ii) Member BOS (Mathematics), Maharaja Ranjit Singh Punjab Technical University, Bathinda, Punjab

(iii) Member BOS (Applied Sciences), GNE Ludhiana

20. Number of publications: 55

21. Number of publications in MathSciNet: 53 (American Mathematical Society)

22. Number of publications in Scopus: 50 (Elsevier)

23. Courses taught: Applied Numerical Analysis, Linear Algebra, Complex Analysis, Differential equations

24. Research work finding place in National/International textbooks:

Some of our research work has found place in the following international books:

(i) Multipoint Methods for Solving Nonlinear Equations by Miodrag S. Petkovic, Beny Neta, Ljiljana D. Petkovic and Jovana Dzunic, **Academic Press (Elsevier).**

(ii) Numerical Methods for Roots of Polynomials by J.M. McNamee Part I. **Elsevier, Amsterdam.**

(iii) Numerical Methods for Roots of Polynomials by J.M. McNamee and V.Y. Pan, Part II, **Elsevier, Amsterdam.**

25. List of Research Publications

(For latest and more detail regarding my publications, kindly refer to research-gate):
https://www.researchgate.net/profile/Vinay_Kanwar/publications

1. Ioannis K. Argyros, Munish Kansal, **Vinay Kanwar** and S. Bajaj (2018): "Higher-order derivative-free families of Chebyshev-Halley type methods with or without memory for solving nonlinear equations", Applied Mathematics and Computation, 315, pp. 224-245.
2. Ioannis K. Argyros, Munish Kansal and **Vinay Kanwar** (2018): Ball convergence of a stable fourth-order family for solving nonlinear systems under weak systems, Stud. Univ. Babes-Bolyai Math., 2017, 62(1), pp. 127-135.
3. Mona Narang, Saurabh Bhatia and **Vinay Kanwar** (2018): New efficient derivative free family of seventh-order methods for solving systems of nonlinear equations, Numerical Algorithms, 2017, 76(1), pp. 283-307.
4. Higinios Ramos, Gurjinder Singh, **Vinay Kanwar** and Saurabh Bhatia (2018): An embedded 3(2) pair of nonlinear methods for solving first order initial-value ordinary systems, Numerical Algorithms, 75(3), pp. 509-529.
5. Ioannis K. Argyros, Munish Kansal and **Vinay Kanwar** (2018): On the local convergence of eighth-order method for solving nonlinear equations: Analele Universit˘at¸ii de Vest, Timisoara Seria Matematic˘a–Informatic˘a, LIV(1), pp. 3-16.
6. Higinios Ramos, Gurjinder Singh, **Vinay Kanwar** and Saurabh Bhatia (2017): An efficient variable step-size rational Falkner-type method for solving the special second-order IVP, Applied Mathematics and Computation, 291(1), pp. 39-51.

7. Ioannis K. Argyros, Munish Kansal and **Vinay Kanwar** (2017): Ball convergence for two optimal eighth-order methods using only the first derivative, International Journal of Applied and Computational Methods (Springer), 3(3), pp. 2291-2301.

8. Mona Narang, Saurabh Bhatia and **Vinay Kanwar** (2017): New uni-parametric family of multipoint methods with memory for systems of nonlinear equations, SeMA, 74, pp. 91-113.

9. **Vinay Kanwar**, Raj Bala and Munish Kansal (2017): Some new weighted eighth-order variants of Steffensen-King's type family for solving nonlinear equations and its dynamics, SeMA, 74(1), pp. 75-90.

10. Munish Kansal, **Vinay Kanwar** and Saurabh Bhatia (2016): Optimized mean based second derivative-free families of Cheby-Halley type methods, Numerical Analysis and Applications, 9(2), pp. 129-140.

11. Munish Kansal, **Vinay Kanwar** and Saurabh Bhatia (2016): Efficient derivative-free variants of Hansen-Patrick's family with memory for systems of nonlinear equations, Numerical Algorithms, 73(4), pp. 1017-1036.

12. Mona Narang, Saurabh Bhatia and **Vinay Kanwar** (2016): New two-parameter Chebyshev-Halley-like family of fourth and sixth-order methods for systems of nonlinear equations, Applied Mathematics and Computation, 275, pp. 394-403.

13. **Vinay Kanwar**, Sanjeev Kumar, Munish Kansal and Arvind Garg (2016): "Efficient families of Newton's method and its variants suitable for non-convergent cases", Afrika Matematika, 27(5), pp. 767-779.

14. Alicia Cordero, Munish Kansal, **Vinay Kanwar** and Juan R. Torregrosa (2015): A stable class of improved second-derivative free Cheby-Halley type methods with optimal eighth order convergence, Numerical Algorithms,72(4), pp. 937-958.

15. Munish Kansal, **Vinay Kanwar** and Saurabh Bhatia (2015): New modifications of Hansen-Patrick's family with optimal fourth and eighth orders of convergence, Applied Mathematics and Computation, 269, pp. 507-519.

16. Ramandeep Behl, Alicia Cordero, S. S. Motsa, Juan R. Torregrosa and **Vinay Kanwar** (2015): An optimal fourth-order family of methods for multiple roots and its dynamics, Numerical algorithms, 71(4), pp. 775-796.

17. Higinios Ramos, Gurjinder Singh, **Vinay Kanwar** and Saurabh Bhatia (2015): Solving first-order initial value problems by using an explicit non-standard A-stable one-step method in variable step-size formulation, Applied Mathematics and Computation, 268, pp. 796-805.

18. Munish Kansal, **Vinay Kanwar** and Saurabh Bhatia (2015): On some optimal root-finding methods and their dynamics, Applications and applied Mathematics: An international Journal (AAM), 10 (1), pp. 349-367.

19. Munish Kansal, **Vinay Kanwar** and Saurabh Bhatia (2015): An optimal eighth-order derivative-free family of Potra-Ptak method, Algorithms, 8, pp. 309-320.

20. Mihir B. Banerjee, J.R. Gupta, R.G. Shandil, Joginder Singh Dhiman and Vinay Kanwar (2015): On the behaviour of hot fluids in the presence of magnetic field, Reserach J. Science and Tech., 7(2), pp. 47-51.

21. Ramandeep Behl and **Vinay Kanwar** (2014): "New highly efficient families of higher-order methods for simple roots, permitting $f'(x_n)=0$ " International Journal of Mathematics and Mathematical Sciences, Article ID 264529, 12 pages.

22. Ramandeep Behl, **V. Kanwar** and Kapil K. Sharma (2014): New modified optimal families of King's and Traub-Ostrowski's method, 7(1), pp. 26-35, Numerical Analysis and Applications (Springer).

23. **V. Kanwar,** Sanjeev Kumar and Ramandeep Behl (2013): New families of Jarratt's method for solving nonlinear systems, Vol. 8(2), pp. 701-716, **Applications and Applied Mathematics**, An international Journal (AAM), Prairie View A&M University, Texas, USA.

24. Gurjinder Singh, **V. Kanwar** and Saurabh Bhatia (2013): Exponentially fitted variants of two-step Adams-Bashforth method for the numerical integration of initial value problems, Vol. 8(2), pp. 741-755, **Applications and Applied Mathematics**, An international Journal (AAM), Prairie View A&M University, Texas, USA.

25. **V. Kanwar**, Saurabh Bhatia and Munish Kansal (2013): New optimal class of higher- order methods for multiple roots, permitting $fx_n=0$, **Applied Mathematics and Computation** (Elsevier), vol. 222, pp. 564-574.

26. Ramandeep Behl and **V. Kanwar** (2013): "Variants of Chebyshev's method with optimal order of convergence" vol. 29(1), pp.-39-53, **Tamsui Oxford Journal of Information and Mathematical Sciences,** Aletheia University, Tamsui, Taipei 251, Taiwan.

27. Ramandeep Behl, **V. Kanwar** and Kapil K. Sharma (2013): "Modified optimal families of fourth-order Jarratt's method", **International Journal of Pure and Applied Mathematics, vol.** 84(4), pp. 331-343, (Academic Publications, Ltd.).

28. Ramandeep Behl, **V. Kanwar** and Kapil K. Sharma (2013): "Optimal equi-scaled families of Jarratt's method", **International Journal of Computer Mathematics**, 90(2), pp.408-422, (Taylor & Francis), (Indexed by American Mathematical Society).

29. Ramandeep Behl, **V. Kanwar** and Kapil K. Sharma (2012): "Another simple way of deriving several iterative functions to solve nonlinear equations", **Journal of Applied Mathematics**, Art. No. 294086, 22 pages, (Hindawi Publishing Corporation (USA)), (**Reviewed by American Mathematical Society**).

30. **V. Kanwar**, S.K. Tomar, Sukhjit Singh and S. Kumar (2012): Note on super-Halley method and its variants, **Tamsui Oxford Journal of Information and Mathematical Sciences,** 28(2) pp. 191-216, Aletheia University,

    Tamsui, Taipei 251, Taiwan, (**Reviewed by American Mathematical Society**).

31. Sanjeev Kumar**, V. Kanwar**, and Sukhjit Singh (2012): "On some modified families of multipoint iterative methods for multiple roots of nonlinear equations" **Applied Mathematics and Computation,** 218(14), pp. 7382-7394, (Indexed by American Mathematical Society) (Elsevier).

32. **V. Kanwar**, Ramandeep Behl and Kapil K. Sharma (2011): "Simply constructed family of a Ostrowski's method with optimal order of convergence" Computer and Mathematics with Applications, 62(11), pp. 4021-4027, (Elsevier), (**Reviewed by American Mathematical Society**).

33. Sanjeev Kumar, **V. Kanwar**, S.K. Tomar, Sukhjit Singh (2011): "Geometrically constructed families of Newton's method for unconstrained optimization and nonlinear equations" **International Journal of Mathematics and Mathematical Sciences**, Volume 2011, Article ID 972537, 9 pages, Doi:10.1155/2011/972537 (Hindawi Publishing Corporation (USA)), (**Reviewed by American Mathematical Society**).

34. Sanjeev Kumar, **V. Kanwar** and Sukhjit Singh (2010): "Modified efficient families of two and three-step predictor-corrector root-finding methods", **Applied Mathematics**, Vol. 1 (2010), pp. 153-158 (Scientific Research, USA).

35. **V. Kanwar,** Kapil K. Sharma and Ramandeep Behl (2010):"A new family of Schröder's method and its variants based on power means for multiple roots of nonlinear equations", **International Journal of Mathematical Education in Science and Technology**, 41, pp. 558-565, (Taylor & Francis), (**Reviewed by American Mathematical Society**).

36. **V. Kanwar,** Kapil K. Sharma and Ramandeep Behl (2010): "New variants of Newton's method for nonlinear unconstrained optimization problems" **Intelligent Information Management**, 2, pp. 40-45 (Scientific Research, USA).

37. **V. Kanwar** and S.K. Tomar (2009): "Exponentially fitted variants of Newton's method with quadratic and cubic convergence", **International Journal of Computer Mathematics** (Taylor & Francis), 86, pp.1603-1611, (Indexed by American Mathematical Society).

38. K.C. Gupta, **V. Kanwar** and Sanjeev Kumar (2009): "A family of ellipse methods for solving nonlinear equations" **International Journal of Mathematical Education in Science and Technology**, pp. 40(4), pp. 571-575, (Taylor & Francis) (**Reviewed by American Mathematical Society**).
39. **V. Kanwar** and S.K. Tomar (2008): "Exponentially fitted variants of Euler's method for ODEs", **International Journal of Mathematical Education in Science and Technology**, 39(8), pp. 112-1116, (Taylor & Francis), (**Reviewed by American Mathematical Society**).
40. **V. Kanwar**, Sukhjit Singh and S. Bakshi (2008): "Simple geometric constructions of quadratically and cubically convergent iterative functions to solve nonlinear equations, **Numerical Algorithms**, 47, pp. 95-107, (Springer), (**Reviewed by American Mathematical Society**).
41. **V. Kanwar** and S.K. Tomar (2007): "Modified families of multi-point iterative methods for solving nonlinear equations", **Numerical Algorithms**, 44, pp. 381-389, (Springer), (**Reviewed by American Mathematical Society**).
42. **V. Kanwar** and S.K. Tomar (2007): "Modified families of Newton, Halley and Chebyshev methods", **Applied Mathematics and Computation**, 192(1), pp. 20-26, (Elsevier), (**Reviewed by American Mathematical Society**).
43. K.C. Gupta and **Vinay Kanwar** (2006): "Multipoint iterative method with cubic convergence" **Applied Mathematics and Computation**, Vol. 179, Issue 2, pp. 606- 611, (Elsevier).
44. **V. Kanwar** (2005): "A family of third-order multipoint methods for solving nonlinear equations" **Applied Mathematics and Computation**, Vol. 176, Issue 2, pp. 409-413, (Elsevier).
45. **V. Kanwar,** Sukhjit Singh, R.K.Guha and Mamta (2006): "On method of osculating circle for solving nonlinear equations" **Applied Mathematics and Computation**, Vol.-176, Issue 1, pp. 379-382, (Elsevier).
46. **V. Kanwar,** J. R. Sharma and Mamta (2005): "A new family of Secant-like method with super-Linear convergence**" Applied Mathematics and Computation**, Vol.- 171, issue 1, pp. 104-107, (Elsevier).

47. Mamta, **V. Kanwar**, V. K. Kukreja and Sukhjit Singh (2005): “On some third-order iterative methods for solving nonlinear equations” **Applied Mathematics and Computation**, Vol.-171, issue 1, pp. 272-280, (Elsevier).

48. Mamta, **V. Kanwar**, V. K. Kukreja and Sukhjit Singh (2005):“On a class of quadratically convergent iteration formulae” **Applied Mathematics and Computation**, Vol.-166, pp. 633-637, (Elsevier).

49. **Vinay Kanwar**, Sukhjeet Singh, J.R.Sharma and Mamta (2003): "New numerical techniques for solving nonlinear equations'' **Indian Journal of Pure and Applied Mathematics**, 34(9), 1339-1349, (**Reviewed by American Mathematical Society**).

50. **Vinay Kanwar**, Karanvir Singh and Mamta (2003): “An Upper bound on the Growth Rate of a Linear Instability in an Inviscid Compressible Subsonic Parallel Shear Flow", **Indian Journal of Pure and Applied Mathematics**, 34(11), 1533-1538.

51. **Vinay Kanwar** and A.K.Shina (1999):"A new upper bound on the growth rate of Baroclinic Zonal Flows in a Two-Layer Model on a Beta-Plane" **Physics of Fluids**, American Institute of Physics, Vol. 11(10), 2925-2927, (**Reviewed by American Mathematical Society**).

52. M. B. Banerjee, R.G, Shandil, J.Prakash, B. S. Bandral and **Vinay Kanwar** (1997): “On Howard's Conjecture in Heterogeneous Shear Flow’s Instability of Modified S- waves’’. **Indian J. Pure and Applied Math**ematics, 28 (6), 825-834, (**Reviewed by American Mathematical Society**).

53. M.B. Banerjee, R.G. Shandil, Prem Lal and **Vinay Kanwar** (1995): “A Mathematical Theorem in Rotatory Thermohaline Convection’’ **J. Mathematical Analysis and Applications**, 189, pp. 351-361, (**Reviewed by American Mathematical Society**).

54. M. B. Banerjee, R. G. Shandil and **Vinay Kanwar** (1994): “A Proof of Howard's Conjecture in Homogeneous Parallel Shear Flow’s’’ **Procd. (Math. Sc.), I.A.Sc**.104, 593-596, (**Reviewed by American Mathematical Society**).

55. M. B. Banerjee, R. G. Shandil and **Vinay Kanwar** (1994): "A Proof of Howard's Conjecture in Homogeneous Parallel Shear Flows-II; Limitations of Fjrtoft 's Necessary Instability Criterion" **Proc. (Math. Sc.) I.A.Sc**.105, 251-257, (**Reviewed by American Mathematical Society**).

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