

PROF. RAMJIWARI

Professor

Indian Institute of Technology Roorkee

Roorkee-247667 (U.K.) India

Ph. No.: +91-8191957249

Email: ramlmaths@gmail.com ; ram.jiwari@ma.iitr.ac.in



Research Interests:

Numerical Analysis & Computing

Computational Modeling & Simulation of PDEs, Finite Element Methods, HHO Methods,

Machine learning

ACADEMIC AND RESEARCH BACKGROUND

1. **Post Doc Fellow** (2013 to 2014) **Institute of Industrial Mathematics,
Federal University do Paraná, Brazil**
2. **Ph.D** (July 2010) **Thesis Title:** Numerical Treatment of Some Partial Differential
Equations using Differential Quadrature Method
Department of Mathematics, IIT Roorkee
3. **M.Sc.** (2003-2005) Kurukshetra University, Kurukshetra, India

PH.D. STUDENTS

- | | |
|----------------------------------|--|
| 1. Mr. Vikas Kumar | Awarded 2014, Thapar University |
| 2. Ms. Anjali Verma | Awarded 2015, Thapar University |
| 3. Mr. Om Prakash Yadav | Awarded 2019, IIT Roorkee |
| 4. Mr. Sanjay Kumar | Awarded 2021, IIT Roorkee |
| 5. Mr. Sudhir Kumar | Awarded 2021, IIT Roorkee |
| 6. Mr. Jasbir Singh | Awarded 2025, IIT Roorkee |
| 7. Mr. Ankur | Awarded 2024, IIT Roorkee |
| 8. Mr. Ajeet Singh | Submitted Nov 2025 |
| 9. Mr. Devraj | Work under progress since Dec, 2023 |
| 10. Mr. Keshav Chaturvedi | Work under progress since July, 2024 |
-

Master Thesis Supervised: 40

LIST OF PUBLICATIONS

☐ ☐ **Articles published/accepted in refereed journals**

1. Ajeet Singh and **Ram Jiwari** , Rigorous HHO Optimal Error Estimates and Simulation of FitzHugh-Nagumo Model, **Journal of Scientific Computing**, 105, 89 (2025). (**IF: 3.3**)

2. Ankur, **Ram Jiwari** and A. Narayan, Conformal Finite Element Methods for nonlinear Rosenau-Burgers-biharmonic models, **Journal of Scientific Computing**, **104**, 86 (2025). (IF: 3.3)
3. Naresh Kumar, Jasbir Singh and **Ram Jiwari** An ADI type operator splitting WG-FEM for 2D nonlinear unsteady singularly perturbed problem, **Numerical Algorithms**, (2025) doi.org/10.1007/s11075-025-02061-5. (IF: 1.7)
4. N. Kumar, Ajeet Singh, **Ram Jiwari** and J. Y. Yuan, Error estimates with polynomial growth $O(\varepsilon^{-1})$ for the HHO method on polygonal meshes of the Allen-Cahn model, **Applied Numerical Mathematics**, 211 (2025), 78-102. (IF: 2.8)
5. Jasbir Singh, Naresh Kumar and **Ram Jiwari**, A High-Order Numerical Method for Semilinear Convection–Diffusion Equation on Bakhvalov-type Mesh, **Mathematical Methods in the Applied Sciences**, (2025) doi.org/10.1002/mma.10904. (IF: 2.1)
6. Ajeet Singh, H. M. Cheng, Naresh Kumar and **Ram Jiwari**, A high order numerical method for analysis and simulation of 2D semilinear Sobolev model on polygonal meshes, **Mathematics and Computers in Simulation**, 227(2025) 241-262 (IF: 4.4)
7. Jasbir Singh, Naresh Kumar, **Ram Jiwari**, A robust weak Galerkin finite element method for two parameter singularly perturbed parabolic problems on nonuniform meshes, **Journal of Computational Science**, 77 (2024) 102241 (IF 3.3)
8. Ankur and **Ram Jiwari**, A new error estimates of finite element method for (2+1)-dimensional nonlinear advection-diffusion model, **Applied Numerical Mathematics**, 198 (2024) 22-42 (IF: 2.8).
9. Naresh Kumar, Şuayip Toprakseven and **Ram Jiwari**, A numerical method for singularly perturbed convection-diffusion-reaction equations on polygonal meshes, **Computational and Applied Mathematics**, 43 (44) (2024) (IF: 2.6).
10. **Ram Jiwari**, Naresh Kumar and Jasbir Singh, Convergence Analysis of Weak Galerkin Finite Element Method for Semilinear Parabolic Convection Dominated Diffusion Equations on Polygonal Meshes, **Computers and Mathematics with Applications**, 145 (2023) 141-158. (IF: 3.218).
11. Ankur and **Ram Jiwari**, New multiple analytic solitary solutions and simulation of (2+1)-dimensional generalized Benjamin-Bona-Mahony-Burgers model, **Nonlinear Dynamics**, 111 (2023) 13297-13325. (IF: 5.741)
12. Ankur, **Ram Jiwari**, Naresh Kumar, Analysis and simulation of Korteweg-de Vries-Rosenau-regularised long-wave model via Galerkin finite element method, **Computers & Mathematics with Applications**, 135 (2023) 134-148. (IF: 3.218)
13. Vikas Kumar, **Ram Jiwari**, AR Djurayevich, MU Khudoyberganov, Hyperbolic (2+ 1)-dimensional Schrödinger equation: Similarity analysis, Optimal system and complexitons for the one-parameter group of rotations, **Communications in Nonlinear Science and Numerical Simulation**, 115 (2022) 106784. (IF: 4.186)
14. **Ram Jiwari**, Local radial basis function-finite difference based algorithms for singularly perturbed Burgers' model, **Mathematics and Computers in Simulation**, 198, (2022) 106-126. (IF: 3.601)
15. R. C. Mittal, Sudhir Kumar and **Ram Jiwari**, A cubic B-spline quasi-interpolation algorithm to capture the pattern formation of coupled reaction diffusion models, **Engineering with Computers**, 38 (2022) 1375-1391. (IF: 8.083)

16. V Kumar, **Ram Jiwari**, AR Djurayevich, MU Khudoyberganov, Hyperbolic (3+ 1)-Dimensional Nonlinear Schrödinger Equation: Lie Symmetry Analysis and Modulation Instability, *Journal of Mathematics*, (2022) Article ID 9050272. (IF: 1.555)
17. K Harish Kumar and **Ram Jiwari**, A hybrid approach based on Legendre wavelet for numerical simulation of Helmholtz equation with complex solution, **International Journal of Computer Mathematics**, 99 (2022) 2221-2236. (IF: 1.931)
18. **Ram Jiwari**, Sukhveer Singh, Paramjeet Singh, Local RBF-FD-Based Mesh-free Scheme for Singularly Perturbed Convection-Diffusion-Reaction Models with Variable Coefficients, *Journal of Mathematics*, (2022), Article ID 3119482, doi.org/10.1155/2022/3119482. (IF: 1.555)
19. Sanjay Kumar, **Ram Jiwari**, RC Mittal, Radial basis functions based meshfree schemes for the simulation of non-linear extended Fisher-Kolmogorov model, **Wave Motion**, (2022)102863. (IF: 2.174)
20. **Ram Jiwari**, Vikas Kumar and Sukhveer Singh, Lie group analysis, exact solutions and conservation laws to compressible isentropic Navier-Stokes equation, **Engineering with Computers**, 38 (2022) 2027-2036. (IF: 8.083)
21. AM Alqahtani and **Ram Jiwari**, Wavelet operational matrices and Lagrange interpolation differential quadrature-based numerical algorithms for simulation of nanofluid in porous channel, *Journal of Mathematics*, (2022) Article ID 5015018. (IF: 1.555)
22. K. H. Kumar and **Ram Jiwari**, A note on numerical solution of classical Darboux problem, **Mathematical Methods in the Applied Sciences**, 44 (2021) 12998-13007. (IF: 3.007)
23. Sanjay Kumar, **Ram Jiwari**, R. C. Mittal and Jan Awrejcewicz, Dark and bright soliton solutions and computational modeling of non-linear regularized long wave model, **Nonlinear Dynamics**, 104, (2021) 661-682. (IF: 5.741)
24. **Ram Jiwari** and Alf Gerisch, A local radial basis function differential quadrature semidiscretisation technique for the simulation of time-dependent reaction-diffusion problems, **Engineering Computations**, 38 (6) (2021) 2666-2691. (IF: 1.675)
25. **Ram Jiwari**, Barycentric rational interpolation and local radial basis functions based numerical algorithms for multidimensional sine-Gordon equation, **Numerical Methods for Partial Differential Equations**, (2021) (37) 1965–1992. (IF: 3.568)
26. K. H. Kumar and **Ram Jiwari**, Legendre wavelets based numerical algorithm for simulation of multidimensional Benjamin-Bona-Mahony-Burgers and Sobolev equations, **Computers and Mathematics with Applications**, 80 (3) (2020) 417-433. (IF: 3.476)
27. R C Mittal, S Kumar, **Ram Jiwari**, A cubic B-spline quasi-interpolation method for solving two-dimensional unsteady advection diffusion equations, **International Journal of Numerical Methods for Heat & Fluid Flow**, (2020) DOI 10.1108/HFF-07-2019-0597. (IF: 5.181)
28. **Ram Jiwari**, Sanjay Kumar and Jan Awrejcewicz, A meshfree algorithm for simulation of multidimensional Schrödinger equations, **Computational and Applied Mathematics**, (2020) doi.org/10.1007/s40314-020-1113-0. (IF: 2.998)
29. Sapna Pandit, **Ram Jiwari** and M. E. Koksai, A class of numerical algorithms based on cubic trigonometric B-spline functions for numerical simulation of nonlinear parabolic

- problems, **Computational and Applied Mathematics**, (2019) doi.org/10.1007/s40314-019-0918-1. (IF: 2.998)
30. Om Prakash Yadav and **Ram Jiwari**, A finite element approach for analysis and computational modelling of coupled reaction diffusion models, **Numerical Methods for Partial Differential Equations**, 35 (2) (2019) 830-850. (IF: 3.568)
 31. Om Prakash Yadav and **Ram Jiwari**, Some soliton-type analytical solutions and numerical simulation of nonlinear Schrödinger equation, **Nonlinear Dynamics**, 95 (2019) 2825-2836. (IF: 5.741)
 32. Sanjay Kumar, **Ram Jiwari** and R. C. Mittal, Meshfree algorithms based on radial basis functions for numerical simulation and to capture shocks behavior of Burgers' types problems, **Engineering Computations**, 36(4) (2019) 1142-1168. (IF: 1.675)
 33. Sanjay Kumar, **Ram Jiwari** and R. C. Mittal, Numerical simulation for computational modelling of reaction-diffusion Brusselator model arising in chemical processes, **Journal of Mathematical Chemistry**, 57 (2019) 149-179. (IF: 2.413)
 34. Om Prakash Yadav and **Ram Jiwari**, A finite element approach to capture Turing patterns of autocatalytic Brusselator model, **Journal of Mathematical Chemistry**, 57 (3) (2019) 769-789. (IF: 2.413)
 35. **Ram Jiwari**, Stefania Tomasiello and Francesco Tornabene, A numerical algorithm for computational modelling of coupled advection-diffusion-reaction systems, **Engineering Computations**, 35 (3) (2018) 1383-1401. (IF: 1.675)
 36. **Ram Jiwari**, H. S. Shukla, M Tamsir and V. K. Srivastava, A numerical algorithm for computation modeling of 3D nonlinear wave equations based on exponential modified cubic B-spline differential quadrature method, **International Journal of Computer Mathematics**, 95 (4) (2018) 752-766. (IF: 1.931)
 37. **Ram Jiwari**, Sukhveer Singh and Ajay Kumar, Numerical simulation to capture the pattern formation of coupled reaction-diffusion models, **Chaos, Solitons & Fractals**, 103 (2017) 422-439. (IF: 9.922)
 38. **Ram Jiwari**, Vikas Kumar, Ram Karan and A. S. Alshomrani, Haar wavelet quasilinearization approach for MHD Falkner–Skan flow over permeable wall via Lie group method, **International Journal of Numerical Methods for Heat & Fluid Flow**, 27 (6) (2017) 1332-1350. (IF: 5.181)
 39. Sapna Pandit, **Ram Jiwari**, K Bedi and M. E. Koksai, Haar wavelets operational matrix based algorithm for computational modelling of hyperbolic type wave equations, **Engineering Computations**, 34 (8) (2017) 793-814. (IF: 1.675)
 40. A. Alshomrani, Sapna Pandit, A. K. Alzahrani, M. S. Alghamdi, **Ram Jiwari**, A numerical algorithm based on modified cubic trigonometric B-spline functions for computational modelling of hyperbolic type wave equations, **Engineering Computations**, 34 (4) (2017) 1257-1276. (IF: 1.675)
 41. Om Prakash Yadav and **Ram Jiwari**, Finite element analysis and approximation of Burgers'-Fisher equation, **Numerical Methods for Partial Differential Equations**, 33 (5) (2017) 1652-1677. (IF: 3.568)
 42. Maria A. De Rosaa, Maria Lippiello, **Ram Jiwari**, Stefania Tomasiello, A differential quadrature based procedure for parameter identification, **Applied Mathematics and Computation**, 290 (2016) 460-466. (IF: 4.397)

43. M. Tamsir, V. K. Srivastava, **Ram Jiwari**, An algorithm based on exponential modified cubic B-spline differential quadrature method for nonlinear Burgers' equation, **Applied Mathematics and Computation**, 290 (2016) 111-124. (IF: 4.397)
44. S. Garhwal and **Ram Jiwari**, Conversion of fuzzy automata into fuzzy regular expressions using transitive closure, **Journal of Intelligent & Fuzzy Systems**, 30 (6) (2016) 3123-3129. (IF: 1.851)
45. **Ram Jiwari** and A. S. Alshomrani, A new algorithm based on modified trigonometric cubic B-splines functions for nonlinear Burgers'-type equations, **International Journal of Numerical Methods for Heat & Fluid Flow**, 27 (8) (2017) 1638-1661. (IF: 5.181)
46. S. Garhwal and **Ram Jiwari**, Parallel fuzzy regular expression and its conversion to epsilon-free fuzzy automaton, **The Computer Journal**, 59(9) (2016) 1383-1391. (IF: 1.494)
47. A. Verma and **Ram Jiwari**, Cosine expansion based differential quadrature algorithm for numerical simulation of two dimensional hyperbolic equations with variable coefficients, **International Journal of Numerical Methods for Heat & Fluid Flow**, 25 (7) (2015) 1574-1589. (IF: 5.181)
48. **Ram Jiwari**, Lagrange interpolation and modified cubic B-spline differential quadrature methods for solving hyperbolic partial differential equations with Dirichlet and Neumann boundary conditions, **Computer Physics Communications**, 193 (2015) 55-65. (IF: 4.717)
49. **Ram Jiwari**, A hybrid numerical scheme for the numerical solution of the Burgers' equation, **Computer Physics Communications**, 188 (2015) 59-67. (IF: 4.717)
50. Vikas Kumar, **Ram Jiwari** and R K Gupta, Exact and numerical solutions of coupled short pulse equation with time-dependent coefficients, **Nonlinear Dynamics**, 79 (1)(2015) 455-464. (IF: 5.741)
51. Anjali Verma, **Ram Jiwari** and M. E. Koksai, Analytic and numerical solutions of nonlinear diffusion equations via symmetry reductions, **Advances in Difference Equations**, DOI:10.1186/1687-1847-2014-229 (2014). (IF: 2.803)
52. **Ram Jiwari**, R.K. Gupta and Vikas Kumar, Polynomial differential quadrature method for numerical solutions of the generalized Fitzhugh-Nagumo equation with time-dependent coefficients, **Ain Shams Engineering Journal**, 5 (2014) 1343-1350. (IF: 4.79)
53. Anjali Verma, **Ram Jiwari** and Satish Kumar, A numerical scheme based on differential quadrature method for numerical simulation of nonlinear Klein-Gordon equation, **International Journal of Numerical Methods for Heat and Fluid Flow**, 24 (7) (2014) 1390-1404. (IF: 5.181)
54. **Ram Jiwari** and Jinyun Yuan, A computational modeling of two dimensional reaction-diffusion Brusselator system arising in chemical processes, **Journal of Mathematical Chemistry**, 52 (2014) 1535-1551. (IF: 2.413)
55. Vikas Kumar, **Ram Jiwari** and R K Gupta, Lie Group analysis, numerical and non-traveling wave solutions for the (2+1)-dimensional Diffusion-Advection equation with variable coefficient, **Chinese Physics B**, 23 (3) (2014) 030201. (IF: 1.494)
56. **Ram Jiwari**, R.C. Mittal and K K Sharma, A numerical scheme based on weighted average differential quadrature method for the numerical solution of Burgers' equation, **Applied Mathematics and Computation**, 219 (2014) 6680-6691. (IF: 4.397)

57. Vikas Kumar, **Ram Jiwari** and R K Gupta, Numerical Simulation of Two Dimensional Quasilinear Hyperbolic Equations by Polynomial Differential Quadrature Method, **Engineering Computations**, 30 (7) 2013, 892-909. (IF: 1.675)
58. Vikas Kumar, **Ram Jiwari** and R K Gupta, Painlevé Analysis, Lie Symmetries and Exact Solutions for Variable Coefficients Benjamin-Bona-Mahony-Burger (BBMB) Equation, **Communications in Theoretical Physics**, 60 (2013) 175–182. (IF: 1.968)
59. Vikas Kumar, **Ram Jiwari** and R K Gupta, Comparative Study of Travelling Wave and Numerical Solutions for the Coupled Short Pulse (CSP) Equation, **Chinese Physics B**, 22 (5) (2013) 050201. (IF: 1.494)
60. R C Mittal, **Ram Jiwari** and K K Sharma, A numerical scheme based on differential quadrature method to solve time dependent Burgers' equation, **Engineering Computations**, 30 (1) (2013) 117-131. (IF: 1.675)
61. **Ram Jiwari**, Haar wavelet quasilinearization approach for numerical simulation of Burgers' equation, **Computer Physics Communications**, 183 (2012) 2413-2423. (IF: 4.717)
62. R.C. Mittal and **Ram Jiwari**, A differential quadrature method for solving Burgers'-type equation, **International Journal of Numerical Methods for Heat and Fluid Flow**, 22 (7), (2012), 880-895. (IF: 5.181)
63. **Ram Jiwari**, S. Pandit and R C Mittal, Numerical simulation of two-dimensional sine-Gordon solitons by differential quadrature method, **Computer Physics Communications**, 183 (2012) 600-616. (IF: 4.717)
64. **Ram Jiwari**, S. Pandit and R C Mittal, A Differential quadrature algorithm to solve the two dimensional linear hyperbolic telegraph equation with Diriclet and Neumann boundary conditions, **Applied Mathematics and Computation**, 218 (2012) 7279–7294. (IF: 4.397)
65. R.C. Mittal and **Ram Jiwari**, Differential quadrature method for Numerical Solution of coupled viscous Burgers' equations, **Int. J. for Comput. Methods in Eng. Science and Mech**, 13 (2012), 1-5.
66. D. Sharma, **Ram Jiwari**, and Sheo Kumar, A comparative study of Modal matrix and finite elements methods for two point boundary value problems, **Int. J. of Appl. Math. and Mech.** 8 (13) (2012), 29-45. (IF: 2.866)
67. **Ram Jiwari**, Sapna Pandit and R C Mittal, A differential quadrature algorithm for the numerical solution of the second-order one dimensional hyperbolic telegraph equation, **Int J of Nonlinear Sciences**, 13 (3) (2012), 259-266.
68. **Ram Jiwari**, Dinkar Shrma and Sheo Kumar, Numerical solutions of two point boundary value problems using Galerkin-Finite element method, **Int J of Nonlinear Sciences**, 13 (2)(2012), 204-210.
69. R.C. Mittal and **Ram Jiwari**, A Numerical Scheme for singularly perturbed Burger-Huxley Equation, **J. Appl. Math. & Informatics**, 29 (2011), No. 3-4, 813-829.
70. R.C. Mittal and **Ram Jiwari**, A Numerical scheme for some nonlinear differential equations models in Biology, **Int. J. for Comput. Methods in Eng. Science and Mech.**, 12 (3), (2011), 134-140.
71. R.C. Mittal and **Ram Jiwari**, Numerical study of two-Dimensional reaction-diffusion Brusselator system, **Applied Mathematics and Computation**, 217 (12) (2011), 5404-5415. (IF: 4.397)

72. **Ram Jiware**, Dinkar Shrma and Sheo Kumar, Galerkin-finite element method for the numerical solution of advection-diffusion equation, **IJPAM**, **70 (3) (2011), 389-399.**
73. R.C. Mittal and **Ram Jiware**, Numerical study of Burger-Huxley equation by differential quadrature method, **Int. J. of Appl. Math. and Mech.**, **5(8) (2009), 1-9. (IF. 2.866)**
74. R.C. Mittal and **Ram Jiware**, Differential quadrature method for two dimensional Burgers' equations, **Int. J. for Comput. Methods in Eng. Science and Mech**, **10 (2009), 450-459.**
75. R.C. Mittal and **Ram Jiware**, A Spectral method for suspension bridge model, **Int. J. of Appl. Math. and Mech.**, **5(5) (2009), 66-75. (IF. 2.866)**
76. R.C. Mittal and **Ram Jiware**, Numerical study of Fisher's equation by using differential quadrature method, **Int. J. Information and systems Sciences**, **5(1)(2008), 143-160.**
77. **Ram Jiware**, A Spectral method for the solution of a fourth order integro-differential equation, **IX International Scientific Conference "Science and Education" (28-29 March, 2012) Kemerovo State University, Belovo Institute, Russia, pp. 119-124.**

□□ RESEARCH PROJECTS

1. **Ram, Jiware (Principal Investigator)**, Fast and Robust Numerical Algorithms for 2D Unsteady-state Convection Dominated Singularly Perturbed Parabolic Models: Theoretical Analysis and Computational Modeling, **SERB 2022, Cost 6.6 Lacs**
2. **Ram, Jiware (Principal Investigator)**,#Theoretical Analysis and Simulation to Capture Complex Patterns of Nonlinear Reaction-Diffusion Models, **NBHM 2021, Cost 16 Lacs**
3. **Ram, Jiware (Principal Investigator)**,#Lie Symmetry Analysis, Simulation and Lyapunov Stability Analysis of the Hyperbolic Systems, **Indo-Uzbek International Project (DST) 2021, Cost 32 Lac Appx.**
4. **Ram, Jiware (Principal Investigator)**, Theoretical Analysis and Numerical Simulation of Unsteady-State Singularly Perturbed Parabolic Model, **CSIR 2019, Cost 20 Lacs (Appx.).**
5. **Ram, Jiware (Principal Investigator)**, Numerical Analysis and Computational Modeling of Nonlinear Parabolic Mathematical Models with Singular and Variable Coefficients, **Young Scientist (SERB 2016), Cost 18.06 Lacs (Appx.)**
6. **Ram Jiware (Principal Investigator)**, Numerical Analysis and Computational Modeling of Hyperbolic Partial Differential Equations, **FIG (IIT Roorkee 2014), Cost 6.5 Lacs.**

AWARDS

1. **CIMPA-ICTP "Research in Pairs" programme (2025)**, Italy, France
2. **Ulam NAWA Research Fellowship 2024**, Polish National Agency, Poland
3. **Haryana Yuva Vigyan Ratna Awards 2020**, DST, Haryana Govt.
4. **DAAD Bilateral Wissenschaftler Austausch** at Technische Universität Darmstadt, Germany, 2017
5. **Post Doc Fellow**, Institute of Industrial Mathematics, **Federal University do Paraná, Brazil, 2013.**
6. **Fundação para a Ciência e a Tecnologia (FCT), Fellowship of Portugal, 2011**

7. Graduate Aptitude Test in Engineering (**GATE-AIR-38**), 2011, India
8. **Senior Research Fellowship, CSIR, 2008**
9. National Eligibility Test (**NET**) & Junior Research Fellowship (**JRF**), CSIR, India, 2005.

TEACHING /RESEARCH EXPERIENCE

1. **Professor, Indian Institute of Technology Roorkee, India** (2025 to continue)
2. **Associate Professor, Indian Institute of Technology Roorkee, India** (2020 to 2024)
3. **Assistant Professor, Indian Institute of Technology Roorkee, India** (03-06-2014 to 09-08-2020)
4. **Assistant Professor, Thapar University Patiala, India** (April, 2014 to 02 June, 2014)
5. **Post Doc Fellow, Federal University do Paraná, Brazil** (9th Sept. 2013 to March, 2014)
6. **Thapar University Patiala** (19 May, 2011 to 8 Sept, 2013)
7. **Dr B R Ambedkar National Institute of Technology Jalandhar, India** (July, 2010 to 18 May, 2011)

WORKSHOP ORGANIZED

1. **Indo-French Workshop on "Innovative Numerical Methods for Modern Engineering Problems" 06-10 Jan, 2025** Funded by CEFIPRA
2. **Applications of Computational Techniques in Engineering using MATLAB**, 02-07 June, 2019 at QIP IIT Roorkee, Funded by AICTE.
3. **Advanced Computational Techniques for Differential Equations with MATLAB**, (ACTDEM 2018), 18- 22 Sep, 2018 at Department of Mathematics, IIT Roorkee, Funded by NBHM, CSIR.
4. **Computational Techniques for Differential Equations with MATLAB** (CTDE 2015), 02-06 July, 2015 at Department of Mathematics, IIT Roorkee, Funded by DST, UCOST.

INVITED TALKS

1. Recent Trends in Artificial Intelligence, **15-16 Oct, 2025, Sridev Suman Uttarakhand University.**
2. 6th International Conference on 'Recent Advances in Fundamental and Applied Sciences' (RAFAS-2025), **April 18-19, 2025, Lovely Professional University.**
3. Developments in Computational Techniques in Science and Engineering, **17-18 Feb, 2024, MNIT Jaipur.**
4. Modelling and Simulation in Science and Engineering, **19-23 Feb, 2024, MNIT Jaipur.**
5. Invited lecture on "Basics of FEM" 13 Feb, 2024 at SRM Institute of Science and Technology Delhi-NCR Campus Ghaziabad.
6. Invited talk in Refresher Course 04-16 Dec, 2023 at Punjabi University, Patiala.
7. FEMTCA-2023, 4-8 Dec, 2023 at Department of Mathematics, NIT Trichy
8. Mathematical modeling in physical sciences & engineering, School of Advanced Sciences, **VIT Vellore, Jan, 2023**

9. Mathematical modeling of differentially rotating stars in stellar system, **Graphic Era Deemed to be university, Oct, 2022**
10. Recent development in Numerical Methods for Partial differential equations, **NIT Hamirpur, May, 2022**
11. Differential Equations and Mathematical Modelling, **Jaypee Institute of Information Technology, Noida, Feb, 2022**
12. Recent Development in Mathematical Modelling in Engineering Sciences, **NIT Uttarakhand, Dec, 2021**
13. SIAM Conference on Analysis of Partial Differential Equations, **University of California (Dec, 2019)**
14. **Technische Universität (TU) Darmstadt, Germany (June, 2017), Invited Talk**
15. **Universidade Federal do Paraná, Brazil (2014), Invited Talk on Finite Element Methods**
16. New Frontiers in Numerical Analysis and Scientific Computing (17-18 April, 2013) Conference held at **Kent State University, USA (Paper Presented).**
17. NUMDIFF-13 (Sept 2012) Conference & Symposium held at **Martin-Luther University, Halle, GERMANY.**
18. Workshop on **FEM** held at **TIFR CAM Bangalore** from 2 July to 13 July, 2012
19. Workshop **WMMFA on wavelets** held at **IIT Bombay** March 2012
20. Workshop on **Differential Equations and Mathematical Modelling**, held at **Delhi University**, 9 to 11 Feb, 2012.
21. **Symposium** held at **TIFR CAM Bangalore** Jan 2011.
22. One month School organized by **NBHM at Panjab University Chandigarh** Dec 2008.
23. **Symposium** held at **IISC Bangalore** 2008.
24. **NUMDIFF-12 (2009)** Conference & Symposium held at **Martin-Luther University, Halle, GERMANY.**
25. **IAWS-CFD Workshop and Conference** held at **IIT Roorkee, Roorkee, 2006**

REVIEWER OF REFERED JOURNALS

1. **Computer Physics Communications (Elsevier)**
2. **Mathematical Methods in the Applied Sciences (Wiley Publication)**
3. **Applied Mathematical Modelling (Elsevier)**
4. **Applied Mathematical and Computation (Elsevier)**
5. **Computers and Mathematics with Applications (Elsevier)**
6. **Neural Computing and Applications (Springer)**
7. **Nonlinear Dynamics (Springer)**
8. **Engineering Computations (Emerald)**
9. **International Journal of Numerical Methods for Heat and Fluid Flow (Emerald)**
10. **International Journal of Nonlinear Science**
11. **Many More**

EDITORS OF REFERED JOURNALS

1. **Scientific Reports, Springer**
2. **Contemporary Mathematics**
3. **Journal of Mathematics (2019-2024)**