

Dr Sharanjeet Dhawan

Contact

Information

Assistant Professor
Department of Mathematics
CCS Haryana Agricultural University
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Research

Google Scholar Citation: 529
h-index: 14
i10-index: 17
Scopus URL: <https://www.scopus.com/authid/detail.uri?authorId=57204313946>

Educational

Qualification

M.Sc.(Mathematics)(Guru Nanak Dev University, Amritsar, 2006).

Ph.D(Dr. B.R.Ambedkar NIT Jalandhar, 2012).

Post doc(NBHM, DAE, Govt. of India, 2013).

Courses Taught

Differential equations, Numerical Analysis, Mathematical Statistics, Engineering Mathematics, Complex analysis, Finite element methods, Integral Equations, Mathematical Modelling.

Fellowships/Awards/Grants

- Core Committee member(Mathematical Sciences), Indian National Young Academy of Sciences(INYAS), India 2024.
- Open Arms Grant, International Congress of Mathematicians, Brazil, 2018.
- Postdoctoral Fellowship: National Board for Higher Mathematics, Department of Atomic Energy(NBHM, DAE), Govt. of India.
- Foreign Travel grant from DST (Department of Science and Technology, India) to participate in 7th International Congress in Industrial and Applied Mathematics, Canada, 2011.
- Selected as funded participant of NSF-CBMS research conference in Mathematical Sciences- Nonlinear Water waves with Applications to Wave-Current Interactions and Tsunamis, (May 17-21, 2010), Department Of Mathematics, University of Texas, PAN America, 2010.
- Foreign Travel grant from CSIR (Council of Scientific and Industrial Research, In-

dia) to participate in International Conference on Scientific Computing (CSC'09) at Las Vegas Nevada U.S.A, 2009.

- Funded participant for ICM, Hyderabad, India, 2010.

Professional Memberships

- Indian National Young Academy of Sciences(INYAS), INSA 2023.
- Forum for Industrial and Applied Mathematics.
- International Society of Difference Equations, 2023
- Organization for Women in Science for the Developing world(OWSD), Full member(6991).
- Ramanujan Mathematical Society(RMS), 701.
- Indian Mathematical Society (L/2018/29).
- American Mathematical Society, 2011-12.
- Indian Society of Biomechanics.
- Indian Society for Heat and Mass Transfer(ISHMT), 618.
- Indian Society of Industrial and Applied Mathematics(ISIAM), D-20.
- Indian Society of Theoretical and Applied Mechanics (ISTAM), 844.
- Soft computing research society, 024.
- Allahabad Mathematical Society, India, 2017.
- International Association of Computer Science and Information Technology(IACSIT), 80340905.

Journal publications

1. Kumbinarasaiah S, Yeshwanth R, **S Dhawan** , “Analysis of new mathematical model for Rabies through wavelet ’, *Frontiers in Applied Mathematics and Statistics*, 2025. **Impact factor 1.3**, (ISSN/ISBN 22974687). (Switzerland)
2. Kumbinarasaiah S, Yeshwanth R, **S Dhawan** , “Bernoulli wavelet collocation approach for fractional Zakharov-Kuznetsov equation”, *Jñānābha*, 2025(Accepted).
3. Turgut Ak, **S Dhawan**, Mostafa M. A. Khater and Abdul Hamid Kara, “Insights into Vakhnenko-Parkes equation: Solitary waves under the influence of power law nonlinearity”, *Pramana* , 2025. **Impact factor 2.1, SCI**, (ISSN/ISBN 03044289, 09737111). (India)
4. V Singh, D Harursampath, **S Dhawan**, M Sahni, S Saxena, R Mallick, “ Physics-Informed Neural Network for Solving a One-Dimensional Solid Mechanics Problem”, *Modelling* 5(4) (2024), 1532-1549. **Impact factor 1.5**, (ISSN/ISBN 2673-3951). (Switzerland)
5. A Tripathi, A Kumar Tiwari, **S Dhawan** and R Dubey , “Computational method to Solve Burger’s equation with periodic boundary conditions”, *Nonlinear Studies* 31(2) (2024), 529- 542. **Impact factor 3.009, SCI**, (ISSN/ISBN 13598678, 21534373). (UK)
6. A Tripathi,R Dubey, A Kumar Tiwari and **S Dhawan**, “Some essential aspects of Spectral methods and their applications to PDE’s ”, *Mathematics in Science, Engineering and Aerospace* 15(2) (2024), 411- 424. **Impact factor** , (ISSN/ISBN

20413165, 20413173). (United States)

7. Ben Wongsaijai, Tugba Aydemir, Turgut Ak, **S Dhawan**, “Analytical and numerical techniques for initial-boundary value problems of Kolmogorov-Petrovsky-Piskunov equation”, *Numerical Methods for Partial Differential Equations* (**Wiley**), (2024) 1-18. **Impact factor 3.009, SCI**, (ISSN/ISBN 10982426). (United States)

8. Hadi Rezazadeh, **S. Dhawan**, Savaisou Nestori, Ahmet Bekir and Alper Korkmaz, “Computational solutions of the generalized Ito equation in nonlinear dispersive systems”, *International Journal of Modern Physics B* 35 (2021) 1-14. **Impact factor 1.7, SCI**, (ISSN/ISBN 0217-9792). (Singapore)

9. **S Dhawan**, JAT Machado, DW Brzezinski, MS Osman, “A Chebyshev Wavelet Collocation Method for Some Types of Differential Problems”, *Symmetry*, 13 (2021) 1-14. **Impact factor 2.940, SCI**, (ISSN 2073-8994). (Switzerland)

10. Turgut Ak, Asit Saha, **S Dhawan**, Abdul Hamid Kara, “Investigation of Coriolis effect on oceanic flows and its bifurcation via geophysical KdV equation”, *Numerical Methods for Partial Differential Equations* (**Wiley**), 36 (2020) 1234-1253. **Impact factor 3.009, SCI**, (ISSN/ISBN 10982426). (United States)

11. Turgut Ak, **S Dhawan**, “Approximate analytic compacton solutions of the $K(p, p)$ equation by reduced differential transform method”, *Computational Methods for Differential Equations*, 30 (2020) 827-839, (ISSN/ISBN 2383-2533). (University of Tabriz, Iran)

12. **S Dhawan**, Turgut Ak, Gokhan Apaydin, “Algorithms for numerical solution of the equal width wave equation using multi-quadric quasi-interpolation method”, *International Journal of Modern Physics C*, 30 (2019) 1-17. **Impact factor 1.6, SCI**, (ISSN/ISBN 01291831). (Singapore)

13. Turgut Ak, Asit Saha and **S Dhawan**, “Performance of a hybrid computational scheme on travelling waves and its dynamic transition for Gilson-Pickering equation”, *International Journal of Modern Physics C*, 30 (2019) 1-17. **Impact factor 1.6, SCI**, (ISSN/ISBN 01291831). (Singapore)

14. T Ak, **S Dhawan**, B Inan, “Numerical solutions of the generalized Rosenau-Kawahara-RLW equation arising in fluid mechanics via B-spline collocation method”, *International Journal of Modern Physics C*, 29 (2018) 1-20 **Impact factor 1.6, SCI**, (ISSN/ISBN 01291831). (Singapore)

15. Turgut Ak, Houria Triki, **S Dhawan**, Kutsi S. Erduran, “Theoretical and numerical investigations on solitary wave solutions of Gardner equation”, *European Physical Journal Plus*(**Springer**), 133 (2018) 1-14 **Impact Factor 2.8 , SCI**, (ISSN/ISBN 21905444). (United States)

16. Muhammad Nasir Ali, Syed Muhammad Husnine, Asit Saha, S K Bhowmik, **S Dhawan**, Turgut Ak, "Exact solutions, conservation laws, bifurcation of nonlinear and supernonlinear travelling waves for Sharma-Tasso-Olver equation", *Non-linear Dynamics* (**Springer**) 94 (2018) 1791-1801 **Impact Factor 5.2, SCI**, (ISSN/ISBN 0924090X). (Netherlands)

17. Turgut Ak, Houria Triki, **S Dhawan**, Samir Kumar Bhowmik, Seithuti Philemon Moshokoa, Malik Zaka Ullah, Anjan Biswas, "Computational Analysis of Shallow Water Waves with Korteweg-de Vries Equation", *Scientia Iranica* 25(5) (2018) 2582-2597 **Impact Factor 1.435, SCI**, (ISSN/ISBN 1026-3098). (Sharif University of Technology, Iran)

18. Turgut Ak, **S Dhawan**, "A practical and powerful approach to potential KdV and Benjamin equations", *Beni-Suef University Journal of Basic and Applied Sciences* (**Elsevier**) 6 (2017) 383-390, (ISSN/ISBN 2314-8543). (Germany)

19. Turgut Ak, **S Dhawan**, S. Battal Gazi Karakoc, Samir Kumar Bhowmik and Kamal R. Raslan, "Numerical Study of Rosenau-KdV Equation Using Finite Element Method Based on Collocation Approach", *Mathematical Modelling and Analysis* (**Taylor & Francis**) 22 (2017) 373-388 **Impact Factor 1.603, SCI**, (ISSN/ISBN 13926292).

20. **S.Dhawan**, S.Kapoor, Sheo Kumar, "Galerkin least square B-spline approach towards advection-diffusion equation", *Applied Mathematics and Computation* (**Elsevier**) 261 (2015) 128-140 **Impact Factor 4.397, SCI**, (ISSN/ISBN 18735649). (United States)

21. **S.Dhawan**, S.Arora, S.Kumar, "Approximation of advection-diffusion phenomenon with wavelets", *Neural, Parallel, and Scientific Computations* 22 (2014) 45-58, (ISSN/ISBN 1083-2564). (United States)

22. **S.Dhawan**, S.Arora, S.Kumar, "Numerical approximation of heat equation using Haar wavelets", *International Journal of Pure and Applied Mathematics* 86 (2013) 55-63, (ISSN/ISBN 1314-3395). (Bulgaria)

23. **S.Dhawan**, S.Kapoor, Sheo Kumar, "Numerical method for advection diffusion equation using FEM and B-splines", *Journal of Computational Science* (**Elsevier**) 3 (2012) 429-437 **Impact Factor 3.976, SCI**, (ISSN/ISBN 1877-7503). (Netherlands)

24. **S.Dhawan**, S.Kapoor, S.Kumar, S.Rawat, "Contemporary review of distinguish simulation process for the solution of nonlinear Burgers' equation", *Journal of Computational Science* (**Elsevier**) 3 (2012) 405-419 **Impact Factor 3.976, SCI**, (ISSN/ISBN 1877-7503). (Netherlands)

25. **S.Dhawan**, S.Kapoor, "Numerical Simulation of Advection-Diffusion Equation", *International Journal of Mathematical Modelling and Numerical Optimization* 2 (2011) 13-27, (ISSN/ISBN 20403607). (Switzerland)

26. **S.Dhawan**, Sheo Kumar, “Approximation of Temperature Distribution in a Solid Body using Semi-Finite Element Technique”, *Indian Journal of Biomechanics: Special Issue* (2009) 246-250, (ISSN/ISBN 0974-0783).

**Administrative
Responsibilities
handled**

1. Convenor, One week workshop on Fostering Curiosity: Science for Young Minds in the Ladakh region, India, Oct 21-25, 2024.
2. Convenor, Two days training programme- Rural Science Education Training Utility Program (RuSETUP 2024) CCSHAU COA Bawal, Haryana, India, August 21-22, 2024.
3. Convenor, NCR Zonal Science week 2024, CCSHAU COA Bawal, Haryana, India, May 02-07, 2024.
4. Technical Committee member, International Conference on ”Computational Modeling and Sustainable Energy” ICCMSE 2023 December 15-17, 2023, Gujarat, India.
5. Coordinator, 10 Days training jointly organised by IDP-NAHEP Cell and CCSHAU ”Empowering Future careers: Employability Skills Training” 2023.
6. Coordinator, Lecture Series jointly organised by CCSHAU COA Bawal and Indian National Young Academy of Sciences(INYAS), India, 2023.
7. Panelist, Y20 Summit on Health and Well Being, Ladakh, India, 2023.
8. Convenor, Summer Camp, KV Leh-Ladakh, India, 2023.
9. Member, Board of Studies, Department of Mathematics, University of Ladakh, India, 2022-23.
10. Co-convenor, G20 awareness program on environmental and socio economical issues of ladakh region, University of Ladakh, 2023.
11. Convenor, Webinar on National Science Day, University of Ladakh, 2023.
12. Coordinator, Virtual Labs Nodal Centre-Leh, University of Ladakh, 2022.
13. Convenor, Webinar on National Mathematics Day 2022, University of Ladakh, 2022.
14. Member Organising committee, An awareness program On Gender Sensitization, University of Ladakh, 2022.
15. Convenor, UOL Mathematics Club, University of Ladakh, 2022.
16. Member, Gender Sensitization/Sexual harassment committee, University of Ladakh, 2022.
17. Member, Youth Red Cross committee, University of Ladakh, 2022.
18. Organiser, One day symposium on Dynamical Systems- from topological and measure theoretic viewpoint, University of Ladakh, 2022.
19. Member, Organising committee, 6th National Geo-Research Scholars meet, University of Ladakh, India, 2022.
20. Member, Gender sensitization/Sexual Harrasment Committee, University of Ladakh, India, 2022.

21. Head, Applied Sciences, SVIET, Punjab, India, 2020-21.
22. Organising Secretary, National Science Day, Central University of Haryana, India, 2020.
23. Convener, CUH Mathematical Society, Department of Mathematics, Central University of Haryana, India, 2015-2020.
24. Member, Purchase Committee, Central University of Haryana, India, 2015-2020.
25. Member, Admission Committee, Central University of Haryana, India, 2014-2019.
26. Member, School Board, School of Physical and Mathematical Sciences, Central University of Haryana, India, 2019.
27. Administrative committee member, International Conference on Trends in Computational and Cognitive Engineering (TCCE-2019), Central University of Haryana, India, Nov 28- 30, 2019.
28. Organised One day MathFest “ MATHOPHILIA”, Central University of Haryana, India, 2018.
29. Organised Two days MathFest “ PYTHUS”, Central University of Haryana, India, 2018.
30. Member, Vigilance Squad, End term examination, CUH, India, 2018.
31. Member, Board of Studies, Department of Mathematics, Central University of Haryana, India 2015-2018.
32. Time Table Incharge, Department of Mathematics, Central University of Haryana, India, 2015-2018.
33. Deputy Superintendent, Examination committee, Department of Mathematics, Central University of Haryana, India, 2015-2017.
34. Member, Rashtriya Avishkar Abhyan committee, Central University of Haryana, India, 2015.
35. Organiser, Quiz competition under the School of Physical and Mathematical Sciences, Department of Mathematics, Central University of Haryana, India, 2014.
36. Member, Board of Studies, Department of Statistics, Central University of Haryana, India, 2014-15.
37. Member, School Board, School of Physics and Mathematical Sciences, Central University of Haryana, India, 2014.
38. Member, Board of Studies, Department of Mathematics, D.A.V. University Jalandhar, India, 2013-14.

**Invited talk/
Paper Presentations/
Session Chair**

- Delivered invited talk at International Conference on Nonlinear Dynamics and applications (ICNDA2024) organized by **SMIT, Majitar, East Sikkim** (Feb 21-23, 2024) .
- Delivered invited talk at **Department of Mathematics & Statistics, CCSHAU Hisar, Haryana** (December 20, 2023).

- Presented research paper at International Conference & Symposium on AI Advancements in Hyperbolic and Parabolic PDEs(ICS-AIPDEs23) jointly organized by **University of Calicut, Kerala, India and Department of Mathematical Sciences, UNIST, South Korea**, 2023.
- Delivered invited talk at **Govt Girls Sr Sec. School, Jind(HR), India** 2023.
- Session Chair in National Conference on Computational Mathematics, **National Institute of Technology Puducherry** (December 22-23, 2022).
- Session Chair in 4th International Conference on Communication and Intelligent Systems ICCIS 2022, **National Institute of Technology Delhi** (December 19-20, 2022).
- Delivered invited talk in National Conference On Recent Developments In Fractional Calculus and Its Applications (RDFCA 2022) held at **SASTRA Deemed to be University, Thanjavur, Tamil Nadu**. (November 18-19, 2022).
- Presented research paper at International Conference on Evolution in Pure and Applied Mathematics (November 16-18, 2022).
- Presented research paper at 2nd International Conference on Recent Advances in Computational Mathematics and Engineering, **B K Birla Institute of Engineering and Technology, Pilani, Rajasthan, India** (May 30-31, 2022).
- Delivered invited talk at **SVIET, Banur(Punjab) India** (May 05, 2022).
- Session Chair in International Conference on Nonlinear Dynamics and applications(ICNDA) organized by **Department of Mathematics, Sikkim Manipal Institute of Technology (SMIT), Sikkim Manipal University, Majitar, East Sikkim** (March 9-11, 2022) .
- Delivered invited talk at **SOA University, Bhubaneswar, Odisha, India** (January 22, 2022).
- Session Chair in One-Day National Conference, **Govt. College Satnali, Haryana, India** (May 29, 2021).
- Presented research paper at International Conference on Recent Advances in Computational Mathematics and Engineering, **B K Birla Institute of Engineering and Technology, Pilani, Rajasthan, India** (March 19-21, 2021).
- Delivered invited talk at **Shrimati Indira Gandhi College, Tiruchirappalli, Tamil Nadu, India** (March 9, 2021).
- Delivered invited talk at **SASTRA University, Tamilnadu, India** (Nov. 26, 2020).
- Delivered invited talk at **Govt. College, Bahu, Haryana, India** (Jan. 25, 2020).
- Presented research paper at International Conference on Biomedical Engineering and Assistive Technologies, **NIT Jalandhar (Pb.), India** (Dec 6-7, 2012).
- Presented research paper at National conference on Globe Trends in Mechanical En-

gineering (GTME-2010), **RBIET (Pb.), India** (April 16- 17, 2010).

- Presented research paper at International Conference on Biomedical Engineering and Assistive Technologies, **NIT Jalandhar (Pb.), India** (Dec 17-19, 2010).
- Presented research paper at National Conference on Biomechanics, **IIT Roorkee, India** (March 7-8, 2009).
- Presented research paper at International Conference on Scientific Computing 09, **Las Vegas, Nevada, U.S.A.** (July 13-16, 2009).
- Presented research paper at International Conference on Recent Trends in Mathematics and its Applications (ICRTMA-09), **Jamia Milia Islamia University, New Delhi, India** (March 30-31, 2009).