

Dr Sharanjeet Dhawan

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Central University of Haryana
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Educational Qualification M.Sc.(Mathematics), Ph.D, Post doc

Languages Known Hindi, English, French.

Fellowships/Awards/Achievements

- 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, 2012.
- 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, India) to participate in International Conference on Scientific Computing (CSC'09) at Las Vegas Nevada U.S.A, 2009.

Professional Memberships

- Indian Mathematical Society.
- Ramanujan Mathematical Society(RMS), 701.
- Indian Mathematical Society.
- Indian Society of Industrial and Applied Mathematics(ISIAM), D-20.
- Soft computing research society, 024.
- Indian Society of Theoretical and Applied Mechanics (ISTAM), 844.
- American Mathematical Society, 2011-12.

- Allahabad Mathematical Society, India, 2017.
- International Association of Computer Science and Information Technology(IACSIT), 80340905.
- International Association of Engineers(IAENG), 104778.
- Indian Society for Heat and Mass Transfer(ISHMT), 618.
- Indian Society of Biomechanics.

Journal publications

1. Turgut Ak, Asit Saha, **S Dhawan**, “Performance of a hybrid computational scheme on traveling waves and its dynamic transition for Gilson-Pickering equation”, *International Journal of Modern Physics C*, 2019.
2. Turgut Ak, Houria Triki, **S Dhawan**, Kutsi S. Erduran, “Theoretical and numerical investigations on solitary wave solutions of Gardner equation”, *The European Physical Journal Plus*(Springer), 133(382) 1-14 2018.
3. 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”, *Nonlinear Dynamics* (Springer) (2018) 1-11.
4. Turgut Aka, 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) 2582-2597, 2018.
5. 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.
6. 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.
7. **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.
8. **S.Dhawan**, S.Arora, S.Kumar, “Approximation of advection-diffusion phenomenon with wavelets”, *Neural, Parallel, and Scientific Computations* 22 (2014) 45-58.

9. **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.
10. **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.
11. **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.
12. **S.Dhawan**, R.Kumar, S.Kumar, “Multiquadratic quasi interpolation for Burger-Fisher equation”, *International Journal of Applied Mathematics and Mechanics*, (2013) 41-50.
13. S.Kapoor, S.Rawat, **S.Dhawan**, “Numerical Investigation of Separated Solitary Waves Solution for KDV Equation through Finite Element Technique”, *International Journal of Computer Applications* 40 (2012) 27-33.
14. **S.Dhawan**, S.Kumar, S.Kapoor, “Approximation of Burgers’ equation using B-spline Finite Element Method”, *International Journal of Applied Mathematics and Mechanics* 7 (2011) 61-86.
15. **S.Dhawan**, S.Kapoor, “Numerical Simulation of Advection-Diffusion Equation”, *International Journal of Mathematical Modelling and Numerical Optimization* 2 (2011) 13-27.
16. S.Kapoor, **S.Dhawan**, “B-Spline Finite Element Technique for Advection-Diffusion Equation”, *International Journal of Applied Mathematics and Mechanics* 6 (2010) 75-94.
17. S.Kapoor, **S.Dhawan**, “A Computational Technique for the Solution of Burgers Equation”, *International Journal of Applied Mathematics and Mechanics* 6 (2010) 84-95
18. **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.

Conference Proceedings

1. **S.Dhawan**, S.Kumar, “An application of wavelet matrices for solving differential equations”, *2nd International Conference on Biomedical Engineering and Assistive Technologies, NIT Jalandhar (Pb.) , India*, (Dec 6-7, 2012).
2. **S.Dhawan**, S.Rawat, S.Kumar, S.Kapoor, “Solution of Advection diffusion equation using Finite Element Method”, *IEEE conference: 4th International conference on Modeling , Simulation and Applied Optimization (ICMSAO-2011), Kula-Lumpur, Malaysia*, (April 19-21, 2011).
3. V.Dabral, S.Kapoor, **S.Dhawan**, “Mathematical study of separated solitary Wave solution for KDV equation: B-spline FEM Approach”, *IEEE conference: 4th International conference on Modeling , Simulation and Applied Optimization (ICMSAO-2011), Kula-Lumpur, Malaysia*, (April 19-21, 2011).
4. S.Kapoor, **S.Dhawan**, R.Gupta, S.Agarwal, “Numerical solution of burgers’ equation using B-spline technique”, *International conference and Workshop- Applied Mathematics (CMIC-2011), Chiang mai University, Chiang Mai, Thailand*, (January 06-07, 2011).
5. V.Dabral, S.Kapoor, **S.Dhawan**, S.Rawat, “Finite element based solution of modified equal width equation(MEW) with homogeneous boundary condition using B-spline basis function”, *International conference and Workshop- Applied Mathematics (CMIC-2011), Chiang mai University, Chiang Mai, Thailand* , (January 06-07, 2011).
6. **S.Dhawan**, S.Kumar, “Finite element method for Burgers equation using cubic B-spline approximation”, *13th IASME/WSEAS International Conference on Mathematical Methods and Computational Techniques in Electrical Engineering (MMACTEE '11) Angers, France*, (November 17-19, 2011).
7. **S.Dhawan**, S.Kumar, “Solution of advection-diffusion equation based on cubic B-spline finite element method”, *National Conference on Mathematical Modeling and Computer Simulation, (MMCS - 2011), BHU, India*.

8. S.Kapoor, **S.Dhawan**, S.Kumar, S.Rawat, “Temperature variation in heated tube filled with molten polymer using FEM”, *2nd International conference on Industrial and Production Engineering, NIT Jalandhar (Pb.), India* (Dec 03-05, 2010).
9. **S.Dhawan**, S.Kumar, “Petrov-Galerkin least square linear B-spline Finite Element Method for Burgers equation”, *International Conference on Biomedical Engineering and Assistive Technologies, NIT Jalandhar (Pb.) , India* (Dec 17-19, 2010).
10. **S.Dhawan**, S.Kumar, Subhash Chander, “A Comparative Study of Numerical Techniques for 2D Transient Heat Conduction using Finite Element Method”, *International Conference on Scientific Computing (CSC’09) Las Vegas Nevada, U.S.A.*, (July 13-16, 2009).

**Conferences/
Workshops/
Schools**

- International Congress of Mathematicians, **Rio, Brazil** (August 1-9, 2018)
- World Meeting for Women in Mathematics, **Rio, Brazil** (July 31st, 2018).
- Advanced Training in Mathematics Schools, ISL Numerical Analysis, **Panjab University, Chandigarh, India** (June 09-28, 2014).
- Orthogonal Spline Collocation Methods for Partial Differential Equations, **Sauth Asian University, New Delhi -110021, India** (March 21-24, 2014).
- Summer School on Numerics and Control of PDEs, IFCAM, **IISC Bangalore, India** (July 22 - August 02, 2013).
- Advanced Workshop on Theoretical and Computational Aspects of Nonlinear Waves, **IIT Bombay, India** (May 27- May 31, 2013).
- Instructional Workshop on Applied Mathematics, **South Asian University, New Delhi-110021, India** (May 6-10, 2013).
- Workshop on Parallel Computing using HPCC, Department of Physics, **Panjab University, Chandigarh, India** (March 21-22 2013).

- Advanced Instructional School-(Numerical Analysis), **Panjab University, Chandigarh, India** (June18-July 7,2012).
- International Congress of Mathematics (ICM 2010), **Hydrabad, India** (August 19-27, 2010).
- International Conference on Recent Trends in Mathematics and its Applications (ICRTMA-09), **Jamia Milia Islamia Uni., New Delhi, India** (March 30-31, 2009).
- International Conference in honour of Late Prof.S.L.Yadava **TIFR, Bangalore, India** (Jan. 7-9, 2009).
- International Conference on Scientific Computing 09, **Las Vegas, Nevada, U.S.A.** (July 13-16, 2009).
- National Conference on Biomechanics, **IIT Roorkee, India** (March 7-8, 2009).
- Advanced Instructional School in Partial Differential Equations (AIS-PDE), **TIFR Bangalore, India** (Dec.15- Jan. 6, 2009).
- Instructional School on PDEs and National Symposium on HPDEs (CPDE-08), **IIT Bombay, India** (June 22- July 17, 2008).