

Centre for Mathematics & Statistics  
School of Basic & Applied Science  
Central University of Punjab  
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**RAJESH KUMAR GUPTA**

**CELL: 09463940704**

### **Present Status**

Working as an Associate Professor (Mathematics) in Centre for Mathematics & Statistics at *Central University of Punjab, Bathinda* since December 2015

### **Educational Qualifications (PhD Mathematics)**

- **Ph D (Mathematics)** from Jaypee University of Information Technology, Waknaghat, (H.P.) in October, 2007 under the guidance of Dr. Karanjeet Singh.

**Title of the Thesis:** Lie Symmetries and Exact Solutions of Some Nonlinear Partial Differential Equations

- **M Sc (Applied Mathematics)** from Guru Jambheshwar University, Hisar in 2001 with 64.13 % marks
- **B Sc (Non-Med)** from Maharshi Dayanand University, Rohtak in 1999 with 64.07 % marks
- **Senior Secondary (Non-Med)** from Board of School Education, Haryana in 1996 with 60.25 % marks
- **Matriculation** from Board of School Education, Haryana in 1994 with 73.75% marks

### **Academic Achievements (JRF-NET, GATE):**

- Qualified Joint CSIR- UGC Junior Research Fellowship (**JRF**) and Eligibility for Lectureship National Eligibility Test (**NET**) in Mathematical Sciences held on 1<sup>st</sup> July, 2001
- Qualified **GATE** (Graduate Aptitude Test in Engineering) examination Conducted by Indian Institute of Technology, Kanpur with **88.25** percentile in 2001

### Awards & Honours:

- UGC Research Award for the period 2016-2018.
- Awarded PIS (Performance Incentive Scheme) from last five years (2009-2013) in Thapar University for his academic excellence (teaching and research)
- Listed in Marquis Who's Who, 2014

### List of Sponsored Research Projects:

S. No.	Project Title	Funding Agency	Duration	Grant	Principal Investigator
1	Symmetry Analysis and Exact Solutions of Some Nonlinear Systems from Mathematical Physics	UGC	2 years	UGC Research Award (Research Grant 3 Lakhs)	Dr. Rajesh Kr. Gupta
2	Applications of Group Theoretic Techniques to Some Nonlinear Systems from Mathematical Physics	CSIR	Submitted	14.88 Lakhs	Dr. Rajesh Kr. Gupta
3	Lie Symmetry Analysis and Exact Solutions of Some Einstein Field Equations	NBHM	Submitted	14.828 Lakhs	Dr. Rajesh Kr. Gupta

### List of Research Papers

1. K. Singh and **R. K. Gupta**, "On Symmetries and Invariant Solutions of a Coupled KdV System with Variable Coefficients", *International Journal of Mathematics and Mathematical Sciences* 23 (2005) 3711-3726.
2. K. Singh and **R. K. Gupta**, "Lie Symmetries and Exact Solutions of a New Generalized Hirota-Satsuma Coupled KdV System with Variable Coefficients", *International Journal of Engineering Science* 44 (2006) 241-255. (**SCI, Elsevier, Impact Factor 2.668**)

3. K. Singh and **R. K. Gupta**, “Exact Solutions of a Variant Boussinesq System” *International Journal of Engineering Science* 44 (2006) 1256-1268. **(SCI, Elsevier, Impact Factor 2.668)**
4. **R. K. Gupta** and K. Singh, “Modified Boussinesq System with Variable Coefficients: Classical Lie Approach and Exact Solutions”, *Journal of Partial Differential Equations* 22 (2009) 97-110.
5. **R. K. Gupta** and Anupma, “The Dullin-Gottwald-Holm Equation: Classical Lie Approach and Exact Solutions”, *International Journal of Nonlinear Science* 9 (2010) 1-7.
6. K. Singh, **R. K. Gupta** and Sachin Kumar, “Benjamin-Bona-Mahony (BBM) equation with Variable Coefficients: Similarity Reductions and Painlevé Analysis”, *Applied Mathematics and Computation* **217** (2011) 7021-7027. **(SCI, Elsevier, Impact Factor 1.551)**
7. K. Singh, **R. K. Gupta** and Sachin Kumar, “Exact Solutions of b-family Equation: Classical Lie Approach and Direct Method”, *International Journal of Nonlinear Science* 11 (1) (2011) 59-67.
8. **R.K. Gupta** S.S. Bhatia and Rajeev, “New Exact Traveling Wave Solutions to the Ostrovsky Equations”, *International Journal of Applied Mathematics and Mechanics* 2 (2011) 27-33
9. **R. K. Gupta** and K. Singh, “Symmetry Analysis and Some Exact Solutions of Cylindrically Symmetric Null Fields in General Relativity”, *Communications in Nonlinear Science and Numerical Simulation* 16 (2011) 4189-4196. **(SCI, Elsevier, Impact Factor 2.866)**
10. Sachin Kumar, K. Singh and **R. K. Gupta**, “Painlevé Analysis, Lie Symmetries and Exact Solutions for (2+1) Dimensional Variable Coefficients Broer-Kaup Equations”, *Communications in Nonlinear Science and Numerical Simulation* 17 (2012) 1529-1541. **(SCI, Elsevier, Impact Factor 2.866)**
11. Nisha Goyal and **R. K. Gupta**, “Symmetries and Exact Solutions of the Nondiagonal Einstein-Rosen Metrics”, *Physica Scripta* 85 (2012) 015004 (6pp). **(SCI, IOP SCIENCE, Impact Factor 1.126)**
12. Nisha Goyal and **R. K. Gupta**, “A Class of Exact Solutions of Einstein Field Equations”, *Physica Scripta* 85 (2012) 055011 (6pp). **(SCI, IOP SCIENCE, Impact Factor 1.126)**

13. Nisha Goyal and **R. K. Gupta**, “On Symmetries and Exact Solutions of Einstein Vacuum Equations for Axially Symmetric Gravitational Fields”, *International Journal of Mathematical and Computational Sciences* 6 (2012) 104-107.
14. Anupma Bansal and **R. K. Gupta**, “Modified (G'/G)-Expansion Method for Finding Exact Wave Solutions of the Coupled Klein-Gordon-Schrodinger Equation”, *Mathematical Methods in the Applied Sciences*, 35 (10) (2012) 1175-1187. (**SCI, Wiley, Impact factor 0.918**)
15. Anupma Bansal and **R. K. Gupta**, “On Symmetry Analysis and Exact Wave Solutions of New Modified Novikov Equation”, *International Journal of Computational and Mathematical Sciences*, 6 (2012) 65-72.
16. Anupma Bansal and **R. K. Gupta**, “On Certain New Exact Solutions of (2+1)-Dimensional Calogero Degasperis Equation via Symmetry Approach” *International Journal of Nonlinear Science* 13 (2012) 475-481.
17. Nisha Goyal and **R. K. Gupta**, “New Exact Solutions of Einstein-Maxwell Equations for Magnetostatic Fields”, *Chinese Physics B* 21 (2012) 090401-6. (**SCI, IOP SCIENCE, Impact Factor 1.603**)
18. Nisha Goyal and **R. K. Gupta**, “Traveling Wave Solutions for the Sawada-Kotera-Kadomtsev-Petviashvili Equation and Bogoyavlensky-Konoplechenko Equation by (G'/G)-Expansion Method”, *International Journal of Computational and Mathematical Sciences* 6 (2012) 118-122.
19. Lakhveer Kaur and **R. K. Gupta**, “Kawahara Equation and Modified Kawahara Equation with Time Dependent Coefficients: Symmetry Analysis and Generalized G'/G-Expansion Method” *Mathematical Methods in the Applied Sciences* 36 (2013) 584-600. (**SCI, Wiley, Impact factor 0.918**)
20. Sachin Kumar, K. Singh and **R. K. Gupta**, “Coupled Higgs Field Equation and Hamiltonian Amplitude Equation: Lie Classical Approach and (G'/G)-Expansion Method”, *Parmana-Journal of Physics*, 79 (2012) 41-60. (**SCI, Springer, Impact Factor 0.649**)
21. Anupma Bansal and **R.K. Gupta**, “Lie Point Symmetries and Similarity Solutions of the Time Dependent Coefficients Calogero Degasperis Equation” *Physica Scripta* **86** (2012) 035005 (11pp) (**SCI, IOP SCIENCE, Impact Factor 1.126**).
22. Rajeev, **R.K. Gupta** and S. S. Bhatia, “The New Generalized (G'/G) - Expansion Method for Solving (2+1) Dimensional PKP Equation”, *International Journal of Nonlinear Science* 14 (2012) 48-52

23. **R. K. Gupta** and Anupma Bansal, “Similarity Reductions and Exact Solutions of Generalized Bretherton Equation with Time Dependent Coefficients” *Nonlinear Dynamics* 71 (2013) 1-12. (SCI, Springer, Impact Factor 2.849)
24. **R. K. Gupta**, Sachin Kumar and Bhajan Lal, “New exact travelling wave solutions of generalised sinh-Gordon and (2 + 1)-dimensional ZK-BBM equations”, *Maejo International Journal of Science Technology*. 6 (2012) 344-355. (SCI, Impact Factor 0.367)
25. **R.K. Gupta** and Anupma Bansal, “Painlevé Analysis, Lie Symmetries and Invariant Solutions of Potential Kadomstev Petviashvili Equation with Time Dependent Coefficients”, *Applied Mathematics and Computation* 219 (2013) 5290–5302 (SCI, Elsevier, Impact Factor 1.551)
26. Lakhveer Kaur and **R. K. Gupta**, “Painlevé Analysis, Similarity Reductions and Exact Solutions of the Kuramoto-Sivashinsky Equation with Variable Coefficients”, *International Journal of Nonlinear Sciences* 15 (2013) 139-149
27. Lakhveer Kaur and **R. K. Gupta**, “On Symmetries and Exact Solutions of Einstein Maxwell Field Equations via Symmetry Approach”, *Physica Scripta* 87 (2013) 035003 (7pp) (SCI, IOP SCIENCE, Impact Factor 1.126).
28. Vikas Kumar, **R. K. Gupta** and Ram Jiware, “Comparative Study of Travelling Wave and Numerical Solutions for the Coupled Short Pulse (CSP) Equation”, *Chinese Physics B* 22(5) (2013) 050201 - 7. (SCI, IOP SCIENCE, Impact Factor 1.603)
29. Lakhveer Kaur and **R. K. Gupta**, “Symmetries and Exact Solutions of Einstein Field Equations for Perfect Fluid Distribution and Pure Radiation Fields”, *Maejo International Journal of Science Technology* 7 (2013) 133-144. (SCI, Impact Factor 0.367)
30. Vikas Kumar, Ram Jiware and **R. K. Gupta**, Numerical Simulation of Two Dimensional Quasilinear Hyperbolic Equations by Polynomial Differential Quadrature Method, *Engineering Computations* 30 (2013) 892-909 (SCI, Emerald, Impact Factor 1.495)
31. Vikas Kumar, **R. K. Gupta** and Ram Jiware, “Painlevé Analysis, Lie Symmetries and Exact Solutions for Variable Coefficients Benjamin-Bona-Mahony-Burger (BBMB) Equation”, *Communications in Theoretical Physics* 60 (2013) 175–182 (SCI, IOP SCIENCE, Impact Factor .893).
32. Lakhveer Kaur and **R. K. Gupta**, “On Certain New Exact Solutions of Einstein Equations for Axisymmetric Rotating Fields”, *Chinese Physics B* 22 (2013) 100203 – 100208 (SCI, IOP SCIENCE, Impact Factor 1.603).

33. Sachin Kumar, K. Singh and **R. K. Gupta**, “Dynamics of internal waves in a stratified ocean modeled by the extended Gardner equation with time-dependent coefficients” *Ocean Engineering* 70 (2013) 81-87 (**SCI, Elsevier, Impact Factor 1.351**)
34. Vikas Kumar, R. K. Gupta and Ram Jiware, “Lie Group Analysis, Numerical and Non-Traveling Wave Solutions for the (2+1)-Dimensional Diffusion–Advection Equation with Variable Coefficient”, *Chinese Physics B*, 23 (2014) 030201 (6 pp.). (**IOP, Impact Factor 1.603**)
35. Lakhveer Kaur and R. K. Gupta, “Some Invariant Solutions of Field Equations with Axial Symmetry for Empty Space Containing an Electrostatic Field”, *Applied Mathematics and Computation*, 231 (2014) 560–565 (**SCI, Elsevier, Impact Factor 1.551**)
36. Rajeev, **R.K. Gupta** and S. S. Bhatia, “Lie Symmetry Analysis and Exact Solutions for a Variable Coefficient Generalized Kuramoto-Sivashinsky Equation”, *Romanian Reports in Physics* 66 (2014) 923 – 928 (**SCI, Publishing House of the Romanian Academy, Impact Factor 1.517**)
37. Rajeev, **R.K. Gupta** and S. S. Bhatia, “Symmetry Analysis and Some Solutions of Gowdy Equation”, *Romanian Journal of Physics* 60 (2015) 15 – 21 (**SCI, Publishing House of the Romanian Academy, Impact Factor 0.924**) (*Accepted*)
38. Ram Jiware, **R. K. Gupta** and Vikas Kumar, “Polynomial Differential Quadrature Method for Numerical Solutions of the Generalized Fitzhugh-Nagumo Equation with Time-Dependant Coefficients”, *Ain Shams Engineering Journal* 5 (2014) 1343–1350.
39. **R. K. Gupta**, Vikas Kumar and Ram Jiware, “Exact and Numerical Solutions of Coupled Short Pulse Equation with Time Dependent Coefficients”, *Nonlinear Dynamic* 79 (2015) 455 – 464 (**SCI, Springer, Impact Factor 2.849**)
40. Rajeev, **R.K. Gupta** and S. S. Bhatia, “Painlevé Analysis and Some Solutions of Variable Coefficients Benny Equation”, *Parmana-Journal of Physics* 85 (2015) 1111-1122 (**SCI, Springer, Impact Factor 0.649**)
41. Nisha Goyal, A.M. Wazwaz and **R. K. Gupta**, “Applications of MAPLE Software to Derive Exact Solutions of Generalized Fifth – Order Korteweg – De Vries Equation with Time- Dependant Coefficients”, *Romanian Reports in Physics* (**SCI, Publishing House of the Romanian Academy, Impact Factor 1.517**) (*Accepted*)
42. Rajeev, **R.K. Gupta** and S. S. Bhatia, “Invariant Solutions of Variable Coefficients Generalized Gardner Equation” *Nonlinear Dynamic* (**SCI, Springer, Impact Factor 2.849**) DOI 10.1007/s11071-015-2468-4
- 43.

### Research Papers (International Conference)

1. K. Singh and **R. K. Gupta**, “Explicit Exact Solutions of a Non Evolution Equation”, *Interdisciplinary Mathematics on Interdisciplinary Mathematical and Techniques (IMST 2009 – FIM XVIII)*, August 2-4, 2009.
2. **R. K. Gupta** and Sachin Kumar, “Modified  $b$ -Equation: Classical Lie Approach and Exact Solution”, *Interdisciplinary Mathematics on Interdisciplinary Mathematical and Techniques (IMST 2009 – FIM XVIII)*, August 2-4, 2009.
3. K. Singh, **R. K. Gupta**, Sachin Kumar and Anupma, “Symmetry Reductions and Exact Solutions of Modified  $b$ -family”, *Satellite Conference of International Congress of Mathematicians 2010 on Mathematics in Science & Technology*, August 14-17, 2010. Published in *Indian Journal of Industrial and Applied Mathematics* 4 (2013) 52-60.
4. **R. K. Gupta**, Sachin Kumar and Anupma, “Symmetries and Exact Solutions of Third Order Partial Differential Equations Arising in the Impulsive Motion of Flat Plate”, *Satellite Conference of International Congress of Mathematicians 2010 on Mathematics in Science & Technology*, August 14-17, 2010. Published in *Indian Journal of Industrial and Applied Mathematics*, 3 (2012) 13-21.
5. Nisha Goyal and **R. K. Gupta**, “Similarity Analysis and New Exact Solutions of the Einstein-Maxwell Equations for the Non-static Einstein and Rosen Metrics”, *Proceedings of International Conference on Mathematics and Statistics-2012 (ICOMAS-2012)*, May 15-18, 2012, Department of Mathematics, University of Memphis, Memphis, TN, USA
6. Nisha Goyal and **R. K. Gupta**, “Traveling Wave Solutions for the Kadomtsev-Petviashvili-Benjamin-Bona-Mahony Equation and the Ito Equations by  $(G'/G)$ -Expansion Method”, *Proceedings of International Conference on Emerging Trends in Engineering and Management (ICETEM-2012)*, Satpriya Group of Institutions, Rohtak (Haryana), June 23-24, 2012, pp. 423-428.
7. Anupma and **R. K. Gupta**, “Construction of New Traveling Wave Solutions of Ostrovsky-Benjamin-Bona-Mahony Equation using Modified Extended tanh-Function Method”, *Proceedings of the International Conference on Emerging Trends in Engineering and Management (ICETEM-2012)*, Satpriya Group of Institutions, Rohtak (Haryana), June 23-24, 2012, pp. 420-423.

## **International Conference (Attended)**

1. International Conference on “Special Functions and Their Applications, ICSFA 2014” and Symposium on “Applications of Mathematics in Engineering Sciences”, October 16-18, 2014, School of Mathematics and Computer Applications, Thapar University, Patiala, Punjab, INDIA

## **Ph.D. Theses Supervised**

### **(Completed & Submitted)**

- Symmetries and Exact Solutions of Nonlinear Partial Differential Equations: Mr. Sachin Kumar (July 19, 2012) (Completed) (Jointly guided with Dr. Karanjeet Singh)
- Symmetries and Exact Solutions of Einstein Vacuum Field Equations and Einstein Maxwell Equations: Ms. Nisha Goyal (October 17, 2012) (Completed)
- Lie Group Applications to Some Nonlinear Systems: Ms. Anupma (April 11, 2013) (Completed)
- Group Theoretic Techniques for Solutions of Einstein Equations: Ms. Lakhveer Kaur (November 13, 2013) (Completed)
- Exact and Numerical Solutions of Nonlinear PDEs: Mr. Vikas Kumar (November 22, 2014) (Completed) (Jointly guided with Dr. Ramjiwari)
- Group Theoretic Techniques and Their Applications to Some Nonlinear Systems: Mr. Rajeev. (2015, Thesis Submitted) (Jointly with Dr. S.S. Bhatia)

### **(Under Guidance)**

- Efficient Algorithms for Image Denoising using Wavelets: Mr. Ram Paul.
- Similarity Reductions and Exact Solutions of Some Nonlinear Systems from Mathematical Physics: Mrs. Pooja Girotra.
- Symmetry Analysis and Conservation Laws for Some Systems of Nonlinear Partial Differential Equations: Mrs. Bikramjeet Kaur.
- Exact Solutions of Nonlinear Partial Differential Equations using Classical and Nonclassical Symmetries: Ms. Komal Singla.
- Exact Solutions and Painlevé Analysis of Some Nonlinear Partial Differential Equations: Mr. Manjit Singh



### **M. Sc. Thesis (Guided)**

1. Symmetries and Exact Solutions of Some Systems of Nonlinear Partial Differential Equations by Lie Classical Method, Ms. Ritika Garg (2014)
2. Symmetries and Exact Solutions of Some Nonlinear Partial Differential Equations by Symmetry Reduction Method, Ms. Kimandeep Kaur (2014)
3. Classical Method for Some Nonlinear Systems, Ms. Anu Punj (2012)
4. Symmetry Reduction Method for Nonlinear Partial Differential Equations, Ms. Seema Kumari (2012)
5. Exact Travelling Wave Solutions for Some Nonlinear Partial Differential Equations, Mr. Bhajan Lal (2011)
6. Study of Two-Unit Cold Standby Systems with Regenerative Point Technique, Ms. Neetu Rani (2011) (Jointly guided with Dr. Jitender Kumar)
7. Symmetry Reduction Method for Exact Solutions of Some Nonlinear Systems, Ms. Bikramjeet (2010)
8. Exact Solutions of Nonlinear Partial Differential Equations (PDEs), Ms. Shivali (2010)
9. Lie Classical Symmetries for Some Nonlinear PDEs, Ms. Payal (2010)
10. Geometry of Generic Submanifolds, Ms. Jagdeep (2009) (Jointly guided with Dr. M.A. Khan)
11. Geometry of CR-Submanifolds, Ms. Manjot (2009) (Jointly guided with Dr. M.A. Khan)
12. Fault Tree Analysis of Different Systems, Mr. Ankush (2009) (Jointly guided with Dr. Amit Kumar)

### **Teaching Experience (12 years, B Sc, B Tech, B.E., M Sc and M.E. Classes)**

- Working as an Assistant Professor (Mathematics) in School of Mathematics & Computer Applications at **Thapar University**, Patiala since June 13, 2007
- Worked as a Lecturer in Mathematics at **Institute of Technology & Management (ITM)**, Gurgaon, since July 15, 2005 to May 31, 2007
- Worked in the post of Research Scholar teaching eight hours a weeks at **Jaypee Institute of Information Technology**, NOIDA from February 13, 2003 to December 05, 2004 and **Jaypee University of Information Technology**, Wagnaghat, (H.P.) from December 06, 2004 to July 14, 2005

- Worked as a Lecturer in Mathematics at **K L P College**, Rewari from December 2002 to February 2003

### **Membership of Professional Bodies:**

- Life membership of Indian Mathematical Society (Membership No. **L/2014/99**)

### **Invited Talk**

1. Deliver two Expert Lectures on the Topic of “Differential Equations” for Faculty Development Program on “Engineering Mathematics” organized by the Rayat Bahra Institute of Engineering & Bio-Technology, Mohali from July 14 – 18<sup>th</sup>, 2014.
2. Deliver an expert talk on the Topic of “Numerical Solutions of PDEs” in TEQIP sponsored Short Term Training Program on “Hands on Training on Computational Fluid Dynamics” (CFD-2013) organized by Mechanical Engineering Department, Thapar University, Patiala held on 18-20 October 2013.
3. Deliver an expert lecture on the Topic of “Graphing in MATLAB” in one day workshop titled “Introduction to MATLAB” organized by Institution of Engineers (India) Thapar University Chapter on 26 October 2013.

### **Workshops / Short Term Courses / FDP Attended**

1. **Faculty Development Program** on “Effective Lecture Design and Delivery” organized by the Center of Academic Excellence & Planning, ITM University (Formerly Institute of Technology and Management), Gurgaon from July 6-19<sup>th</sup>, 2006 (4-days).
2. SPSS 17.0 **FDP** organized by SPSS South Asia and L M Thapar School of Management, Thapar University, Patiala on 30<sup>th</sup> and 31<sup>st</sup> Jan 2009.
3. **Prof. Summit** on “Embedded System Design using Atmel XMEGA XPLD A1 and ARM based SAM 4L” organized by Atmel India University Program at Thapar University, Patiala from 15-16 July, 2013.
4. **Workshop** on “Applications of MATLAB in Engineering” in the Department of Electronic and Communication Engineering, Thapar University, Patiala on 24-25 August, 2013.
5. TEQIP sponsored **Short Term Training Program** on “Basics and Application of Computational Fluid Dynamics” (BCFD-2013) organized by Mechanical Engineering Department, Thapar University, Patiala held on 30-31 August 2013.

6. TEQIP sponsored **Short Term Training Program** on “Hands on Training on Computational Fluid Dynamics” (CFD-2013) organized by Mechanical Engineering Department, Thapar University, Patiala held on 18-20 October 2013.
7. **Workshop** on “Introduction to MATLAB” organized by Institution of Engineers (India) and Thapar University, Patiala on 26-27 October, 2013
8. **NCM Workshop** on “Conservation Laws with Applications to Continuum Mechanics” organized by National Center of Mathematics and Department of Mathematics, Punjab University, Chandigarh on 2-7 December, 2014.
9. **Short Term Course** on “Dynamical Systems and Control” organized by IIT, Roorkee from June 29, 2015 to July 10, 2015.
10. **NCM Workshop** on “Partial Differential Equations of Fractional Order” organized by National Center of Mathematics and TIFR Centre for Applicable Mathematics, Bangalore on 6-18 July, 2015.

### **Books & Lab Manuals**

- **Rajesh Gupta**, “Symmetries and Exact Solutions for Nonlinear Systems: Variable Coefficients KdV and Boussinesq Systems”, Lambert Academic Publishing, April 2012, ISBN 978-3-8484-2756-7 (**PhD Thesis published in Book Form**)
- **Rajesh Gupta**, “Applied Numerical Methods Lab Manual” published through Department of Applied Sciences and Humanities, ITM, Gurgaon, 2006
- **Rajesh Gupta** and Naveen Adalakha, “Numerical Techniques Lab Manual” published through Department of Applied Sciences and Humanities, ITM, Gurgaon, 2006

### **Computer Skills**

- Mathematical Software- MAPLE and MATHEMATICA.
- Knowledge of C-language.

### **Reviewer**

#### **(International Journals)**

- Communication in Nonlinear Science and Numerical Simulation, Elsevier
- Journal of Franklin Institute, Elsevier
- Journal of Engineering Mathematics, Elsevier

- Canadian Journal of Physics, NRC Research Press
- Applied Mathematics and Computation, Elsevier

### **(Books)**

- Barnett R.A., Ziegler M.R. and Byleen K.E., Calculus for Business, Economics, Life Sciences and Social Sciences, 13<sup>th</sup> Edition, Pearson
- Ratti J.S. and Mcwaters M, College Algebra and Trigonometric, 3<sup>rd</sup> Edition, Pearson
- Demana F.D., Waits B.K., Foley G.D., Kennedy D. and Bock D.E., Precalculus Graphical Numerical Algebraic, Common Core Edition, Pearson

### **Research Interest**

- Nonlinear Partial Differential Equations
- Lie Group Theory, Exact Solutions & Symmetries for Nonlinear Systems
- Einstein Maxwell Field Equations & Equations from Mathematical Physics
- Conservation Laws for Nonlinear Systems

### **Teaching Interest**

- Numerical Methods
- Applied and Engineering Mathematics Courses
- Linear and Modern Algebra
- Differential Equations

### **Administrative Work:**

- Successfully organized the cultural fests Saturnalia-2010 and Saturnalia-2011 (Among Largest Cultural Fest of North India) at Thapar University as Faculty Advisor.
- Vice President of Mudra Society at Thapar University.
- Time-table Coordinator of SMCA, Thapar University (2011-12).
- Coordinator of Departmental Reports (UGC, NBA, NAAC etc.) at Thapar University (2012-13)(2013-2014).
- Finance Secretary of Senior Staff Club at Thapar University (2011 onwards)

- Website coordinator of department at ITM University, Gurgaon (2006-07).
- ISO-Coordinator of SMCA, Thapar University (2010-11).
- Student Counselor of SMCA, Thapar University (2012-13)
- Member Secretary of SPPC (School Planning and Policy Committee) of SMCA, Thapar University (2014-15)

Besides aforementioned administrative jobs, actively involved in many other departmental and institutional activities.

### Referees

- Dr. Karanjeet Singh (Supervisor, Ph.D.)  
Professor, Department of Mathematics  
Jaypee University of Information Technology, Wagnaghat  
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- Prof. K. K. Raina,  
Deputy Director & Distinguished Professor,  
Thapar University, Patiala  
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Ph. No.: (+91) - 9501113845  
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- Dr. V. D. Sharma,  
Professor, Department of Mathematics  
Indian Institute of Technology, Bombay  
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- Prof. S. S. Bhatia,  
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- Prof. Kuldip Bansal,  
Dean, Faculty of Science & Technology Interface  
Guru Jambheshwar University of Science and Technology,  
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### **Personal Profile**

Father's Name : Sh. Murari Lal  
Mother's Name : Smt. Santosh Devi  
Date of Birth : 12.02.1979  
Sex : Male  
Marital Status : Married (One daughter)

Permanent Address : Shiv Saree Center, V.P.O. - Ateli Mandi  
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**RAJESH KUMAR GUPTA**