

SATYA BIR SINGH
PROFESSOR

Department of Mathematics
Punjabi University, Patiala-147002, India
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Educational

- 2012** **M.B.A.**, Punjabi University, Patiala
Specialization: Marketing Management
- 2000** **Ph.D.**, University of Roorkee, Roorkee (Now I.I.T. Roorkee)
Thesis title: Flow Behaviour and Creep Deformation in Engineering Components of Composites
- 1993** **PGDCA**, Gurukul Kangri Vishwavidyalaya, Hardwar
Project title: Applications of Tree Structure
- 1992** **M.Phil.** (Applied Mathematics), University of Roorkee, Roorkee,
Dissertation: Methods of Solving Fractional Programming Problems
- 1990** **M.Sc.** in Mathematics, Aligarh Muslim University, Aligarh (Gold Medal for standing First position in University)

Scholarship, Awards and Medals:

- ◆ **National Merit Scholarship** since 1983-84 to 1987-88.
- ◆ **Departmental Merit Scholarship** during Master's Course.
- ◆ **Sir Ziauddin Gold Medal** for ranking first in M.Sc. (Mathematics) Examination at Aligarh Muslim University, Aligarh.
- ◆ **Khosla Gold Medal** for outstanding research for the session 2001-2002 from Indian Institute of Technology, Roorkee
- ◆ **Khosla Commendation Certificate** on a research paper for the session 2001-2002 from Indian Institute of Technology, Roorkee

Research/Teaching Experience:

- June 2011-Till date Professor, Dept. of Mathematics, Punjabi University, Patiala
- Dec 2009-June 2011 Associate Professor, Dept. of Mathematics, Punjabi University, Patiala
- Dec 2006-Dec 2009 Reader, Dept. of Mathematics, Punjabi University, Patiala
- Dec 2004-Dec 2006 Lecturer (SS), Dept. of Mathematics, Punjabi University, Patiala
- Dec 2001-Dec 2004 Lecturer (SS), SMCA, T.I.E.T., Patiala
- Dec 1997-Dec 2001 Lecturer, SMCA, T.I.E.T Patiala
- Aug 1997- Dec1997 Fellow A, Defence Research & Development Laboratory Project

Aug 1994- July 1997 Senior Research fellow in CSIR sponsored project at U.O.R. Roorkee
Aug 1993- Aug 1994 Research Assistant in MHRD Project at U.O.R. Roorkee

M.Phil. /Ph.D. Thesis Supervised:

Ph.D. Supervised

1. V.K. Gupta, Professor in Mechanical Engineering Department, U.C.O.E, Punjabi University, Patiala.
Topic: Modeling of Creep Behaviour of Rotating Discs of Composite Materials.
Status: Awarded.
2. Sanjeev Manchanda, Internationally renowned software developer
Topic: Knowledge Discovery in Databases Processing using Improved Data Mining Techniques.
Status: Awarded
3. Jasleen Kaur, Assistant Professor, Department of Mathematics, Punjabi University, Patiala.
Topic: Geometry of Indefinite Manifolds and Allied Structures
Status: Awarded
4. Minto Rattan, Assistant Professor, UIET, Punjab University, Chandigarh.
Topic: Mathematical Modelling of Creep in Rotating Discs of Composites and FGMs
Status: Awarded
5. Neeraj Chamoli, Assistant Professor, Department of Mathematics, D.A.V. College Chandigarh
Topic: Mathematical Modeling of Creep in Engineering Components of Composites
Status: Awarded
6. Ashok Pal, Associate Professor, Chanadigarh University, Gharuan, Mohali
Topic: Decision Making in Crisp and Fuzzy Environments using Particle Swarm Optimization
Status: Awarded
7. Mukhdeep Singh, Assistant Professor, Dept. of Mathematics, Punjabi University, Patiala
Topic: Congestion Control in Wireless Sensor Networks
Status: Awarded
8. Nishi Gupta, Project Fellow, Dept. of Mathematics, Punjabi University, Patiala
Topic: Modeling of Creep in Composite Structures subjected to Thermal Gradients
Status: Submitted
9. Vandana Gupta, Research Scholar, Dept. of Mathematics, Punjabi University, Patiala.
Topic: Modeling of Creep in a Composite Rotating Disc of Variable Thickness
Status: Awarded
10. Yogendra Kushwaha
Topic: Particle Swarm Optimisation: Design and Applications
Status: Ongoing

11. Narinder Singh, Senior Assistant, Punjabi University, Patiala
Topic: Development of New Algorithms in Particle Swarm Optimisation
Status: Awarded
12. Vibha Saihjal, Assistant Professor, Univ College, Chunni Kalan, Distt.-Fatehgarh Sahib
Topic: Development of Improved Algorithms for Project Scheduling Problems
Status: Submitted
13. Jatinder Kaur, Assistant Professor, RIEIT, Railmajra, Ropar
Topic: Elastic Plastic and Creep Transitional Stresses Problems in the Disc
Status: Awarded
14. Sharandeep Singh, Asstt. Professor (Contract), Department of Mathematics, Punjabi University, Patiala
Topic: Design of New Optimization Algorithms Based on Particle Swarm Optimisation
Status: Submitted
15. Shivdev Shahi, Department of Mathematics, Punjabi University, Patiala
Topic: Modeling the Deformation Behavior of Some Structural Components
Status: Registered

M.Phil. Supervised

1. Ms. Nishi Gupta
Topic: Some Problems of Composite Laminates
Status: Awarded
2. Ms. Tanveer Kaur
Topic: Mathematical Modeling with Differential equations
Status: Awarded
3. Ms. Ashu
Topic: On Some Applications of Difference Equations
Status: Awarded
4. Ms. Deva
Topic: Convex Sets and its Applications
Status: Awarded
5. Ms. Sunita
Topic: Numerical Solution of Partial Differential Equations
Status: Awarded
6. Mr. Vikas Sharma
Topic: Nonlinear Unconstrained Optimization Techniques
Status: Awarded
7. Mr. Narinder Singh
Topic: Methods for Solving Nonlinear Constrained Optimization Problems
Status: Awarded

8. Mr. Ramesh Chander
Topic: Some Algorithms for the Solution of Connector Problems
Status: Awarded

Invited Lectures Delivered:

1. **Delivered an Invited Talk on “Nature Inspired Techniques and Its Applications” in International Conference on Recent Advances in Theoretical and Computational Partial Differential Equations with Applications** held at UIET, Panjab University, Chandigarh from Dec 5-9, 2017.
2. **Delivered an Invited Talk on “Recent Trends in Optimization Techniques” in National Conference on Innovative Trends in Mathematical Sciences** held at Department of Mathematics, M.M. University, Mullana, Ambala on March 30, 2015.
3. **Delivered an Invited Talk on “Optimization Techniques: Algorithms and Applications” in International Conference on Modeling, Simulation and Optimizing Technques** held at D.A.V. College, Jalandhar from Feb 12-14, 2015.
4. **Delivered an Invited Talk on “Particle Swarm Optimization Techniques“ in National Conference on Advanced Mathematics and Its Applications** held at D.A.V. College, Bhatinda from Feb. 25-26, 2011.
5. **Delivered an Invited Talk on “An Overview of Particle Swarm Optimization” in National Conference on Advances in Mathematics and their Applications** held at Shri Varshney College Aligarh from Feb. 12-13, 2011.
6. **Delivered an Invited Talk on “Interpolation and Approximation” in a Short Term Training Program** held at Mechanical Engineering Department of T.I.E.T Patiala from July 5-16, 2004
7. **Delivered an Invited Talk on “Numerical Solutions of Differential Equations” Short Term Training Program** held at Mechanical Engineering Department of T.I.E.T Patiala from July 5-16, 2004
8. **Delivered an Invited Talk on “Linear System of Equations” in a Short Term Training Program** held at Mechanical Engineering Department of T.I.E.T Patiala from July 5-16, 2004
9. **Delivered an Invited Talk on “Error Analysis” in a Short Term Training Program** held at Mechanical Engineering Department of T.I.E.T Patiala from July 5-16, 2004

- 10. Delivered an Invited Talk on “Solution of Nonlinear Equations” in a Short Term Training Program** held at Mechanical Engineering Department of T.I.E.T Patiala from July 5-16, 2004
- 11. Delivered an Invited Talk on “Numerical Methods for Finding Eigen Values” in a Short Term Training Program held at** Mechanical Engineering Department of T.I.E.T Patiala from July 5-16, 2004

Book written:

Writing a book on Numerical Methods in Science and Engineering

Reviewing Work:

Worked as Reviewer for several Journals. Some of them are:

1. The Journal of Strain Analysis for Engineering Design, Sage Publisher
2. International Journal of Process Management and Benchmarking, Inderscience
3. Advances in Operator Theory
4. journal Differential Equations and Dynamical Systems, Elsevier
5. International Journal of Operational Research (IJOR)
6. Int. J. of Computer Aided Engineering and Technology
7. Mechanics of Time-Dependent Materials
8. International Journal of Thermal Sciences
9. Journal of Applied Research and Technology
10. Communications Faculty of Sciences University of Ankara Series A1 Mathematics and Statistics

Research/Sponsored Projects:

- 1. UGC minor project entitled “Anisotropy and Creep in a Rotating Disc made of Al-SiC Composite” (Completed).**
- 2. AICTE major research project “Mathematical Modeling of Multiaxial Creep in Functionally Gradient Materials (FGM)” under TAPTEC scheme (No. 8019/RDII/TAPTEC/MATERIAL (265)/2000--01/977 dated 25.01.2001, Amount Rs. 2.5 Lacs) (Completed).**
- 3. A project under RPS scheme entitled “Modeling of Creep in Functionally Graded Composite Rotating Disc” was sanctioned by AICTE in 2004 but returned back to AICTE as it **could not be transferred** from T.I.E.T., Patiala to Punjabi University, Patiala (No.8022/RID/NPROJ/RPS-63/2003-04).**

4. **Major Research Project** on “Mathematical Modeling of Multiaxial Creep in Composites and Functionally Gradient Materials” from UGC, New Delhi (No. 36-199/2008(SR) dated 26.03.2009, Amount: Rs 7,14,278/-) (Completed).
5. **Major Research Project** on “Elastic Plastic and Creep Analysis Problems in the Disc” from UGC, New Delhi (No. 43-438/2014(SR) dated 24.9.2015, Amount: Rs 14,50,000/-) (Ongoing).

Countries visited:

Year	Country
2001	Spain
2004	Malaysia
2007	Thailand

Conference/Workshop/Refresher Courses Organized:

- 1 **National Conference on Mathematical & Computer Applications in Science & Engineering** held at Thapar Institute of Engineering & Technology, Patiala-147 001 (Punjab) from Jan. 27-28, 2003.
- 2 **U. G. C. Refresher Course on Mathematics and Statistics** held at Academic Staff College, Punjabi University, Patiala from May 03-22, 2010.
- 3 **1st Punjabi University Science Congress & National Science Day Celebrations** held at Punjabi University, Patiala on February 28, 2011 (Member of Organizing Committee).
- 4 **U. G. C. Refresher Course on Mathematics and Statistics** held at Academic Staff College, Punjabi University, Patiala from Nov 27-Dec 17, 2012.
- 5 **National Seminar on Mathematics and Its Applications** held at Department of Mathematics, Punjabi University, Patiala on Dec. 20, 2012.

Fields of Interest:

- ◆ Mechanics of Composites
- ◆ Numerical Analysis
- ◆ Optimization Techniques

Membership of Learned Bodies:

- ◆ Life Member of Indian Mathematical Society (LM No.-1044)
- ◆ Life Member of Indian Society of Theoretical and Applied Mechanics (LM No.-5312)

- ◆ Life Member of Indian Society for Industrial and Applied Mathematics (LM No.-04)
- ◆ Life Member of Indian Society for Construction Materials and Structures (LM No.-528)
- ◆ Life Member of Indian Society for Continuing Education (LM No.-255)

Courses /Workshops/Conferences Attended:

1. **Specialist Course on Finite Element Methods in Non-Linear Mechanics**, held at Department of Civil Engineering, University of Roorkee, Roorkee from January 4-16, 1993.
2. **37th Congress of Indian Society of Theoretical and Applied Mechanics** held at G.B. Pant University of Agriculture & Technology Pantnagar from January 14-17, 1993.
3. **First Annual Conference of ISIAM (Indian Society of Industrial and Applied Mathematics)** held at Department of Mathematics, University of Roorkee, Roorkee from February 4-7, 1993
4. **National Seminar on Fibre Reinforced Cementitious Products** jointly organised by ICI-UPLC Roorkee and K.N.I.T. Sultanpur held at K.N.I.T. Sultanpur from January 28-29, 1994.
5. **Short term Course on Fundamental of Finite Element Methods** held at Continuing Education Department, University of Roorkee, Roorkee from 30.8.94 to 09.09.94.
6. **Conference on Mathematics and its Application in Engineering Industry** held in the Department of Mathematics, University of Roorkee, Roorkee from Dec. 16-18, 1996.
7. **Indo-US workshop on Problems in Elastic Vibrations, Smart Structures and their Solution Technologies (IUWEST)** held in the Department of Mathematics, University of Roorkee, Roorkee from Jan. 2-4, 2001.
8. **International Conference on Mathematical Modeling** held in the Department of Mathematics, University of Roorkee, Roorkee from Jan. 29-31, 2001.
9. **Conference on Emerging Trends in Mathematics** held at Department of Mathematics, Aligarh Muslim University, Aligarh from March 24-26, 2001.
10. **National Conference on Engineering Mathematics** held at Department of Mathematics, Institute of Engineering and Technology, Bhaddal (Ropar) on April 7, 2001.
11. **First TIET Foresight Symposium on R & D Challenges Before Indian Industry-Time to Look at Our Universities** held at Thapar Institute of Engineering and Technology, Patiala from May 19-20, 2001.
12. **Short Term Course on Techniques for Improving Classroom Teaching** held at Q.I.P. Center, University of Roorkee, Roorkee-247 667 from June 13-27, 2001.
13. **International Conference on Advances in Materials and Processing Technologies** held at Universidad Carlos III de Madrid, Leganes, Madrid (Spain) from Sept. 18-21, 2001.
14. **Fifteenth National Convention of Metallurgical and Materials Engineers and National Seminar on Advances in Materials & Processing** held at Department of Metallurgical and Materials Engineering, Indian Institute of Technology, Roorkee, Nov. 9-10, 2001.

15. **National Conference on Mathematical and Statistical Techniques** held at School of Basic & Applied Sciences, Thapar Institute of Engineering and Technology, Patiala-147 004 (Punjab) from Dec. 6-8, 2001.
16. **5th Punjab Science Congress on Science and Technology in New Millennium** held at Thapar Institute of Engineering & Technology, Patiala-147 001 (Punjab) from Feb. 7-9, 2002.
17. **Short Term Course on Effective Communication and Presentation Skills** held at Thapar Institute of Engineering & Technology, Patiala-147 001 (Punjab) from June 6-8, 2002.
18. **National Conference on Mathematical & Computer Applications in Science & Engineering** held at Thapar Institute of Engineering & Technology, Patiala-147 001 (Punjab) from Jan. 27-28, 2003.
19. **UGC Sponsored Refresher Course on Computational Mathematics** held at Thapar Institute of Engineering & Technology, Patiala-147 001 (Punjab) from Dec 12-31, 2005.
20. **UGC Sponsored Orientation Course** held at Aligarh Muslim University, Aligarh-202002 (U.P.) from May 17-June 13, 2006.
21. **UGC Refresher Course on Mathematics** held at Jamia Millia Islamia, New Delhi from Nov 7-27, 2006.
22. **International Seminar on Cyber Terrosim Concept and Remedies** held at Punjabi university, Patiala on February 22-23, 2007.
23. **The 8th International Conference on Fixed Point Theory and Its Applications** held at Department of Mathematics, Chiang Mai University, Chiang Mai (Thailand) July 16-22, 2007.
24. **National Conference on Modern Development in Engineering & Science** held at Ambala College of Engineering & Applied Research from February 27-28, 2009.
25. **National Conference on Advances in Mathematics and their Applications** held at Shri Varshney College Aligarh from Feb. 12-13, 2011.
26. **National Conference on Impact of Management and Technological Advancements in Technical Education and Industrial Sector** held at J.S.S. Institute of Engineering and Technology, Kauli, Patiala from Feb. 18-19, 2011.
27. **National Conference on Advanced Mathematics and Its Applications** held at D.A.V. College, Bhatinda from Feb. 25-26, 2011.
28. **International Conference on Mechanical and Aerospace Engineering** held at SRM University, NCR Campus, Modinagar from March 21-23, 2011.
29. **International Conference on Emerging Research in Computing, Information Communication and Applications (ERCICA-2013)** held at Nitte Minakshi Institute of Technology, Bangalore from July 31-Aug 2, 2013.

30. **National Conference on Innovative Trends in Mathematical Sciences** held at Department of Mathematics, M.M. University, Mullana, Ambala on March 30, 2015.
31. **International Conference on Modeling, Simulation and Optimizing Techniques** held at D.A.V. College, Jalandhar from Feb 12-14, 2015.
32. **International Conference on Recent Advances in Theoretical and Computational Partial Differential Equations with Applications** held at UIET, Panjab University, Chandigarh from Dec 5-9, 2017.
33. **International Conference on Advances in Mathematical Sciences - 2015** held at GSSDGS Khalsa College, Patiala, Punjab from March 19 to March 21, 2015.

Research Experience:

1. Worked on Fractional Programming Problems in **M.Phil. Dissertation** from January 1991 to March 1992.
2. Worked in MHRD Project entitled "**Analytical & Experimental Studies on static and dynamic Problems of Composite Materials**" as a Research Assistant w.e.f. 01.08.93 to 15.08.94.
3. Worked as Senior Research Fellow in a CSIR Project entitled "**Modeling of Mechanical Behaviour of Ferrocement Composite for Low Cost Structures**" since 16.08.94 to 31.7.97.
4. Worked as Fellow 'A' in a DRDL Project entitled "**Analysis of Polar Back Scattering from Defects in Laminated Composites**" since 01.08.97 to 23.12.97.

Teaching Experience:

- Working as Professor in Department of Mathematics, Punjabi University, Patiala-147 002 since June 17th, 2011 till date.
- Worked as Associate Professor in Department of Mathematics, Punjabi University, Patiala-147 002 since Dec. 2009 to June, 2011.
- Worked as Reader in Department of Mathematics, Punjabi University, Patiala-147 002 since Dec. 24. 2006 to Dec, 2009.
- Worked as Lecturer (Senior Scale) in Department of Mathematics, Punjabi University, Patiala-147 002 since Dec. 03, 2004 to Dec. 23. 2006.
- Worked as Lecturer (Senior Scale) in School of Mathematics & Computer Applications, Thapar Institute of Engg. & Tech., Patiala-147 004 since Dec. 24, 2001 to Dec 03, 2004.

- Worked as Lecturer in School of Basic and Applied Sciences, Thapar Institute of Engg. & Tech., Patiala-147 004 from Dec. 24, 1997 to Dec. 23, 2001.
- About four years Experience of taking B.E., M.E. and M.Phil. Classes as leave arrangement at University of Roorkee, Roorkee-247 667.

Co Curricular Activities:

- ◆ **Chairman, Board of Studies (Under Graduate and Post Graduate)** Department of Mathematics, Punjabi University, Patiala from Dec. 2009-Dec 2012.
- ◆ **Chairman, Academic Council of Department,** Department of Mathematics, Punjabi University, Patiala from Dec. 2009-Dec 2012.
- ◆ **Member, Board of Studies (Under Graduate and Post Graduate)** Department of Mathematics, Punjabi University, Patiala since session 2008-09 till date.
- ◆ **Member, Board of Studies (Under Graduate and Post Graduate)** Department of Mathematics, Punjabi University, Patiala for the session 2007-08 till date.
- ◆ **Member, Academic Council of Department,** Department of Mathematics, Punjabi University, Patiala for the session 2007-08.
- ◆ **Member, Academic Council of Department,** Department of Mathematics, Punjabi University, Patiala for the session 2006-07.
- ◆ **Member, Board of Studies (Post Graduate)** Department of Mathematics, Punjabi University, Patiala for the session 2006-07.
- ◆ **In charge, Library Affairs,** School of Mathematics and Computer Applications since Jan 2004 till date.
- ◆ **Coordinator, ISO-9000** for School of Mathematics and Computer Applications since Jan.-Dec., 2003.
- ◆ **Joint Secretary** of Aligarh Mathematical Society for the session 1988-89.
- ◆ **Senate Councilor** in RUSA (Roorkee University Students Association) for the session 1990-91.

Referees:

Professor Subrata Ray
 Department of Metallurgical & Materials Engg.
 I.I.T. Roorkee-247 667 (Uttaranchal)
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Professor M.A. Quadri
 Department of Mathematics
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(Retd from IIT Roorkee)
12/1, Doon Vihar, Jakhan
Rajpur Road, D.Dun
Email: bhatnagar35@rediffmail.com

Details of Published Research Work:

(a) International Journals/Proceedings

1. **Singh, N. and Singh, S.B.**, “ECDMPSO: A Modified MPSO Technique Using Exponential Cumulative Distribution”, Intelligent Communication and Computational Technologies, Lecture Notes in Networks and Systems, Springer, vol. 19, pp. 269-285, 2017.
2. **Singh, N. and Singh, S.B.**, “A Modified Variant of Grey Wolf Optimizer”, Journal of Applied Probability”, Under Review, 2017.
3. **Singh, N. and Singh, S.B.**, “A Modified Mean Gray Wolf Optimization Approach for Benchmark and Biomedical Problems”, Evolutionary Bioinformatics, Sage Publisher, UK, vol. 13, pp.1-28, 2017.
4. **Singh, N., Singh, S., Singh, S.B.**, “A New Hybrid MGBPSO+GSA Variant for improving the Function Optimization Solution in Search Space” Evolutionary Bioinformatics, Sage Publisher, UK, vol. 13, pp. 1-13, 2017.
5. **Singh, N., Singh, S., Singh, S.B. (2016)**, “Hybrid Algorithm of Particle Swarm Optimization and Grey Wolf Optimizer for Improving Convergence Performance”, Accepted in Journal of Applied Mathematics, Hindawi Publisher, 2017.
6. **Singh, N. and Singh, S.B. (2016)** “Solution of Economic Dispatch Problem by a MSPSO”, Communicated to the Journal of Information and Optimization Sciences, **Taylor & Francis** (under review).
7. **S. Singh, N. Singh & S.B. Singh (2016)** “On a Hybrid Particle Swarm Optimization Algorithm”, International Journal of Advanced and Applied Sciences, Vol. 3(12), pp. 96-105, Thomson Reuters (Master list).
8. **S. Singh, N. Singh & S.B. Singh (2016)**, “Improve Particle Swarm Optimization Algorithm based on Particle Confidence Performance”, International Journal of Advanced Computing, ISSN: 2051-0845, Vol.49 (1), pp. 1693-1708.

9. **Jatinder Kaur, Pankaj Thakur and S.B. Singh (2015)**, Steady thermal stresses in a thin rotating disc of infinitesimal deformation with edge loading, accepted for publication **Journal of Solid Mechanics, Iran**, Vol. 7, No. 2, ISSN: 2008- 3505 (SCI Image).
10. **Pankaj Thakur, S. B. Singh, Jatinder Kaur (2015)**, Mathematical Model in a thin Non-Homogeneous Rotating disc for isotropic material with rigid shaft by using Seth's Transition theory, **Kragujevac Journal of Science, Serbia**, Vol. 37, ISSN: 1450-9636, Impact Factor: 0.767 (Zoological Record, Serbian Citation Index, **Thomson Reuters master journal list**).
11. **Jatinder Kaur, Pankaj Thakur and S.B. Singh (2015)**, Creep transition stresses in a thin rotating disc with shaft by infinitesimal deformation under steady state temperature accepted for publication **Kragujevac Journal of Science, Serbia**, Vol. 37, ISSN: 1450-9636, Impact Factor: 0.767 (Zoological Record, Serbian Citation Index, **Thomson Reuters master journal list**).
12. **Pankaj Thakur, S. B. Singh, Jatinder Kaur (2014)**, Elastic-plastic transitional stress in a thin rotating disc with shaft having variable thickness under steady state temperature, **Kragujevac Journal of Science, Serbia**, Vol. 36, pp. 5-17,ISSN: 1450-9636,(Zoological Record, Serbian Citation Index, **Thomson Reuters master journal list**).
13. **Pankaj Thakur,S. B. Singh, Jatinder Kaur (2013)**, Thickness variation parameter in thin rotating disc, **FME Transaction**, Vol. 41, No. 2, pp. 96-102, 2013, ISSN: 1451-2092 (SCI Image, Serbian Citation Index).
14. **V. Gupta and S.B. Singh (2014)**, "Effect of anisotropy on creep behavior in a functionally graded material disc of variable thickness", **International Journal of Computational Materials Science and Engineering**, Vol. 03, No. 03.
15. **Ashok Pal, S.B. Singh and Kusum Deep (2014)**, "A Modified Particle Swarm Optimization Algorithm for Function Optimization" **V International Journal of Research**, Vol 5, Issue 2 (Paper ID: VIJR_2014_40).
16. **Ashok Pal, S.B. Singh and Kusum Deep (2013)**, 'Solution of Fractional Programming Problems using PSO Algorithm', **IEEE Xplore Digital Library**, pp. 1060-1064, Jan. 2013.

17. **Neeraj Chamoli, Minto Rattan, S. B. Singh and Nishi Gupta (2013)**, "Creep Behavior of Anisotropic Functionally Graded Rotating Discs", *International Journal of Computational Materials Science and Engineering*, Imperial College Press, Vol 2, No. 1.
18. **V. Gupta and S.B. Singh (2013)**, "Effect of residual stress and reinforcement geometry in an anisotropic composite rotating disc having varying thickness", **International Journal of Computational Materials Science and Engineering**, (In Press).
19. **Pankaj Thakur, S. B. Singh, Jatinder Kaur (2013)**, Thickness variation parameter in thin rotating disc accepted for publication *FEM Transaction*, Vol. 41, No. 2, ISSN: 1451-2092, pp. 96-102, **Impact factor 0.905**.
20. **Pankaj Thakur, S.B. Singh, Jatinder Kaur (2013)**, Effect of Stresses in a thin Rotating disk Loading Edge for different materials accepted for publication **International Journal for Technology of Plasticity, Serbia, Vol. 38, No. 1, ISSN: 0354-3870, Impact factor 0.286**.
21. **Pankaj Thakur, S.B. Singh, Jatinder Kaur (2013)**, Analysis of Non-Homogeneity effect in a thin rotating disc with rigid shaft send for publication **International Journal for Technology of Plasticity, Serbia, Vol. 38, No. 2, ISSN: 0354-3870, Impact factor 0.286**.
22. **Pankaj Thakur, S.B. Singh, Jatinder Kaur (2012)**, Analysis of Stresses in Rotating Disc for different Material accepted for publication *Journal of Mining and Metallurgy, Section B: Metallurgy, Serbia, Elsevier Bibliographic Database, ISSN: 0976-6146, Impact Factor: 1.4*.
23. **Pankaj Thakur, S. B. Singh, Jatinder Kaur (2012)**, Steady Thermal stresses in a rotating disk with shaft having density variation parameter subjected to thermal load send for publication *Thermal Science*, Vinča Institute of Nuclear Sciences, Belgrade, Serbia, **ISSN: 0354-9836, Impact factor: 1.20**.
24. **Pankaj Thakur, S. B. Singh, Jatinder Kaur (2013)**, Elastic-plastic transitional stress in a thin rotating disc with shaft having variable thickness under steady state temperature, send for publication *International Journal Integritet i vek konstrukcija, Serbia , ISSN:1451-3749 (štampano izdanje) (printed edition),EISSN:1820-7863, Impact factor 0.342*.

25. **V. Gupta and S.B. Singh (2013)**, “Mathematical Model of Creep Behavior in a Rotating Composite Disc Having Linearly Varying Thickness”, **International Journal of Physical and Mathematical Sciences**, 4(1), 332-338.
26. **Narinder Singh and S.B. Singh (2013)** “Triple Hybrid of Particle Swarm Optimization Algorithm”, Proceeding in ERCICA: Emerging Research in Computing, Information, Communication and Applications, Elsevier, ISBN: 9789351071020, pp.508-515.
27. **Narinder Singh and S.B. Singh (2013)** “A Modified Approach of Standard Particle Swarm Optimization Algorithm”, **International Journal of Applied Mathematics**, ISSN:2051-5227, vol. 28(1), pp. 1115-1125, **Recent Science Publisher, United Kingdom.****(Impact Factor: 2.072)**
28. **Narinder Singh and S.B. Singh (2013)** “A New Modified Approach of Mean Particle Swarm Optimization Algorithm”, Proceeding in Computational Intelligence and Communication Networks (CICN), **IEEE Xplore digital Library/9.1109/CICN.2013.68**, ISBN 978-0-7685-5069-5, pp. 296-300.
29. **V. Gupta and S.B. Singh (2012)**, “Influence of Anisotropy on Creep in an Anisotropic Composite Rotating Disc with Non-Linearly Varying Thickness”, **Multidiscipline Modeling in Materials and Structures**, (In Press).
30. **Vishal Gupta, Ashima Kanwar and S.B Singh (2012)**, A Fixed Point Theorem for n Mappings on n Metric Spaces, **International Journal of Emerging Trends in Engineering and Development**, Issue 2, Vol.1 (Jan-2012) ISSN 2249-6149.
31. **V. Gupta and S.B. Singh (2012)**, “Creep Modeling in a Composite Rotating Disc with Thickness Variation in Presence of Residual Stress”, **International Journal of Mathematics and Mathematical Sciences**, Volume 2012, Article ID 924921, 14 pages, doi:10.1155/2012/924921.
32. **Vishal Gupta, S. B. Singh and Ravinder Kumar (2012)**, Some Fixed Point Theorems in 2-Metric Spaces, **Advances in Applied Science Research**, 3 (5):2807-2814, ISSN: 0976-8610 (Available online at www.pelagiaresearchlibrary.com)

33. **V. Gupta and S.B. Singh (2012)**, “Mathematical Model of Creep Behavior in an Anisotropic Rotating Disc of Al-SiC_p with Thickness Variation in Presence of Thermal Residual Stress”, **International Journal of Mechanical Engineering and Technology (IJMET)**, 3(2), 274-283.
34. **V. Gupta and S.B. Singh (2012)**, “Creep Analysis of an Isotropic Rotating Composite Disc having Hyperbolically Varying Thickness”, **International Journal of Mathematical Sciences**, Vol. 11, No. 3-4, 227-235.
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