

CURRICULUM VITAE

Name Dr. Pramod Kumar Gupta

Present Position Assistant Professor

Present Address (Office) Civil Engineering deptt.,
Indian Institute of Technology, Roorkee, (Uttarakhand)
INDIA 247667. Email: pkgupfce@iitr.ernet.in,
spramod_3@yahoo.com

Area of Research Use of Concrete filled tubes as columns,
Improvement of earthquake resistance properties of
columns and beams,
FEA of large deformations (Structural Plasticity).

Details of educational qualifications

<i>Examination Passed</i>	<i>Institute/Board/University</i>	<i>Year of Passing</i>	<i>CGPA/Percentage & Division</i>	<i>Subjects/Special-ization</i>	<i>Remark</i>
Ph.D.	I.I.T. Delhi (INDIA)	Sept. 2000	8.42 (CGPA)	Structural Mechanics	-
M. E.	Govt. Engg.College Jabalpur (M P)	1992	77.85% (Ist)	Structural Engineering	Second position in University
B. E.	Govt. Engg. College Bilaspur (M P)	1988	79.5%(Hons) (Ist)	Civil Engineering	Eighth position in University

Ph. D. Thesis Topic An investigation into large deformation behaviour of metallic tubes.

Details of experience

Teaching/Research 14 years at both PG and UG level
Field/Consultancy 2.5 years

Details of the research publications during past five years:

(a) Published in Journals International: 14 National: 03
(b) Published in Conferences International: 12 National: 19

Ph.D. thesis supervised One (Singly guided)
“Application of Parallel Computing in Finite Element Analysis of Two-Dimensional Small and Large Deformations” by Rajendra Narayan Khapre ID. No. 1999PH02409.

Ph. D. thesis evaluated One
“Application of Parallel and Distributed Processing in Structural Engineering” by Paresb Vardhmandas Patel submitted to Applied Mechanics department, faculty of technology and Engineering The Maharaja Sayajirao University of Baroda, Vadodara, Gujrat. Sept.2005.

M. E., Dissertation supervised fifteen + three (in progress)
B. E., Dissertation supervised four + (in progress)

Details of the sponsored projects completed in past five years

1. **Computer simulation of large deformation process.** Funded by Center for Development of Advanced Computing, (C-DAC) Pune INDIA **(Completed)**. In this project a computer code has been developed on the Platform of Supercomputer PARAM 10,000 for the analysis of large deformation process using Finite Element Method.
2. **Experimental and computational study of large deformations in metallic shells.** Funded by Ministry of Higher education and research **(In progress)**. In this project study of mechanics of deformation of metallic shells shall be carried out.
3. Improvement of earthquake resistance capacity of circular columns **(In progress)**. Funded by Building Materials & Technology Promotion Council (BMTPC), New Delhi.
4. **Numerical & experimental analysis of influence of boundary conditions on deformation of metal plates impacted by projectile (In progress).** This is an International project between India and Russia funded by Department of Science and Technology, New Delhi. **In this project one post of Senior Research Fellow is vacant and available for a deserving candidate. Interested candidate can contact to me.**

Reviewer of Research Papers of International Journals:

1. Journal of Material Processing Technology
2. International Journal of Mechanics and Materials in Design,
3. International Journal of Parallel and Distributed Computing
4. Journal of Zhejiang University Science A

Details of the research publications:

(a) Published in Journals

International:

1. Gupta N. K., Sekhon, G. S. and Gupta P. K. "A study of fold formation in axisymmetric axial collapse of round tubes", International Journal of Impact Engineering, 27 (2002), pp. 87-117. **(Impact factor (IF) = 1.195), Total Citation 6**
2. Gupta N. K., Sekhon, G. S. and Gupta P. K. "A study of lateral collapse of square and rectangular metallic tubes", International Journal of Thin-Walled structures, 39 (2001), pp. 745-772. **(IF = 0.694), Total Citation 2**
3. Sekhon, G. S., Gupta N. K. and Gupta P. K. "An analysis of external inversion of round tubes", International Journal of Materials Processing Technology, 133 (2003) pp 243-256. **(IF = 0.615), Total Citation 16**
4. Gupta N. K., Sekhon, G. S. and Gupta P. K. "Study of lateral compression of round metallic tubes", International Journal of Thin-Walled structures, 43 (2005) pp 895-922. **(IF = 0.694), Total Citation 4**
5. Gupta P. K. and Gupta N. K. "Multiple barrelling in axial compression of cylindrical tubes ", Latin American Journal of Solids and Structures, 2 (2005) pp 195-217.
6. Gupta P. K. and Khapre R. N., "Finite Element Analysis of metal forming problems using parallel computing technique" International Journal for Computational

- Methods in Engineering Sciences & Mechanics 7:1-11, (2006). **(IF = 1.102), Total Citation 2**
7. Gupta P. K. and Gupta N. K. "Computational and experimental studies of crushing of metallic hemispherical shells" Archive of Applied Mechanics (2006) 76: 511–524. **(IF = 0.5), Total Citation 1**
 8. Gupta P. K. and Gupta N. K. "An experimental and computational study of crushing of metallic hemispherical shells between two rigid flat platens" Journal of Strain Analysis for Engg. Design Vol. 41, No. 6, (2006) pp 453-466. **(IF = 0.409), Total Citation 1**
 9. Gupta P. K., Sarda S. M. and Sampath Kumar M. "Experimental and Computational study of Concrete filled round tubular columns under axial loads" Journal of Construction Steel research-An International Journal, 63 (2007) 182–193. **(I F = 0.7, 2006), Total Citation 6**
 10. Gupta P. K. and Khapre R. N., "Finite Element Analysis of Anchorage Zone Using Supercomputer" Asian Journal of Civil Engineers 9, No 1 (2007) 31–43..
 11. Gupta P. K. "A study of axial compression of metallic thin walled conical shells", International Journal of Thin-Walled structures, 46 (2008) pp 561-571.
 12. Gupta P. K. and Gupta N. K. "A study of axial compression of metallic hemispherical domes" International Journal of Materials Processing Technology, 209 (2009) pp 2175-2179.
 13. A. Chakrabarti, P.K. Gupta, S. Chakraborty and K. G. Babu "Modeling of Delamination in FRP Laminated Composites" AMSE periodicals on Modelling, Measurement and Control (Series B: Mechanics and Thermics), Accepted.
 14. Gupta P. K. Singh K. K. and Mishra A "Parametric Study on Behaviour of Box-girder Bridges Using Finite Element Method" accepted in Asian Journal of Civil Engineers
 15. Gupta P. K., Prasad J and Singh Y C "Experimental study on axial compression of concrete filled steel tubular short columns" Communicated to Thin-Walled Structures

National:

16. Gupta P. K. and Khapre R. N. "An Efficient Parallel Solver using Matrix Inversion Method for Linear and Non-linear Finite Element Problems", Journal of The Institution of Engineers (India) Vol 86 (May 2005) pp 44-48. **Total Citation 4**
17. Gupta P. K., Gupta N. K. and Sekhon G. S. "Finite element analysis of collapse of metallic tubes" Defense Science Journal (May 2008) pp 44-48. **(I F = 0.172).**
18. Gupta P. K. and Khapre R. N., "Analysis of anchorage zone by finite element method on windows NT Cluster" The Icfai University Journal of Structural Engineering, Vol. II, No. 3, pp. 7-25, July 2009.

(b) Published/Communicated in Conferences/Symposiums

International:

1. Gupta P. K., Gupta N. K. and Sekhon, G. S. "Experimental and computational investigation of lateral compression of round metallic tubes", published in International Conference on Mathematical modelling of non-linear systems held in Dec. 2000 at Indian Institute of Technology Kharagpur INDIA, pp 251-258.

2. Gupta N. K., Gupta P. K. and Sekhon, G. S. "Investigation of lateral compression of metallic tubes", published in 44th Indian Society for Theoretical and Applied Mechanics Congress- An International Meet Sivakashi INDIA, pp. 121-128.
3. Gupta P. K., Gupta N. K. and Sekhon G. S., "A Study of Large Deformation Behaviour of Square and Rectangular Metallic Tubes Subjected to Lateral Compression", published in International Conference on Advances in Civil Engineering (ACE2002) held between 3-5 January 2002 at Indian Institute of Technology Kharagpur, INDIA pp 1201-1210.
4. Gupta P. K., Sekhon G. S. and Gupta N. K., "Finite Element Simulation of External Inversion of a Round Tube", published in International Conference on Advances in Civil Engineering (ACE2002) held between 3-5 January 2002 at Indian Institute of Technology Kharagpur, INDIA, pp 1290-1298.
5. Gupta P. K., Sekhon G. S. and Gupta N. K., "A Study of Collapse of Metallic Tubes in context of Energy Absorbing Devices", published in Symposium on Large Deformation (ON 60th Birthday of Professor Narinder Kumar Gupta) held on 1st September at Indian International Centre Delhi, INDIA pp 7-8.
6. Gupta P. K., Gupta N. K. and Sekhon G. S., "Study of Lateral compression of Square and Rectangular Metallic Tubes", published in Plasticity and Impact mechanics Proceedings of 8th International Symposium on IMPLAST2003 held between 16-19 March 2003 at Indian Institute of Technology Delhi, INDIA pp 519-527.
7. Gupta P. K. and Khapre R. N., "Finite Element Analysis of Anchorage Zone Using Supercomputer PARAM 10000" Structural Engineering Convention (SEC 2003) - 12-14th December 2003 held at IIT Kharagpur, INDIA pp. 465-475.
8. Gupta P. K. and Khapre R. N., "Comparative study of solution methods of system of linear equations on Super Computers" Structural Engineering Convention (SEC 2003) - 12-14th December 2003 held at IIT Kharagpur, INDIA pp. 522-530.
9. Gupta P. K. and Khapre R. N., "An application of cluster computing for finite element analysis" published in the proceedings (in CD) of Structural Engineering Convention (SEC 2005), held at Indian Institute of Science Bangalore 14th-16th December 2005.
10. Gupta P. K., Sekhon G. S. and Gupta N. K., "Collapse Behaviour Of Metallic Tubes In Context Of Energy Absorbing Devices" published in the proceedings (in CD) of Structural Engineering Convention (SEC 2005), held at Indian Institute of Science Bangalore 14th-16th December 2005.
11. Gupta P. K. and Khapre R. N., "Finite Element Simulation of Nosing of Metallic Circular Tubes" International congress on Computational Mechanics and Simulations (ICCMS 06) - 8-10th December 2006 held at IIT Guwahati, INDIA pp. 893-898.
12. Gupta P. K., Sekhon G. S. and Gupta N. K., "Effect of increasing plate thickness on its mechanics of deformation under projectile impact", published in Plasticity and Impact mechanics 9th International Symposium (IMPLAST'07), which was held in August 2007 at Ruhr-University Bochum, Germany.

National:

13. Gupta P. K., Gupta N. K. and Sekhon, G. S., "A study of axial collapse of round tubes" published in 11th ISME, Conference 3-5 Feb. 1999, IIT, Delhi, pp 416-424.
14. Sekhon, G. S., Gupta N. K., and Gupta P. K., "Study of Axi-symmetric multiple barrelling mode of collapse of a round tube subjected to axial compression" published in 12th Indian Society of Mechanical Engineers Conference held on Jan. 2001 at Crescent Engineering College Chennai, INDIA, pp 208-216.

15. Gupta P. K., Khapre R. N. "Study of Anchorage zone in Post-tensioned Concrete Beams Using Finite Element Method", published in National Conference on Advances in Civil Engineering Perspectives of Developing Countries (ACEDEC-2003) held in 15-16 Feb. 2003 at H. B. T. I. Kanpur pp 122-131.
16. Gupta P. K., Nandha S. R. K., Bharatwaj V., Shriram R. and Mishra P. K., "Behavior of tubular metallic composite columns filled with concrete made up of recycled aggregate" Second conference on disaster management case histories, 14-16 Nov. 2003, held at Birla Institute of Technology and Science Pilani, INDIA
17. Gupta P. K. and Khapre R. N., Sinhal A. A., Veerabhadram C. V. "Information technology in disaster management: Tools and applications" Second conference on disaster management case histories, 14-16 Nov. 2003, held at Birla Institute of Technology and Science Pilani, INDIA.
18. Gupta P. K., Sekhon, G. S. and Gupta N. K., "Study of projectile Impact on Metallic Plates" published in 13th ISME, Conference 30-31 Dec. 2003, IIT, Roorkee Proceedings was published in CD Rom.
19. Gupta P. K., Mishra J. P., Khapre R. N. and Jain P. K. "Comparison of C and FORTRAN 77 Languages based on their performance on PARAM 10000", published in National Conference on Distributed Computing (NCDC-2004) held in 6-7 March 2004 at NMAM Institute of Technology Udupi Karnataka, pp 33-42.
20. Gupta P. K., Khapre R. N. and Sinhal A., "Analysis of Splitting Zone in Prestressed Post-tensioned Concrete Beam Using Supercomputer PARAM 10000" Structural Engineering and Mechanics (SEM-04)- 24-25 September 2005 held at BITS Pilani, pp 167-172.
21. Gupta P. K. and Gupta N. K. and Sekhon G. S., "A Study Of Collapse Of Metallic Tubes In Context Of Energy Absorbing Devices" published in the proceedings (in CD) of Indian Society of Mechanical Engineers conference held at Delhi College of Engineering, Delhi 12th-14th December 2005, paper no. 300.
22. Gupta P. K. and Khapre R. N., "Simulation of lateral compression of rectangular tubes on supercomputer PARAM 10000" published in the proceedings of National Conference on "Advances in Mechanical Engineering" (AIME-2006) which was held at Jamia Millia Islamia, New Delhi, January 20-21, 2006.
23. Gupta P. K. and K Marttand., "Cost comparison of RCC columns and concrete filled tubes" published in the proceedings of the National Conference on "Earthquake Disaster: Technology and Management"-2006 which was held at Motilal Nehru National Institute of Technology, Allahabad, February 11-12, 2006, pp VI22-24.
24. Khapre R. N. and Gupta P. K. "Simulation of Axial compression of Round Metallic Tube on Supercomputer PARAM 10000" published in the proceedings of Fourth National Seminar on Aerospace Structures (XIV NASAS) held at Visvesvaraya National Institute of Technology, Nagpur 30-31 January 2006, pp 447-453.
25. Gupta P. K. and Khapre R. N. "Finite Element Modeling of circular tube subjected to axial compression between Flat and curved surface dies" published in the proceedings (in CD, paper No. RP22) of National Conference on Rapid Prototyping Applications held at Visvesvaraya National Institute of Technology, Nagpur 10-11 March 2006, pp 47.
26. Gupta P. K., Sarda S. M. and Sampath Kumar M "Concrete filled long columns subjected to axial loads" Proceedings of the National Conference on High-Rise Buildings: Materials and Practices, held at New Delhi 30-31 Oct. 2006, pp 353-361.
27. Singh K K, Gupta P K and Shivaria A "Analysis of skew slab railway bridges" accepted in National symposium on "Recent Advances and future trends in design and construction of bridges" to be held at Hyderabad in April, 2008.

28. Gupta P K, Singh K K and Mishra A “Parametric study of Box-girder Bridge using Finite Element Method” accepted in National symposium on " Recent Advances and future trends in design and construction of bridges" to be held at Hyderabad in April, 2008.
29. Gupta P. K., Prasad J and Singh Y C “Experimental studies on concrete filled steel tubular short columns under concentric loading” published in Structural Engineering Convention held at IIT Chennai in Dec. 2008.
30. Gupta P K “An investigation into large deformation behaviour of metallic shells subjected to axial compression” delivered as keynote lecture in National Conference on Technological advances in Civil Engineering (BITCON2008) held between Nov. 7-8, 2008 at Bhilai Institute of Technology Durg (MP).

Details of the theses supervised*

Name of the Student	Thesis Title	Year	Co-supervisor
Ph. D.			
Rajendra N Khapre	Application of Parallel Computing in Finite Element Analysis of Two-Dimensional Small and Large Deformations	May 2006	Nil
M. E./M. Tech.			
L Jaideep	Study of large deformations using Finite Element Method	Dec. 2001	Nil
Kiran Kumar Reddy C	Finite element analysis (FEA) in plasticity problems of energy absorbing devices	Dec 2002	Nil
Sunil C Kalepu	Automatic mesh generation for plane problems	Dec 2002	Nil
C H V Veerabhadram	Study of Stresses and Strains in Plastic regions	May 2004	Nil
M Sampath Kumar	Experimental and Computational Study of CFT using Self Compacting Concrete	May 2005	Nil
Sunil M Sarda	Experimental and Computational Study of CFT using High Performance Concrete	May 2005	Nil
M. D. Noman	Parametric studies of Intze tank	May 2007	Vipul Prakash
T N Gupta	CAD package for design of column and its footings	May 2007	V K Gupta
K G babu	Mathematical modeling of delamination in composite plates	May 2007	S Chakraborty
Anil Mishra	Finite Element analysis of box girder bridges	May 2007	K K Singh
Sharad Sharma	Seismic soil-structure interaction in building on hilly slopes	May 2008	A D Pandey
Y C Singh	Studies in steel encased RC columns	May 2008	J Prasad

Pravin S Agashe	Flexural behavior of concrete filled tubes	May 2008	Nil
Pardeep Singh	Parametric study of concrete filled tubular columns	May 2009	Nil
Vishal S Deore	Finite Element Investigation of behavior of spaced plates subjected to projectile impact	May 2009	M A Iqbal
B.E.			
Balavenkatesh G	Energy absorbing capacity of metallic devices using ANSYS	May 2003	Nil

* Apart from the above mentioned theses fifteen under graduate projects were also guided in the last four years at BITS Pilani. The titles of some of the projects are given below;

1. A study of construction and planning of ongoing projects in BITS Pilani.
2. Development of Stiffness Matrix in FEM using JAVA.
3. Study of Tee beam bridge using STAAD PRO software.
4. A study of concrete filled tubes of mild steel and aluminium prepared with recycled aggregates.
5. Analysis of 2-D truss using STAAD-PRO software.

Courses taught

Graduate Level:

- Prestressed Concrete Structures
- Advanced Structural Analysis
- Introduction to Finite Element Method
- Advanced Computational Techniques

Under Graduate Level:

- Mechanics of Solids
- Analysis of Structures
- Design of Steel Structures
- Design of concrete Structures
- Engineering Graphics (Engineering Drawing through AUTOCAD-10)
- Introduction to Finite Element Method
- Measurement Technique II

- CAD of Structures
- Finite Element Method applications to Civil Engineering
- Bridge Engineering
- Building Construction and Drawing