

Curriculum Vitae

DR. Rajesh Kumar

Associate Professor, Structural Engineering Division, Department of Civil Engineering,
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Date of Birth: 15. 01.1968

Fields of Interest: Non-Linear Structural Analysis, Finite Element Analysis, Structural Optimization, Earthquake Resistant Structure and Static and Dynamic Analysis of Structure

Ph.D. (Structural Engg.), 2003, Department of Civil Engineering, Indian Institute of Technology, Kharagpur.

M.E. (Structural Engg.), 1998, National Institute of Technology, Rourkela, Orissa, with 1st Class

B.E. (Civil Engg.), 1991, Bihar Institute of Technology, Sindri, Dhanbad, Jharkhand, with 1st Class

10+2(I.Sc.), 1985, Science College Patna, (Patna University, Bihar Intermediate Council, Patna), with 1st Class

10th(Matric), 1983, Maner High School, Maner, Patna, (Bihar School Examination Board), with 1st Class

Experiences: Total-14 years (Teaching-9 years, Industrial-5 years)

Ph.D. Thesis:

"Efficient Numerical Solutions of large deflection Problems in Non-linear Structural Mechanics",

Supervisors: Dr. D. Roy Associate Professor, Department of Civil Engineering, Indian Institute of Science, Bangalore and Dr. L. S. Ramachandra, Professors, Department of Civil Engineering, IIT - Kharagpur.

M.E. Thesis:

"Shear Strength of Continuous Deep Beam", Supervisor: Mrs. Asha Patel, Asstt. Professor, Department of Civil Engineering, National Institute of Technology, Rourkela, Orissa.

Coursees Taught: Finite Element Analysis, Structural Mechanics, Structural Dynamics, Stability of Structure, etc

M.Tech. Projects/Dissertation Supervised: 21 (completed), 03 (in progress)

Ph.D. Supervised: 02(in Progress)

Projects in hand / completed: 2 (Completed)

Distinctions/Prizes/Awards/Medals etc. Bihar Merit Scholarship in Matriculation and in I.sc. Examinations

STTP/Seminar/workshop/conducted: Total -5

Journals/Paper Edited: 02

Total No. of Citation of Journals: 12

Details of Some Major Project and Consultancy (from 2005 onwards)

Sl.No.	Project Title	Executed for
1	Design of Intake Well and supporting structures for pipe line water distribution system	Hindalco Industries Limited, Renukoot, U.P.
2	Vetting of design and drawing of Intake well at Allahabad	U.P. Jal Nigam
3	Analysis and Design of Hospital Buildings	UP Health Systems Development Program, Govt. of U.P., India
4	Analysis and Design of Guest House for high court	Govt. of U.P., India

	Judges, Same Ghat, Varanasi	
5	Analysis and Design of Fabrication Plant and Administrative Building	Bharat Heavy Electricals Limited, Jagdishpur, Sultanpur and Janshi (UP)
6	Analysis and Design of Residential Multi Storey Building for high court Judges, at Allahabad, U.P.	Govt. of U.P., India

Seminar/Symposia/ Workshop Organized:

Convener for a National Conference on Recent Advances in Civil Engineering, RACE-2011, during October 14-16, 2011, Organized by Department of Civil Engineering, IT.BHU, Varanasi

Abroad Visit: International Conference on Our World in Concrete & Structures (OWICS) (2005)", August 2005, Orchard Plaza, *SINGAPORE*.

Research Publications: International Journals & Conferences:

1. Kumar Rajesh, Roy, D., and Ramchandra, L.S., (2006), "A Multi – Step Transversal Linearization (MTL) Technique for Boundary Value Problems", *Computational Mechanics, Springer, DOI 10.1007/s00466-005-009-6*.
2. Roy, D. and Kumar Rajesh, (2005), "A-Multi-Step Transversal Linearization (MTL) Method in Non-Linear Structural Dynamics", *Journal of Sound and Vibration, Vol. 287, Issues 1-2, pp 203 -226*.
3. Kumar Rajesh, Ramchandra, L.S. and Roy, D., (2004), "Techniques Based on Genetic Algorithms for Large _ Deflection Analysis of Beams", *International Journal, Sadhana (Indian Academy of Science), Vol. 29, pp 589-604*.
4. Kumar Rajesh, (2012), "Non-Linear Transient Vibration Analysis of Plates using Modified Linearization Technique", *I'mangers, Journal of Structural Engineering, Vol. 1, No. 2, June-August 2012*.
5. Kumar rajesh, (2013), "Cost Optimization of Industrial Building using Genetic Algorithm", *International Journal of Scientific Engineering and Technology, Vol.2, Issue 3, March -2013 (to be published)*.
6. Kumar, Rajesh, (2012), "Application of Genetic Algorithm in Analysis of Boundary Value Problems in Beam", *Computational Mechanic, Springer, (Communicated)*.
7. Kumar Rajesh, (2012), "Application of Genetic Algorithm in Analysis of Plates", *Computer & Structure, (Communicated)*.
8. Kumar, Rajesh (2012), "Non-Linear Transient Vibration Analysis of Plates using Multi-Step Tansversal Linearization Technique", *Journal of Sound and Vibration, (Communicated)*.
9. Kumar, V., Kumar, R., Mandal, S. and Sinha, A.N., (2005), "Admixtures for Underwater Concreting for Repair of Cracks in the Structure", *30th Conference on Our World in Concrete & Structures", 23-24 August 2005, SINGAPORE (published and presented)*.
10. Kumar, V., Kumar, R., Mandal, S. and Sinha, A.N., (2005), "Use of Admixtures in Concrete: An Indian Scenario", *International Pre – conference Workshop, Our World in Concrete & Structures", 22nd August 2005, SINGAPORE*.
11. Gaurav, Mandal, S., Kumar, R. and Kumar, V., (2005), "Linear Deflection Analysis of Beam Using Genetic Algori^hims", *October 22, 2005, Indian Concrete Institute, U.P., Varanasi Centre, Institute of Technology, Banaras Hindu University, Varanasi, India, pp 54 – 64*.
12. Saha R., Kumar, R., Mandal, S. and Kumar, V., (2005), "Cracks: Cure and Prevention", *October 22, 2005, Indian Concrete Institute, U.P., Varanasi Centre, Institute of Technology, Banaras Hindu University, Varanasi, India, pp 65 – 88..*
13. Kumar Rajesh, (2004), " Application of Genetic Algorithm in Non-Linear Structural Problems", *Presented and Published in Proceedings of the all Indian Seminar on Innovations in Design and*

Construction of the Concrete Structures, October 2-3, 2004, Organized by the Institution of Engineers (India), I.T., B.H.U., Varanasi and Indian Concrete Institute, U.P., Varanasi & Allahabad Centre.

14. Kumar Rajesh, Sharad V. Oberoi and Gaurav, (2004), “*Land Cover / Land use Classification and Monitoring of Mountainous Terrain using Remote Sensing Data and GIS*”, *Seven Annual ESRI India User Conference (UC 2004), Noida, U.P., India.*
15. Rajesh, Sharad V. Oberoi and Gaurav, (2004), *Assessment of Strength of Heritage Structure with Inputs from Ultrasonic Pulse Velocity Measurement*”, *Ninth Interenational Conference on Structural Studies Repairs and Maintenance of Heritage Architecture (Accepted for publication and presentation), STREMAH – 2005, June Malta, Sponsored by Wessex Institute of Technology, U.K.*
16. Kumar, R., (2003), “*A Multi-Step Transversal Linearization Technique to Large Deflection Problems in Beam*”, *Published and Presented in National Conference on role of Civil Engineers to alleviate the poverty, organized by Institution of Engineers, Ranchi, India, Nov.-Dec. (2003).*
17. Kumar, R., Ramachandra, L.S. and Roy, D., (2003), “*A Genetic Algorithms in Large Deflection Problems in Beam*”, *Published and Presented in International Conference meet on ISTAM, BIT, Mesra, Ranchi, India, (2003).*
18. Kumar, R., (2004), “*Cross Drainage Structures in Rural Roads under PMGSY*”, *Published and Presented in Training Programme on Construction and Maintenance of Rural Roads under PMGSY for REO Engineers, Jharkhand, BIT, Mesra, Ranchi, India.*
19. Roy, D. and Kumar, R., (2003), “*A Multi-Step Transversal Linearization Method for a Class of Non-linear Initial Value Problems in Structural Mechanics*”, *Published and Presented in Structural Engineering Convention- An International Meet, IIT Kharagpur, December 12-14, 2003.*
20. Kumar, R., Roy, D. and Ramachandra, L.S., (2002), “*Transient Response of plates using Multiply Transversal Linearization Technique*”, *Published and Presented in Second International Conference on Vibration Engineering and Technology of Machinery, December 16-18, 2002, Bhabha Atomic Research Centre, Mumbai, India.*
21. Kumar, R.,(2001-2002), “*Genetic Algorithms in the solution of nonlinear problems*”, *Proceedings, in Annual Journal of Civil Engineering Society in Golden jubilee issue, 2001-2002, Indian Institute of Technology, Kharagpur, India.*
22. Kumar, R., Roy, D. and Ramachandra, L.S., (2001), “*Post buckling analysis of beams using genetic algorithms*”, *presented in International Conference on Recent Advances in Mathematical Sciences, December 20-22, 2000, Indian Institute of Technology, Kharagpur, India.*
23. Kumar Rajesh (20005)“*An Efficient Numerical Technique for a Non-linear Initial Value Problems in Structural Mechanics*”, *Published and presented in National Conference on Earthquake Resistant Analysis, Design and Retrofitting of Structure, Institute of Technology, Banaras Hindu University, Varanasi, February 18-19, 2006.*
24. Kumar V., Kumar Rajesh and Mandal, S., (20005) “*Retrofitting of Underwater Structures*”, *Published and Presented in National Conference on Earthquake Resistant Analysis, Design and Retrofitting of Structure, Institute of Technology, Banaras Hindu University, Varanasi, February 18-19, 2006.*
25. Kumar Rajesh (2007), “*Action and Analysis of Confined Brick Masonry Construction*”, *Published and Presented in National Workshop on Design and Construction of Confined Brick Masonry Buildings(WDCCBMB), Institute of Technology, Banaras Hindu University, Varanasi, February 03-04, 2007.*
26. Kumar Rajesh (2007), “*Constructional Details*”, *Presented in National Workshop on Design and Construction of Confined Brick Masonry Buildings(WDCCBMB), Institute of Technology, Banaras Hindu University, Varanasi, February 03-04, 2007.*
27. Kumar Rajesh, Kumar V. and Mandal S., (2007), “*Cracks: Cure and Prevention*”, *Published and Presented in workshop on Engineers’ Meet 2007, Institute of Technology, Banaras Hindu University, Varanasi, May 18, 2007.*

28. Kumar V., Mandal S. and Kumar Rajesh, (2007), "*Effect of Constituent-Characteristics on Concrete Durability*", *Published in workshop on Engineers' Meet 2007, Institute of Technology, Banaras Hindu University, Varanasi, May 18, 2007.*
29. Kumar Rajesh (2010), "*Provisions of Different IS Codes and National Building Codes in Brick Masonry Buildings*", *Published and Presented in Workshop on Earthquake Resistant Design and Construction of Confined Brick Masonry Buildings (WERDCCBMB), Department of Civil Engineering, Institute of Technology, Banaras Hindu University, Varanasi, February, 2010.*
30. Kumar Rajesh, Kumar V. and Mandal S., (2007), "*Cracks: Cure and Prevention*", *Published and Presented in workshop on Engineers' Meet 2007, Institute of Technology, Banaras Hindu University, Varanasi, May 18, 2007.*
31. Kumar V., Mandal S. and Kumar Rajesh, (2007), "*Effect of Constituent-Characteristics on Concrete Durability*", *Published in workshop on Engineers' Meet 2007, Institute of Technology, Banaras Hindu University, Varanasi, May 18, 2007.*
32. Kumar Rajesh (2010), "*Provisions of Different IS Codes and National Building Codes in Brick Masonry Buildings*", *Published and Presented in Workshop on Earthquake Resistant Design and Construction of Confined Brick Masonry Buildings (WERDCCBMB), Department of Civil Engineering, Institute of Technology, Banaras Hindu University, Varanasi, February, 2010.*
33. Kumar Rajesh (2011), "*Quality Concerns of Ground Water for Concrete*", *Publish in Proceeding of the National Conference on Groundwater for Drinking: Issues and Options, February 11-13, 2011*
34. Kumar Rajesh, Gaurav Jain and Pandey K.K., (2011) "*Cost Optimization of Industrial Steel Building using Genetic Algorithm*", *Publish in National Conference on Mathematical Modeling and Computer Simulation (MMCS-2011), Department of Applied Mathematics, Institute of Technology, Banaras Hindu University, March 25-27, 2011.*
35. Kumar Rajesh, Johri Ashish and Kumar V., (2011) "*Linear and Non Linear Analysis of Square Plate*". *Publish in Proceeding of National Conference on Recent Advances in Civil Engineering (RACE-2011), Department of Civil Engineering, Institute of Technology, Banaras Hindu University, Varanasi, October, 2011.*
36. Vashisth Anirudh., Singla Vineet and Kumar Rajesh, (2011) "*Analysis and Construction of a Low Cost Foldable Dome*". *Publish in Proceeding of National Conference on Recent Advances in Civil Engineering (RACE-2011), Department of Civil Engineering, Institute of Technology, Banaras Hindu University, Varanasi, October, 2011.*
37. Patra B. Keshree., Kumar Rajesh and Kumar V., (2011) "*Analysis of Skew Slab Deck Using Analytical Methods*". *Publish in Proceeding of National Conference on Recent Advances in Civil Engineering (RACE-2011), Department of Civil Engineering, Institute of Technology, Banaras Hindu University, Varanasi, October, 2011.*
38. Kumar Rajesh, Jain Harshut and Dwivedi S.B., (2011), "*Channel and Cored Unit for Roofing/Flooring for Low Cost Housing: A Review.*", *Publish in Proceeding of National Conference on Recent Advances in Civil Engineering (RACE-2011), Department of Civil Engineering, Institute of Technology, Banaras Hindu University, Varanasi, October, 2011.*
39. Kumar Rajesh and Vashisth Anirudh (2012), "*Finite Element Modeling for Sinter Powder Metallurgy*", *National Seminar on "Design and Development of Materials for Advanced Technologies", Department of Metallurgical Engineering, Indian Institute of Technology (BHU), Varanasi.*