

CURRICULUM VITAE

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DATE OF BIRTH: 28th OCTOBER 1969.

CURRENT POSITION: ASSOCIATE PROFESSOR
CIVIL ENGINEERING DEPARTMENT
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EDUCATIONAL QUALIFICATIONS:

2005	PhD Indian Institute of Technology (IIT) Roorkee (India)
1994	ME (Structures), Punjab Engineering College (Punjab University) Chandigarh
1990	BE (Civil Engineering) Shri. G.S. Institute of Technology & Science Indore, M.P. (India)

TEACHING EXPERIENCE:

2012 - Present	Associate Professor of Structural Engineering Department of Civil Engineering, Indian Institute of Technology Roorkee.
2007 - 2012	Assistant Professor of Structural Engineering Department of Civil Engineering, Indian Institute of Technology Roorkee
1994-2007	Faculty, Department of Civil Engineering, National Institute of Technology Hamirpur (India)

AREA OF RESEARCH INTEREST:

- Confinement of Concrete, High Strength Concrete, Fibre Reinforced Concrete
- Fire effects on structures and high temperature testing of concrete elements
- In-service deterioration of Reinforced Concrete and Restoration

PUBLICATIONS:

Refereed Journals

1. P. Kamath, UK Sharma, P. Bhargava, NM. Bhandari, B. Singh, V. Kumar, A. Usmani and M. Gillie, "Structural Response of Reinforced Concrete Frame under Simulated Earthquake and Fire", Engineering Structures, Elsevier Publications (under review).
2. Tushar Kanti Dey, Umesh Kumar Shrama, Anupam Chakrabarti, A. H. Sheikh (2013). A homogenization technique for FRP composite web core bridge deck panel. Journal of Composites for Construction ASCE (under review).

3. Peter, A.A., Murugesan, K., Sharma, U.K. and Arora, P., “ Numerical investigation of initial transients of temperature and pore pressure in concrete exposed to elevated temperatures”, International Journal of Thermal sciences (under review)
4. Asif H Shah, U. K Sharma, P. Kamath, P. Bhargava, G. R Reddy and T. Singh., Effect of ductile detailing on the performance of reinforced concrete building frame under post-earthquake fire. ASCE Journal of performance of constructed facilities, 2016, (Accepted).
5. Danie Roy, A.B., Sharma, U.K., & Bhargava, P., A Study on Different Techniques of Restoration of Fire Damaged Reinforced Concrete Flexural Members. Journal Structural Fire Engineering, Multi-science, 2015, (Accepted).
6. Rajkishor, Bhargava, P., Bhandari, N.M., Sharma, U.K., “A mathematical model of predicting residual moment capacity of RC elements after fire exposure”, Journal of Structural Fire Engineering, (Accepted).
7. Chandran, Harish, Arora, H. and Sharma, U.K., “Influence of in-service exposure conditions on the performance of confined concrete”, Journal of Structural Engineering, SERC,
8. Asif H Shah, U. K Sharma, P. Kamath, P. Bhargava, G. R Reddy and T. Singh., “Fire Performance of Earthquake-Damaged Reinforced-Concrete Structures” Materials and Structures (RILEM), 2015, (Published Online).
9. Asif H Shah, UK Sharma, P Bhargava, GR Reddy, T Singh, H Lakhani., “A Full Scale Fire Test on a Pre Damaged RC Framed Structure”, Advances in Structural Engineering, Springer, 3, 2015, 2259-2274.
10. Joshi, J., Arora, H., Sharma, U.K., “Structural Performance of Differently Confined and Strengthened Corroding Reinforced Concrete Columns”, Construction and Building Materials, Elsevier, 82, 2015, 287-295.
11. Danie Roy, A.B., Sharma, U.K., & Bhargava, P., Bond Properties of GFRP Laminate With Heat Damaged Concrete. Journal of Composites for Construction. ASCE, 2015, (Published Online).
12. Danie Roy, A.B., Sharma, U.K., & Bhargava, P., Confinement Strengthening of Heat Damaged Reinforced Concrete Short Columns, Magazine of Concrete Research. Thomas Telford, 2015. (Published Online).
13. Kumar, V., Sharma, U.K., Singh, B., and Bhargava, P., Singh, Y., Kamath, P., Usmani, A., Torero, J., Gillie, M., Pankaj, P., May, I., Zhang, J., “Fire Performance of Earthquake Damaged Full-Scale Reinforced Concrete Frame” Fire Safety Journal, Elsevier 73, 1-19 (2015).
14. Tushar Kanti Dey, Tanmoy Mukhopadhyay, Anupam Chakrabarti, Umesh Kumar Shrama. Efficient lightweight design of FRP bridge deck. Structures and Buildings, 168(10), 2015, 697–707.
15. Danie Roy, A.B., Sharma, U.K. and Bhargava, P., “Strengthening of Heat Damaged Reinforced Concrete Short Circular Columns”, Journal of Structural Fire Engineering, Multi-Science, Vol. 5, No. 4, 2014, pp. 381-398.
16. Ramesh, G.B., Sharma, U.K., “Abrasion Resistance of Concrete Containing Marginal Aggregates” Construction and Building Materials, Elsevier, 66, 2014, pp. 712-722.
17. Peter, A.A., Murugesan, K., Sharma, U.K. and Arora, P., “Numerical study of heat and moisture transport through concrete at elevated temperatures”, Journal of Mechanical Science and Technology 28 (5), 2014, pp. 1-11.

18. Arora, H., Sharma, U.K., Rao, K., Chakraborty, A “A pilot Investigation for Comparative Assessment of Corrosion Durability of Reinforced Concrete Beams”, Indian Concrete Journal, Vol. 88, No. 5, 2014, pp. 36-44.
19. P. Kamath, P. Bhargava, UK. Sharma, NM. Bhandari and A. Usmani, “Mechanical Properties of Undamaged and Damaged Steel Rebars at Elevated Temperatures”, Journal of Structural Fire Engineering, Multi-Science, Vol. 5, No. 3, 2014, pp. 251-260.
20. UK. Sharma, V. Kumar, P. Kamath, B. Singh, P. Bhargava, Y. Singh, A. Usmani, J. Torero, M. Gillie, P. Pankaj “Testing of full-scale RC Frame under Simulated Fire Following Earthquake”, Journal of Structural Fire Engineering, Multi-Science, UK, Vol 3, No. 5, September 2014, pp. 215-228.
21. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Shrama. Optimization of FRP rib core bridge deck with Response Surface Method. International journal of construction materials and structures 1(2), 2013, pp. 39-49.
22. H. Lakhani, P. Kamath, P. Bhargava, UK. Sharma and GR. Reddy, “Thermal Analysis of Reinforced Concrete Structural Elements” Journal of Structural Fire Engineering, Multi-Science, Vol 4, No.4, 2013, pp. 227-244.
23. Tushar Kanti Dey, Ishan Srivastava, Ravi Prakash Khandelwal, Umesh Kumar Sharma, Anupam Chakrabarti (2013). Optimization of FRP Rib core bridge deck. Composite: Part B Engineering, 45(1), 2013, pp. 930-938.
24. Kumar, V., Sharma, U.K., Singh, B. and Bhargava, P., Effect of Temperature on Mechanical Properties of Pre-Damaged Reinforcing Bars”, Construction and Building Materials, Vol. 46, 2013, pp. 19-127.
25. Rahim, A., Sharma, U.K., Murugesan, K., Sharma, A. and Arora, P., “Multi-response Optimization of Post Fire Residual Compressive Strength of High Performance Concrete” Journal of Construction and Building Materials, Elsevier, Vol. 38, 2013, pp. 265-273.
26. Zaidi, S.K.A., Sharma, U.K. and N.M. Bhandari “Mechanical Properties of High Strength Reinforcing Bars Exposed to Elevated Temperatures”, Journal of Structural Engineering, SERC, Vol. 40, No.3, August-September 2013, pp. 274-280.
27. Sharma, U.K., Zaidi, K. and Bhandari, N.M., “Residual Compressive Stress-strain Relationship for Concrete Subjected to Elevated Temperatures” International Journal of Structural Fire Engineering, Vol. 3, No. 4, December 2012, pp. 327-350.
28. Rahim, A., Sharma, U.K., Murugesan, K., Sharma, A. and Arora, P., “Optimization of Post-fire Residual Compressive Strength of Concrete by Taguchi Method”, Journal of Structural Fire Engineering, Vol. 3, No. 2, 2012, pp. 169-180.
29. Zaidi, S.K.A., Sharma, U.K. and Bhandari, N.M., “Effect of Temperature on Uniaxial Compressive Behaviour of Confined Concrete”, Fire Safety Journal, Elsevier, Vol. 48, 2012, pp 58-68.
30. Vishnu,J.R. and Sharma, U.K., “Influence of Pre-load on Corrosion Vulnerability of Reinforced Concrete”, Advances in Structural Engineering, Vol. 15, No. 7, 2012, pp. 1115-1124.
31. Sharma, U.K., Zaidi, S.K.A., Bhandari, N.M. and Bhargava, P., “Strength and Deformability of Heated Confined Fibrous Concrete”, Magazine of Concrete Research, Vol 64, No. 7, 2012, pp 631-646.

32. Anumala, S. and Sharma, U.K., "Mechanical properties of fibre reinforced concrete subjected to elevated temperatures" *International Journal of Structural Fire Engineering*, Vol. 2, No. 2, June 2011, pp 123-137.
33. Prithwi Raj, U.K. Sharma, Y. Singh, P. Bhargava, N.M. Bhandari, "Seismic Evaluation of Flat Slab Buildings with Shear Wall" *IUP Journal of "Science and Technology"* Vol. 7, No. 1, March 2011, pp. 7-18.
34. Sharma, U.K., Kumar, V., Singh, B., Bhargava, P., Singh, Y., Usmani, A., Pankaj, P., Torero, J., Gillie M., Kamath, P., and May I., "Full Scale Testing of a Damaged RC Frame in Fire", *Structures and Buildings*, ICE, U.K., 2011, Vol. 165, pp 335-346.
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36. Arul Peter A., Mamidi, G., Murugesan, K., Sharma, U.K., Sharma, A. and Arora, P., "Effect of Boundary Conditions on Thermo-hydraulic Behaviour of Clay Buffer used in Nuclear Waste Repository" *Energy Procedia*, 7(2011), Elsevier, pp. 495-501.
37. Sharma, U.K., Zaidi, S.K.A., Bhargava, P. and Bhandari, N.M., "Effect of heating and cooling regimes on confined concrete in high strength concrete columns" *ACI SP*, American Concrete Institute, SP 279, *Innovations in Fire Design of Concrete Structures*, 2010, pp-8-I-8-36.
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39. Phaniprasad, D.M.S., Sharma, U.K. and Bhargava, P., "Effect of Elevated Temperature on the Properties of Reinforcing Steel Bars", *Civil Engineering Journal*, The Institution of Engineers (India), Vol. 90, November 2009, pp. 3-6.
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48. Sharma, Umesh, Bhargava, P. and Kaushik, S.K., "Confinement of High Strength Concrete Columns: State of the Knowledge", Journal of Indian Concrete Institute, Vol. 7, No. 1, June 2006, pp. 7-17.
49. Bhargava, P., Sharma, U.K. and Kaushik, S. K., "Compressive Stress-Strain Behavior of Small Scale Steel Fibre Reinforced High Strength Concrete Cylinders", International Journal of Advanced Concrete Technology, Vol. 4, No. 1, pp. 109-121, February 2006.
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Conferences

1. Asif H. Shah, Umesh K. Sharma, Pradeep Bhargava, GR Reddy and Tarvinder Singh. Outcomes of a Major Research on Full Scale Testing of RC Frames in Post Earthquake Fire. 2nd R.N. Raikar International Conference and Banthia- Basheer International Symposium On Advances in Science and Technology of Concrete. 18-19 December 2015, Mumbai, India
2. Asif H. Shah, Umesh K. Sharma, Pradeep Bhargava, GR Reddy and Tarvinder Singh. "Effect of Pre-damage and reinforcement detailing on the spalling behaviour of reinforced concrete building frame in Post-earthquake fire" FIRE SPALLING 2015, 4th International Workshop on Concrete Spalling due to Fire Exposure.
3. Danie Roy, A.B., Sharma, U.K., & Bhargava, P, Strengthening Heat Damaged Reinforced Concrete Beams Using Glass Fiber-Reinforced Polymer (GFRP) Laminates, Applications of Structural Fire Engineering, 15-16 October 2015, Dubrovnik, Croatia
4. Danie Roy, A.B., Sharma, U.K., & Bhargava, P, Applications Of Ferrocement In Strengthening of Heat Damaged Reinforced Concrete Circular Columns, 11th International Symposium on Ferrocement (FERRO-11), Aachen, Germany, June 7-10, 2015.
5. Danie Roy, A.B., Sharma, U.K., & Bhargava, P, High Strength Fiber Reinforced Concrete In Strengthening of Heat Damaged Reinforced Concrete Circular Columns,

- International Conference on the Regeneration and Conservation of Concrete Structures (RCCS), Nagasaki, Japan, June 1-3, 2015
6. Franklin F.R Frederick, U.K. Sharma, V.K. Gupta “Effect of End Anchorage in External CFRP Confinement on Shear Damaged RC Beams” The 5th International Conference of Euro Asia Civil Engineering Forum (EACEF-5) 15-18 September 2015 Surabaya, Indonesia
 7. Franklin F.R Frederick, U.K. Sharma, V.K. Gupta “Influence Of End Anchorage On Shear Strengthened Rc Beams Using Cfrp” International Conference On Ecstasy In Concrete On Advancements In Structural Concrete (ACECON 2015) 8 - 10, October 2015 Science City, Kolkata, India
 8. Franklin F.R Frederick, U.K. Sharma And V.K. Gupta Influence of Anchorage on Shear Strengthened RC Beams Using FRP 2nd International Conference On Disaster Management And Mitigation [ICDMM 2015] 27-28 August, 2015 Tamil nadu ,India
 9. Franklin F.R Frederick, U.K.Sharma and V.K.Gupta “Shear Behavior of RC Beams Retrofitted With End Anchorage -External CFRP Confinement”. International Conference on Sustainable Civil Infrastructure (ICSCI-2014), Hitech City Hyderabad.
 10. Franklin F.R Frederick, U.K.Sharma and V.K.Gupta “Shear Behaviour of Externally Confined R.C Beams Using CFRP with End Anchorage”. The 6th International Conference of Asian Concrete Federation 21-24 September, 2014, Seoul, Korea
 11. Asif H. Shah, Umesh K. Sharma, Pradeep Bhargava, GR Reddy, Tarvinder Singh and Hitesh Lakhani.A Full Scale Fire Test on a Pre Damaged RC Framed Structure“ Structural Engineering Convention, SEC-14 Indian Institute of Technology Delhi, Delhi, 22-24 December 2014.
 12. Danie Roy, A.B., Sharma, U.K., & Bhargava, P, Behavior of Square And Circular Heat Damaged Reinforced Concrete Column Strengthened With Different Composites Tested Under Axial Compression. The 8th International Conference on Asian Concrete Federation, Seoul, Korea, September 17-19, 2014
 13. Asif H. Shah, Praveen Kamath, Umesh K. Sharma, Pradeep Bhargava, Asif Usmani, GR Reddy, Tarvinder Singh And Hitesh Lakhani., “Influence of ductility on the behaviour of RC frames in post earthquake fire.” 8th International Conference on Structures in Fire Shanghai, China, June 11-13, 2014
 14. A.B.Danie Roy, U.K Sharma, P.Bhargava, “A study on different techniques of restoration of heat damaged RC Beams.” 8th International Conference on Structures in Fire Shanghai, China, June 11-13, 2014
 15. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Sharma (2014). Optimization design of FRP web core skew bridge deck system using Genetic Algorithm. Industrial Engineering Science and Applications (IESA 2014), April 2-4, NIT Durgapur, West Bengal.
 16. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Sharma (2014). Optimum Design of FRP Rib Core Bridge Deck Panel using Gradient based Optimization. Industrial Engineering Science and Applications (IESA 2014), April 2-4, NIT Durgapur, West Bengal
 17. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Sharma (2014). Optimization of FRP rib core skew bridge deck structure. Mechanics of Composites (MECHCOMP 2014), June 8-12, Stony Brook University, Long Island, NY State, USA
 18. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Sharma (2013). Optimization of a fiber reinforced polymer web core skew bridge. International Conference on Structural

- Engineering and Mechanics (ICSEM 2013), December 20-22, NIT Rourkela
19. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Sharma (2013). Optimization of FRP laminated panel using Response Surface Method. ICSOT India: Technological Innovations in Shipbuilding. December 12-13, IIT Kharagpur
 20. A.H. Shah, U.K. Sharma, Danie A.B. Roy and P. Bhargava, "Spalling behaviour of nano SiO₂ high strength concrete at elevated temperatures", Fire Spalling 2013, Third International Workshop on Concrete Spalling due to Fire Exposure, 25-27 Sep 2013 Paris (France)
 21. A.H. Shah, U.K. Sharma, Danie A.B. Roy and P. Bhargava, Performance at High Temperature of Nano SiO₂ High Strength Concrete" In the Proceedings of "International Conference on Advanced Materials for Energy Efficient Buildings AME2B – 2013, Feb13-15, 2013
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 24. A.B. Danie Roy , U. K. Sharma , P. Bhargava, "Strengthening Of Heat Damaged Reinforced Concrete Cylinders", International conference on Application of Structural Fire Engineering, 19-20 April 2013, Prague, Czech Republic.
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 26. Kumar, V., Sharma, U.K., Singh, B. and Bhargava, P., "Residual Behaviour of Pre-damaged Steel Rebars Exposed to Elevated Temperatures", Innovations in Concrete Constructions, UKIERI Concrete Congress, India 5-8 March 2013.
 27. Satya Pal, Umesh K Sharma, Pardeep Bhargava, Abdul Rahim, "Post-Fire Residual Strength and Durability of High Performance Concrete", UKIERI, Concrete Congress, Innovations in Concrete Constructions, 5- 8 March 2013, pp 2104-2103.
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 30. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Sharma (2012). Design of FRP Web Core Bridge Deck Panel. International Congress on Computational Mechanics and Simulation (ICCMS), 9-12 December, IIT Hyderabad, India.

31. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Sharma (2012). Optimization of FRP web core panel. International Conference on Advances in Materials and Processing Challenges and Opportunities (AMPCO 2012), November 02-04, IIT Roorkee, India.
32. Tushar Kanti Dey, Anupam Chakrabarti, Umesh Kumar Sharma (2012). Optimum Design of FRP Sandwich Core Bridge Deck. 28th NCCE & National Seminar on Role of Infrastructure for Sustainable Development, 12-14 October, IEI Roorkee, India.
33. Zaidi, K. A., Sharma, U. K., Bhargava, P. and Bhandari, N. M. (2012), "Thermal effects on high strength confined concrete" The 5th Asian Concrete Federation International Conference (ACF) 24 -26 October 2012 Pattaya Thailand Paper ID: ACF-0061.
34. Virendra Kumar, Umesh Kumar Sharma, Bhupinder Singh, Pradeep Bhargava, Yogendra Singh, Praveen Kamath, Asif Usmani, Jose Torero, Martin Gillie and Pankaj Pankaj, "Behaviour of full-scale reinforced concrete frame under simulated post-earthquake fire", 15th World Conference on Earthquake Engineering, to be held at Lisbon during 24-28, September, 2012.
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36. Mariyana A. Ab-Kadir, Jian Zhang, Jian Jiang, Asif Usmani, Martin Gillie, Umesh K. Sharma and Pradeep Bhargava, "Modeling of an earthquake damaged RC frame subjected to fire", 7th International Conference on Structures in Fire, Zurich, held during 6-8 June, 2012.
37. Umesh Kumar Sharma, Virendra Kumar, Bhupinder Singh, Pradeep Bhargava, Yogendra Singh*, Praveen Kamath, Asif Usmani, Jose Torero, Martin Gillie, Pankaj Pankaj, "Testing of full-scale RC frame under simulated fire following earthquake", 7th International Conference on Structures in Fire, Zurich, held during 6-8 June, 2012.
38. Praveen Kamath, Umesh K. Sharma, Pradeep Bhargava, N.M.Bhandari and Asif Usmani, "Mechanical properties of undamaged and damaged steel rebars at elevated temperatures", 7th International Conference on Structures in Fire, Zurich, held during 6-8 June, 2012.
39. Virendra Kumar, Umesh Kumar Sharma, Bhupinder Singh, Yogendra Singh, Pradeep Bhargava, Asif Usmani and Jose Torero, "Development of flashover in a compartment fire for full scale testing of reinforced concrete frame", 2nd International Symposium on Life Cycle Civil Engineering, Taipie, Taiwan, 27-31, October, 2010.
40. Peter, A., Mamidi, G., Murugesan, K., Sharma, U.K., Sharma, A., Arora, P., "Effect of boundary conditions on thermo-hydraulic behavior of clay buffer used in nuclear waste repository", Proceedings of the 2nd International Conference on Asian Nuclear Prospects 2010, 11-13 October, Chennai.
41. Sharma, U.K., Zaidi, K.A., Bhargava, P. and Bhandari, N.M., "Residual Strength and Deformation Characteristics of Confined Concrete Subjected to Elevated Temperatures", 9th US National and 10th Canadian Conference on Earthquake Engineering, 25-29 July, 2010, Toronto, Canada.
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47. Pal, S., Sharma, U.K. and Bhargava, P., "Temperature Effect on Mechanical and Thermal Properties of High Performance Concrete, State of The Art Report" Proceedings of Structural Engineering Convention, SEC 2008, 19-21 Dec 2008, S.E.R.C. Chennai.
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51. Sharma, U., Bhargava, P. and Kaushik, S.K., "Confinement of High Strength Concrete Columns: What do we Know", National Conference on " High Rise Buildings: Material and Practices" Indian Society for Construction Material & Structures New Delhi, October 30-31 2006.
52. Sharma, Umesh, Bhargava, P. and Kaushik, S.K., "A critical assessment of confinement reinforcement requirements of IS: 13920-1993 Code", 1st European Conference on Earthquake Engineering and Seismology", Geneva, Switzerland, 3-8 September 2006.
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54. Sharma, Umesh., Bhargava, P. and Beg, I.M., "Performance based design of confinement reinforcement for reinforced concrete columns", 9th International Conference on Concrete Engineering and Technology (CONCET 2006), Kuala Lumpur, Malaysia, 9-10 May 2006.
55. Kaushik, S. K. and Sharma, U., "Repair & Retrofitting of Concrete Structures", National Conference on "Technology for Disaster Mitigation", 29-30 September 2006, NIT Hamirpur, pp. 139-149.
56. Sharma, Umesh, Bhargava, P. and Kaushik, S.K., "Confinement of High Strength Concrete Columns", Structural Engineering Convention SEC'05, Indian Institute of Science, Bangalore, 14-16 Dec' 2005.

57. Kaushik, S. K., Bhargava, P. Sharma, U, "Fibre Reinforced Concrete and its Application in Shotcrete Tunnel Lining", XXI All India Builders Convention, 18-20 February, 2005.
58. Bhargava, P., Bhowmick, R., Sharma, U. and Kaushik, S.K. "Finite Element Modeling of High Strength Concrete Columns", Proc. Latin American Conference on Computational Mechanics, Nov 2004, Brazil.
59. Kaushik, S.K., Bhargava, P. and Sharma. U., "Towards the Design of Ductile Reinforced High Strength Concrete Columns", Proc. International Conference on Our World in Concrete and Structures, Singapore, 25-26 August 2004, pp. 59-67.
60. Kaushik, S.K., Bhargava, P. and Sharma, Umesh, "Code Provisions for Confinement Reinforcement Requirements of RC Columns", Proceedings of National Workshop on Advances in Materials and Mechanics of Concrete Structures, Indian Institute of Technology, Chennai, 2-3 July, 2004, pp 9-14.
61. Bhargava, P., Bhowmick, R., Sharma, U. and Kaushik, S.K., "Three Dimensional Finite Element Analysis of Confined High Strength Concrete Columns" International Symposium on Confined Concrete, Hunan University, Changsha, China, 12-14 June 2004.
62. Sharma, Umesh, Bhargava, P. and Kaushik, S.K., "Ductility of Square Tie Confined Concrete Columns" International Symposium on Confined Concrete, Hunan University, China, 12-14 June 2004.
63. Bhandari, N.M., Krishna, P., Kaushik, S.K. and Sharma, Umesh, "Structural Damages due to Cyclone and their Retrofitting –A case Study" World Congress on Natural Disaster and Mitigation, 19-22 February 2004, New Delhi.
64. Kaushik, S.K. and Sharma, Umesh, "Seismic Performance Examination of RC Buildings as per Asian Concrete Model Code (ACMC 2001)" World congress on Natural Disaster Mitigation, 19-22 February 2004, New Delhi.
65. Sharma, Umesh, Kaushik, S.K. and Bhargava, P., "A Review of Confinement Models for High Strength Concrete" Proceedings of Structural Engineering Convention, SEC 2003, 12-14 Dec 2003, IIT Kharagpur.
66. Kaushik, S.K., Bhandari, N.M., and Sharma, Umesh, "Retrofitting of Houses for Cyclone affected Regions" World conference on Disaster Management Infrastructure and Control System, 10-12 Nov 2003, Hyderabad.
67. Kaushik, S.K., Kumar Praveen, and Sharma, Umesh, "Fibre Reinforced Cement Composites- Indian Scenario" National Seminar on Reinforcement – Today & Tomorrow, Indian Chapter of ACI, 12-13 June, 2003, Mumbai.
68. Sharma, U and Dubey, R., "Ultra High Performance Cement Based Composites", Proc. National Conference on Advances in Construction Materials, 8-9 April, 2002, R.E.C. Hamirpur, pp. 303-305.
69. Sharma, Umesh. and Gokhale, K.V.G.K., "Tracking of Pozzolanic Reactions in FaL-G and Fly ash Blended Pozzolana Cements" ICI Asian Conference on Ecstasy in Concrete, ICI, 20-22 November 2000, Bangalore.
70. Sharma, Umesh., "Substitutes of Timber" National Conference on Materials and Machines for Construction, 19-20 Feb' 2000, IE Local Centre, Lucknow.
71. Sharma, Umesh, "Role of Building Chemicals for Low Cost Housing" National Seminar on Role of Building Chemicals in Construction Industry, 18-19 July 1997, MNREC Allahabad.

72. Sharma, U. K., and Jarial, R. K., “An Overview of Privatization of Power Sector in India”, Proc. of National Seminar on “Power Scenario in India”, October 14-15, 1995, R.E.C. Hamirpur.
73. Sharma, Umesh. And Kukreja, C.B., “Network Techniques in Construction Management – An Overview” National Seminar, MNREC Allahabad, 24-25 Feb’ 1994. Allahabad.

CODES/BOOKS PUBLISHED:

1. Sharma, U.K., and Bhargava, P., “Guidelines for Designing Confinement Reinforcement of Reinforced Concrete Columns against Seismic Actions”, Asian Concrete Model Code, ACMC-L3-005 (TR-01), International Committee on Concrete Model Code for Asia, (2009) Published from Japan.

AWARDS:

1. Received Young Researcher **award of excellence** from International Committee at International Symposium on Confined Concrete held at Changsha, China from 12-14 June 2004.
2. Invited for the 4th Indo-American Frontiers of Engineering Symposium, which is a flagship program of Indo-US S & T Forum (IUSSTF), held at Washington D.C., USA during 29.2.12 to 3.3.12 and organized jointly by IUSSTF and National Academy of Engineering USA.
3. Received award for Outstanding Concrete Technologist of Uttarakhand for the year 2012 from Ultratech Cement and ICI Uttarakhand Chapter.
4. Invited as a speaker in Indo German Frontiers of Engineering Symposium, Organized by HUMBOLDT Network, 17-19, March 2013.
5. Received Best Young Researcher award from **jci** Japan Concrete Institute at International conference on Regeneration and Conservation of Concrete Structures held at Nagasaki, Japan from 1-3 June 2015.

SPONSORED R & D PROJECTS:

1. Title- “Performance Based Design of RCC Columns for Ductility”. This project, which is worth 3000 US \$, has been sponsored by International Committee of Concrete Model Code for Asia. **(Completed)**.
2. Title-“Assessment of Current Status for R&D in Fibre Reinforced Concrete”, Sponsored by: INCCMS, Central Soil and Materials Research Station. Sanctioned Amount = 1.0 Lac. **(Completed)**
3. Title- “High Performance Cementitious Matrices with Micro Fillers”. Sponsored by MHRD under TAT scheme. Sanctioned Amount = 15 Lacs. **(Completed)**
4. Title – “Ductility of High Strength Concrete Columns – Role of Fibres”. Sanctioned by MHRD. Sanctioned Amount = Rs.12 Lacs. **(Completed)**
5. Title- “Residual Mechanical Properties of Confined High Strength Concrete Exposed to Elevated Temperature”. Sponsored by IIT Roorkee under Faculty Initiation Scheme. Sanctioned Amount = 4.85 Lacs. **(Completed)**.

6. Title- “Fire Resistance & Repair of Earthquake Damaged Structures”, Sponsored by UK India Education and Research Initiative (UKIERI), Sanctioned Amount = 39000 Pounds **(Completed)**
7. Title “Creep and Shrinkage Study of Concrete”, Sponsored by Nuclear Power Corporation of India Ltd., Sanctioned amount: 15.38 Lacs, **(Completed)**.
8. Title “Numerical and Experimental Investigation of Thermo-Hydro-Mechanical Behaviour of High Performance Concrete Exposed to Fire” BRNS, Sanctioned amount = Rs. 26.714 Lacs. **(Completed)**.
9. Title “Study on Abrasion Resistance of Concrete Containing Marginal Aggregates for Teesta Hydro-Electric Project” Abir Infrastructure, 8.9 Lacs **(Completed)**.
10. Title “Structural Properties of Perforated/Hollow Clay Fired Brick Masonry” The Energy & Resource Institute (TERI), 5.41 Lacs **(Completed)**.
11. Title “Optimization of Cement Content in Concretes of Various Grades Using Additives” Satluj Jal Vidyut Nigam, 12.43 Lacs **(Completed)**.
12. Title “A Collaborative Research Framework for Structures Subjected to Extreme Loads” Sponsored by UK India Education and Research Initiative (UKIERI), Sanctioned Amount = 13585 Pounds **(Ongoing)**
13. Title “Toward establishing a framework for collaborative research in structural engineering” The Royal Academy of Engineering Award under the Scheme of Research Exchanges with China and India, U.K. Amount = 16500 Pounds **(Ongoing)**.
14. Title “Strength and Deformability of RCC frames under Earthquake and Fire” BRNS, Sanctioned amount = Rs. 78.24 Lacs. **(Ongoing)**.
15. Title “Mechanical Properties of Nano-Silica Based High Performance Concrete” NBCC, Sanctioned Amount = Rs. 24 lacs. **(Ongoing)**.
16. Title “Sustainable Infrastructure Using Smart FRPs” DST-IC-IMPACTS, Sanctioned Amount = 30 lacs **(Ongoing)**
17. Title “Durability of EPS Wall Panels” BMTPC, Sanctioned Amount = Rs. 7.5 lacs **(Ongoing)**.

Ph.D SUPERVISION:

1. Kaleem A. Zaidi, Topic: Residual Compressive Behavior of Confined Concrete Subjected to Elevated Temperatures, Status : Awarded.
2. Virender Kumar , Topic: Fire Performance of Earthquake Damaged Concrete Structures, Status: Awarded
3. A.Abdul Rahim, “Thermo-Mechanical Properties of High Performance Concrete Exposed to Elevated Temperatures” Awarded.
4. Arul Peter, “Thermal-hygral behavior of High Performance Concrete” Awarded.
5. Danie Roy, “Strengthening of Heat Damaged Reinforced Concrete Elements”, Awarded
6. Tushar Kanti Dey, “Behaviour of FRP Web Core Bridge Deck” Awarded.
7. Asif Hussain Shah, Influence of Confining Reinforcement on the Fire Performance of RCC Structures”, Awarded.
8. G.B. Ramesh Kumar, “Abrasion Resistance of Concrete Containing Marginal Aggregates” submitted
9. Harish Arora, “Durability of FRP Repaired Concrete”, Ongoing.

10. Franklin F. R. Frederick, "Shear Strengthening of Reinforced Concrete Elements with FRP" (Ongoing).
11. Aditya Singh Rajput, "Behaviour of Corroded Confined Concrete under Extreme Loads", (Ongoing).
12. Lipi Mishri, "Performance of Deteriorated Concrete Structures at Elevated Temperatures", (Ongoing).
13. Shujaat Hussain Buch, "Fire Resistance of Confined Concrete Columns", (Ongoing).
14. Kingsley Ukanawa, "Structural Performance of Concrete Filled Steel Tubular (CFST) Columns Subjected to Concentric and Eccentric Axial Loading under Elevated Temperatures (Ongoing, at University of Auckland, New Zealand).
15. Aditi Chauhan, "Serviceability and Durability of Sandwich Wall Panels", (Ongoing).

M.TECH SUPERVISION:

1. Cherukuru Ravindra Babu, Topic: Residual Behaviour of Confined Fiber Reinforced High Strength Concrete Exposed to Elevated Temperatures. June 2008.
2. Nitin Patait, Topic: Performance of Self Compacting Concrete in Reinforced Columns. June 2008.
3. Sunil Kumar, Behaviour of Steel Fiber Reinforced Concrete under Direct Shear, June 2008.
4. Gaurav Maroo, Topic: Performance of Flat Slab-Column Multi Storey Buildings, October 2008.
5. Tasafye Alemu, Topic: Simulation of Delamination failure in R.C. beams laminated with FRP plate, 2006.
6. Vora Dhaval Vipul, Topic: Finite Element Analysis of Composite Columns Subjected to Fire, July 2009.
7. Satya Pal, Topic: Effect of Pozzolanas on Behaviour of HPC Exposed to Elevated Temperature, July 2009.
8. D.M.S. Phani Prasad, Topic: Moment Curvature Relationship for Fire Damaged R.C.C. Sections, July 2009.
9. Ambre Suraj Pradeep, Topic: Theory of Spalling in HSC Columns Subjected to Fire, July 2009.
10. Sharath Anumala, Topic: Strength Properties of Fibre Reinforced Subjected to Elevated Temperature, July, 2010.
11. Vishnu J.R., Topic: Interaction between Loading and Corrosion of Reinforced Concrete. July, 2010.
12. Prithwi Raj K., Topic: Seismic Evaluation of Flat Slab Building with Shear Wall, July, 2010.
13. Upadhyay Vinay K.B., Topic Behaviour of FRP Wrapped Square Concrete Columns, July, 2010.
14. Saurabh Goswami, Assessment of In-situ Strength of Concrete, July 2011.
15. N. Vamshi Krishna, Effect of Confinement on P-M Interaction of RCC Columns, July 2011
16. Suneel Ranaut, Effect of Superplasticizer on Corrosion vulnerability of Reinforced HPC, July 2011

17. Puneet Aggarwal, Development of Co-relation between Core-Cylinder-Cube Strength of Concrete, July 2011.
18. Ajay Ladani, Structural Properties of Hollow Clay Fired Brick Masonry, June 2012.
19. Pradeep Shekhawat, Design of Optimum Mixes of Concrete Containing Various Additives, June 2012.
20. Jayant Joshi, "Strengthening of Under-confined Corroding R.C. Columns", June 2012.
21. Sujita Kumari, "Optimization of Cement Content in Concrete Containing Mineral Admixtures", June 2012.
22. Ajith Chandran, Influence of In-service Exposure Conditions on the Performance of Confined Concrete", 2013.
23. Vinti Pawar, "Computer Aided Design of FRP Wrapped Fire Damage RC Elements", 2013.
24. Srikant Iyer, "Modeling of Corroded RCC Beams", 2013.
25. Rameshwar Gupta, Effect of Damage on Fire Rating of RC Beams", 2013.
26. Abhishek Jhamnani, "Fire Resistance of HPC Columns and Thermal Spalling", 2014.
27. Anshita Sharma, "Energy Retrofit of Buildings", 2014.
28. Manish Pathak, "Seismic Strengthening of Unreinforced Masonry Buildings", 2014.
29. Aditya Singh Rajput, "Durability of FRP Reinforced Concrete Members", 2014
30. Divy Jyoti Mishra, "Corrosion of Confining Reinforcement in Columns", 2014.
31. Ankit Agarwal, "Behaviour of Nano-Silica Based Concrete Under Extreme Load", 2015
32. Ranjeet Devidas Ramteke, "Mechanical Properties Of Nanosilica Based High Performance Concrete", 2015.
33. R. Rohit, "Externally Bonded FRP Wraps For R.C.C. Columns", 2015
34. Vipul Parkash, "Durability of Bond Between Repair Material and Substrate Concrete", 2015

MAIN CONSULTANCY PROJECTS (In last five years)

1. Condition Assessment of RCC Chimneys, 42 Lacs.
2. Vetting of Structural Design of Irrigation Tunnel, 7.3 lacs.
3. NDT Testing of Box Cut and Recker Leg Foundation at U.G. Mines of Hindustan Zinc Ltd. 5.89 Lacs.
4. Condition Assessment of Various Structures of RBTB Hospital Delhi, 24.16 Lacs.
5. Evaluation and Restoration of School Building at Delhi, 7.3 lacs
6. NDT Testing of Haz House Building, 8.4 Lacs
7. Evaluation of Building Structures of National Security Guard (NSG) at Mumbai, 45 Lacs.
8. Evaluation of In-situ Concrete in Runner Chamber of Pathri Power House, Haridwar. 2.35 Lacs
9. Damage Detection Bearing Pedestal of Thermal Power Plant at Hisar, 5.05 Lacs.
10. NDT Testing of Overhead and Underground Water Tanks in Muzaffar Nagar, UP Jal Nigam, 19.5 Lacs.
11. Structural Rehabilitation of Manipur Bhawan, New Delhi, 8.27 Lacs
12. UPV and hammer test on Jawahar Navodaya Vidyalya building Mohali , design services, UP Jal Nigam 7.5 lacs.
13. Vetting of structural design of Bridge, Mahashiv design, Lucknow, 4.5 lacs.
14. NDT testing of machine foundation at BHEL, BHEL Haridwar, 6.06 lacs.

15. Vetting of structural design of a pump house, Mahashiv design services Lucknow, 5 lacs.
16. Proof checking of structural design of ROB, PWD Dehradun, 1.75 lacs.
17. NDT of TG. deck of thermal power plant, Aligarh, Petron LNG, 3.53 lac.
18. Testing of construction materials, THDC, 1.46 lac
19. Vetting of structural design of a clock tower, Meerut, 1.5 lacs
20. Structural design of civil works of Therkot lake, Uttarakhand Tourism, 4.0 lacs
21. Testing of chemical admixtures, THDC, 2.04 lacs
22. Vetting of NDT report of a chimney, Aaryan, Mumbai, 1.5 lacs
23. Evaluation of fire damaged RCC SILO, shree cement plant, 3.8 lacs.
24. Proof checking of design of ROB, PWD Dehradun, 2.5 lacs
25. Evaluation of in-situ shotcrete by testing cores, Varunavat, THDC, 2.3 lacs.
26. Non-Destructive Testing of Civil Works of Ambuja Cements Ltd. (Unit Rauri) – 16.5 lacs.
27. Inspection, Evaluation and retrofitting of Clinker Silo of Ambuja Cements Ltd. (Unit Ropar)- 7.25 lacs.
28. Erosion and Corrosion studies of RCC Air Heater Structure of PETRONET LNG Ltd., Dahej – 5 lacs.
29. Proof Checking and Quality Control of two road bridges in Srinagar (Garhwal) – 16 lacs.
30. Evaluation and Strengthening of four existing road bridges in Uttarakhand – 5.25 lacs
31. Evaluation and strengthening of Industrial sheds of BHEL, Haridwar – 5.25 lacs
32. Design of Rehabilitation scheme for Dhari Davi Temple in Shrinagar – 5.25 lacs
33. Evaluation and Strengthening of Fire Damaged Building of BHEL, Haridwar- 6.5 lacs
34. NDT of TG Foundation and Chimney of NTPC, Jharli – 5 lacs
35. Proof Checking of Design of Max Hospital, Dehradun – 6.75 lacs
36. Evaluation of Stability and NDT of Civil Works at Ambuja Cements, Ropar, 7.5 Lacs.

SEMINARS/WORKSHOPS/CONFERENCES ATTENDED

Name of the Conf./Seminar/Sym./Workshop	Place and Sponsored by	Dates
1. International Symposium on Confined Concrete, Hunan University, China, 12-14 June 2004.	Changsha, China, Hunan University.	12-14 June 2004.
2. Structural Engineering Convention, SEC 2003.	IIT, Kharagpur	12-14 Dec. 2003.
3. World conference on Disaster Management Infrastructure and Control System.	National Academy of Construction Hyderabad	10-12 Nov. 2003.
4. World Congress on Natural Disaster and Mitigation.	Vigyan Bhawan, New Delhi, I.E.(I)	19-22 Feb. 2004.
5. National Seminar on Materials and Machines for Construction.	I.E. Local Chapter Lucknow.	19-20 Feb. 2000.
6. National Conference on Disaster Management.	SERC, Chennai, INAE.	20-21 June 2003.
7. Workshop on Prefabrication for	India Habitat Center, New	26.11.2004.

Low Cost and Seismic Resistant Housing.	Delhi. Federation International Du Beton.	
8. National Seminar on “Engineered Building Materials”.	INAE, IIT Bombay.	18-19 Jan’2003.
9. National Seminar on “ Materials and Machines for Construction”.	I.E. Luchnow.	19-20 Feb’2000.
10. National Conference on “Advances in Constructional Materials”.	R.E.C. Hamirpur.	8-9 April 2002.
11. International Workshop on Durability of Reinforced Concrete under Combined Mechanical and Climatic Loads	Qingdao Tech. University China.	27-28 October 2005.
12. 9th international Conference on Concrete Engineering and Technology (CONCET 2006).	Kuala Lumpur, IEM Malaysia	9-10 May 2006
13. 3 rd ACF International Conference ACF/VCA- 2008.	HoChi Minh City, Vietnam	11-13 November 2008.
14. 9 th US National and 10 th Canadian Conference on Earthquake Engineering.	Toronto, Canada	25-29 July, 2010
15. Structures in Fire Conference (SIF 2012).	Zurich, Switzerland	6-8 June, 2012
16. 15 th World Conference on Earthquake Engineering.	Lisbon, Portugal	24-29 September, 2012
17. 3 rd International Workshop on Concrete Spalling due to Fire Exposure	Paris, France	25-27 September, 2013

ORGANIZATION OF COURSES/CONFERENCES/SEMINARS:

1. Short Term Course, “Repair and Retrofitting of Structures”, Continuing Education Centre, IIT Roorkee, 23-27 April, 2013.
2. Short Term Course, “Repair and Retrofitting of Structures”, Continuing Education Centre, IIT Roorkee, 20-24 July, 2013.
3. ACC Sponsored short term course on “Latest Trends in Building Materials and Construction Techniques” Continuing Education Centre, IIT Roorkee, 16-19 May, 2012.
4. Short Term Course on “Testing of Concrete in Structures” Continuing Education Centre, IIT Roorkee, 19-23 December, 2011.
5. ACC Sponsored short term course on “Latest Trends in Building Materials and Construction Techniques” Continuing Education Centre, IIT Roorkee, 11-13 January, 2012.
6. International Conference on “Hydro-Power Development in Himalayas” Organized by REC Hamirpur at Shimla, April’1998. (Member, Organizing Team)

7. National Seminar on “Engineered Building Materials” Organized by Indian National Academy of Engineering at IIT, Bombay, 18-19 January, 2003. (Member, Organizing Team)
8. National Seminar on “Disaster Management and Mitigation” Organized by Indian National Academy of Engineering at SERC Chennai, 20-21 June, 2003. (Member, Organizing Team)
9. Workshop on “Concrete Mix Design” organized jointly with Ambuja Cements Ltd. at NIT Hamirpur on 9-10 February 2006.
10. Coordinated and was one of the resource persons for three courses on “Capacity Building for Earthquake Risk Management” organized during June 2006.
11. Coordinated Five Two Days Courses on “Preparation of DPR’s for PMGSY” during 1st - 15th June 2006.
12. National Conference on “Technology for Disaster Mitigation” held at NIT Hamirpur during 29th-30th September 2006 (Organizing Secretary).
13. International Workshop on “Seismic Evaluation and Strengthening of Existing Structures (SESES 2007), Shimla, 15-16 June as Organizing Secretary.

FOREIGN ASSIGNMENTS:

- I worked with Prof. S.A. Sheikh, Professor, in Civil Engineering Department, University of Toronto, Toronto, Canada on a testing Programme involving testing of Confined High Strength Concrete Columns, June-July 2006.
- Awarded six months research exchange with Prof. Asif Usmani of University of Edinburgh under Royal Academy of Engineering (U.K.) Research Exchange Scheme.

PROFESSIONAL ACTIVITIES:

1. Serving as a member of Technical Committee (TC1) of Asian Concrete Federation, which was earlier Working Group (WG1) of International Committee on Concrete Model Code (ICCMC) for Asia.
2. Served as a member of executive committee of Indian Society of Constructional Materials and Structures (ISCMS), Roorkee (2004-2006).
3. Served as a member of Enquiry Committee on Investigation Report on Jamarudpur Crane Accident of DMRC, Delhi.
4. Providing consultancy services to various agencies in the area of evaluation of in-situ concrete, retrofitting and design of concrete structures.
5. Served as External Reviewer for ASCE Materials Journal, Journal of Structural Fire Engineering, Journal of Earthquake Technology.
6. Acted as reviewer of ACI SP 279 “Innovations in Fire Design of Concrete Structures”.
7. Delivered many expert and invited lectures in the area of Concrete Technology, NDT testing and Structural Fire Engineering.

PROFESSIONAL QUALIFICATION:

- i. Life Member, Indian Concrete Institute
- ii. Life Member, Indian Society for Technical Education
- iii. Life Member, Indian Society for Construction Materials and Structures.
- iv. Member, Asian Concrete Federation.
- v. Member, American Concrete Institute
- vi. Member, RILEM, France
- vii. Member, International Association for Fire Safety and Science