

CURRICULUM VITAE

NAME: UMESH KUMAR SHARMA

DATE OF BIRTH: 28th OCTOBER 1969.

CURRENT POSITION: ASSOCIATE PROFESSOR
CIVIL ENGINEERING DEPARTMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE - 247667. (UTTARAKHAND), INDIA

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:

- Structural Fire Engineering
- In-service deterioration of Reinforced Concrete,
- Repair and Restoration of Structures

PUBLICATIONS:

Refereed Journals

1. Kumar, G.B. Ramesh., Bhardwaj, A., and Sharma, U.K., "Cavitation resistance of concrete containing different material properties," Advances in Concrete Construction. (Accepted).
2. Ukanwa, K. U., Clifton, G. C., Lim, J. B. P., Hicks, S. J., Sharma, U. K, Abu, A. K., "Simple Design Procedure for Concrete Filled Steel Tubular Columns in Fire", Engineering Structures, pp.144-156, Vol. 155, 2018.

3. Rajput, A.S., Sharma, U.K., "Seismic Behaviour of Under-Confined Square Reinforced Concrete Columns", *Journal of Structures*, Elsevier, pp.26-35, Vol.13, 2018 (available online).
4. Rajput, Aditya. S., Sharma, U.K. "Durability and serviceability performance of GFRP rebars as concrete reinforcement". *The Indian Concrete Journal*, pp.51-60, Vol.91, Issue 7, July 2017.
5. Vishnu B., Chauhan A., Roy D., Sharma, U.K. "Influence of various exposure conditions on the Structural Performance of Sandwich Wall Panels". *Indian Concrete Journal*, pp.21-31, Vol.91, Issue 11, November 2017.
6. Ukanwa, K. U., Sharma, U. K., Hicks, S. J., Abu, A. K., Lim, J. B. P., & Clifton, G. C. "Behaviour of continuous concrete filled steel tubular columns loaded concentrically in fire". *Journal of Constructional Steel Research*, pp.101-109, Vol.136(C), 2017.
7. Ukanwa, K. U., Lim, J. B. P., Sharma, U. K., Hicks, S. J., Abu, A. K., , & Clifton, G. C., "Behaviour of continuous concrete filled steel tubular columns loaded eccentrically in fire". *Journal of Constructional Steel Research*, pp.280-287, Vol. 139(C), 2017.
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10. Shah, A. H., & Sharma, U. K. "Fire Resistance and Spalling Performance of Confined Concrete Columns." *Construction and Building Materials*, pp.161–174, Vol.156, 2017.
11. Shah, A. H., Sharma, U. K., Bhargava, P., Reddy, G. R., & Singh, T. "Outcomes of a Major Research on Full Scale Testing of RC Frames in Post-Earthquake Fire". *Construction and Building materials*, pp.1224-1241, Vol.155, Nov.2017.
12. DanieRoy, 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, pp.131-148, Vol. 8 Issue: 2, 2017.
13. 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*, pp.28-45 Vol. 8(1), 2017.
14. Shah, A. H., Sharma, U. K., Kamath, P., Bhargava, P., Reddy, G. R., & Singh, T. "Effect of Ductile Detailing on the Performance of a Reinforced Concrete Building Frame Subjected to Earthquake and Fire." *Journal of Performance of Constructed Facilities*, ASCE, pp1-17, Vol. 30(5), 2016.
15. Zaidi, S.K.A, Sharma, U. K, Bhargava, P, Bhandari, N. M. "An empirical model for confined concrete after exposure to high temperature". *Fire and Materials*, pp 848-856, Vol.41, 2016.
16. Zaidi, S.K.A, Sharma, U. K, Bhandari, N. M, Bhargava, P, "Postheated Model of Confined High Strength Fibrous Concrete". *Advances in Civil Engineering*, vol. 2016, 14-28, 2016.
17. Kamath, P, Sharma, U. K, Kumar, V, Bhargava, P, Usmani, A, Singh, Y, Singh, B, Torero, J, Gillie, M, and Pankaj, P. "Full-scale fire test on an earthquake-damaged reinforced concrete frame", *Fire Safety Journal*, pp.1-19, Vol. 73, 2015.

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22. Shah, A. H., Sharma, U.K., Bhargava, P., Reddy, G. R., Singh, T., Lakhani, H, “A Full Scale Fire Test on a Pre Damaged RC Framed Structure”, *Advances in Structural Engineering*, Springer, pp.2259-2274, Vol.89, 2015.
23. Joshi, J., Arora, H., Sharma, U.K., “Structural Performance of Differently Confined and Strengthened Corroding Reinforced Concrete Columns”, *Construction and Building Materials*, Elsevier, pp.287-295, Vol.82, 2015.
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Conferences

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2. Kassa, H.K., Sharma, U.K., and Bhardwaj, A., "Performance of different coatings and repair mortars for abrasion resistance of concrete", *Proceedings of 8th International Conference on Water Repellent Treatment and Protective Surface Technology for Building Materials, Hydrophobe, Hong Kong, China, 2017.*
3. Ukanwa, K., Clifton, G. C., Lim, J. B., Hicks, S. J., Sharma U.K. (2017). Fire design of continuous concrete filled steel tubular column for a multi-storey building, pp.45-52, *Applications of Structural Fire Engineering Conference, Manchester. United Kingdom, 2017.*
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5. Shah, A. H., Sharma, U. K., Bhargava, P., "Influence of Masonry Infill on Fire Performance of an Earthquake Damaged RC Frame", *IFireSS 2017 – 2nd International Fire Safety Symposium Naples, Italy, June 7-9, 2017.*
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7. Shah, A.H, Sharma, U. K, Bhargava, P, Reddy, G.R and Singh, Tarvinder. "Effect of Pre-damage and reinforcement detailing on the spalling behaviour of reinforced concrete building frame in Post-earthquake fire", pp. 269-279 , 4th *International Workshop on Concrete Spalling due to Fire Exposure. Leipzig, 08 - 09 October, 2015.*
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16. Frederick, F.R, Sharma, U.K, Gupta ,V.K., "Shear Behaviour of Externally Confined R.C Beams Using CFRP with End Anchorage". The 6th International Conference of Asian Concrete Federation, Seoul, Korea, 21-24 September, 2014.
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18. Roy, D.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, 17-19 September, 2014.
19. Shah, A.H, Kamath, P., Sharma, U.K., Bhargava, P., Usmani, Asif., Reddy, G.R., Singh, Tarvinder., and Lakhani, Hitesh., "Influence of ductility on the behaviour of RC frames in post-earthquake fire", pp 279-286, 8th International Conference on Structures in Fire Shanghai, China, 11-13 June, 2014.
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22. Dey, T. K, Chakrabarti, A., Sharma, U.K., "Optimization design of FRP web core skew bridge deck system using Genetic Algorithm, Industrial Engineering Science and Applications (IESA 2014), NIT Durgapur, West Bengal, 2-4 April, 2014.
23. Dey, T. K., Chakrabarti, A, Sharma, U.K., "Optimum Design of FRP Rib Core Bridge Deck Panel using Gradient based Optimization", Industrial Engineering Science and Applications (IESA 2014), NIT Durgapur, West Bengal, 2-4 April, 2014.
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 26. Dey, T. K., Chakrabarti, A, Sharma, U.K., "Optimization of FRP laminated panel using Response Surface Method". ICSOT India: Technological Innovations in Shipbuilding, IIT Kharagpur, 12-13 December, 2013.
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42. Kumar, V., Sharma, U. K., Singh, B., Bhargava, P., “Residual post-fire behaviour of pre-damaged confined concrete”, 15th World Conference on Earthquake Engineering, to be held at Lisbon during, 24-28, September, 2012.
43. Ab-Kadir, M. A., Zhang Jian., Jiang, Jian., Usmani, Asif., Gillie, Martin., Sharma, U. K., and Bhargava, P., “Modeling of an earthquake damaged RC frame subjected to fire”, 7th International Conference on Structures in Fire, Zurich, 6-8 June, 2012.
44. Sharma, U. K., Kumar, V., Singh, B., Bhargava, P., Singh, Y., *, Kamath, P., Usmani, A., Torero, J., Gillie, M., Pankaj, P., “Testing of full-scale RC frame under simulated fire following earthquake”, 7th International Conference on Structures in Fire, Zurich, 6-8 June, 2012.
45. Kamath, P., Sharma, U. K., Bhargava, P., Bhandari, N.M., and Usmani, A., “Mechanical properties of undamaged and damaged steel rebars at elevated temperatures”, 7th International Conference on Structures in Fire, Zurich, 6-8 June, 2012.
46. Kumar, V., Sharma, U. K., Singh, B., Singh, Y., Bhargava., P, Usmani., A and Torero, J., “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.
47. 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, Chennai, 11-13 October, 2010.
48. 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, Toronto, Canada, 25-29 July, 2010.
49. Phani Prasad., D.M.S., Kumar, V., Sharma, U.K., Bhargava, P., “Moment Curvature Relationships for Fire Damaged RCC Sections”, 6th International Conference on Structures in Fire, Michigan, 2-4 June, 2010.
50. Zaidi, K.A., Sharma, U.K., Bhargava, P. and Bhandari, P., “Uni-axial behaviour of confined fibre reinforced high strength concrete exposed to elevated temperatures”, 6th International Conference on Structures in Fire, Michigan, 2-4 June, 2010.

51. Bhargava, P., Sharma, U.K., Singh, Y., Singh, B., Usmani, A., Traro, J, Gillie, M., May, I., Pankaj and Manohar, C.S., "Fire Testing of an Earthquake Damaged Rc Frame", 6th International Conference on Structures in Fire, Michigan, 2-4 June 2010.
52. Sharma, U.K., Babu, C.R., Bahrgava, P. and Gupta, V.K., "Effect of Temperature on the Behaviour of Confined Fiber Reinforced High Strength Concrete", International Conference on Application of Structural Fire Engineering, Prague, Czech Republic, 19-20 February, 2009.
53. Pal, S., Sharma, U.K., and Bhargava, P., "Effect of Temperature on Chloride Permeability of Concrete", Civil Engineering Conference: Innovation without Limit, N.I.T. Hamirpur, 18-19 September, 2009.
54. 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, S.E.R.C. Chennai, 19-21 December, 2008.
55. Sharma, U.K., and Bhargava, P., "Design for Seismic Action in Confined Reinforced Concrete Columns", 3rd ACF International Conference ACF/VCA- 2008, held at HoChiMinh City, Vietnam, 11-13 November, 2008.
56. Dhakate, S.S., and Sharma U.K., " Stress-Strain Behaviour of Fibre Reinforced Concrete in Triaxial Compression", pp. 197-203, National Conference on "Infrastructure Development in Civil Engineering" held at NIT Hamirpur, 16-17 May, 2008.
57. Sharma U.K., Bhargava, P., and Kaushik, S.K., "Concentrically loaded steel fiber reinforced high strength concrete short columns", International Conference – *fib* days 2007, held at institution of Engineers, Mumbai, 9-11 February, 2007.
58. Sharma, U.K, 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, 30-31 October, 2006.
59. Sharma, U.K., 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.
60. Sharma, U.K., Bhargava, P., and Kaushik, S.K., "Concentrically loaded steel fiber reinforced high strength concrete short columns", 2nd International *fib* Congress, Naples, Italy, 5-8 June, 2006.
61. Sharma, U.K., 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.
62. Kaushik, S. K., and Sharma, U.K., "Repair & Retrofitting of Concrete Structures", pp. 139-149, National Conference on "Technology for Disaster Mitigation", NIT Hamirpur. 29-30 September, 2006.
63. Sharma, U.K., Bhargava, P., and Kaushik, S.K., "Confinement of High Strength Concrete Columns", Structural Engineering Convention SEC'05, Indian Institute of Science, Bangalore, 14-16 December, 2005.
64. Kaushik, S. K., Bhargava, P., Sharma, U.K., "Fibre Reinforced Concrete and its Application in Shotcrete Tunnel Lining", XXI All India Builders Convention, 18-20 February, 2005.

65. Bhargava, P., Bhowmick, R., Sharma, U.K., and Kaushik, S.K., "Finite Element Modeling of High Strength Concrete Columns", Proc. Latin American Conference on Computational Mechanics, Brazil, November, 2004.
66. Kaushik, S.K., Bhargava, P., and Sharma, U.K., "Towards the Design of Ductile Reinforced High Strength Concrete Columns", pp. 59-67, Proc. International Conference on Our World in Concrete and Structures, Singapore, 25-26 August, 2004.
67. Kaushik, S.K., Bhargava, P., and Sharma, U.K., "Code Provisions for Confinement Reinforcement Requirements of RC Columns", pp. 9-14, Proceedings of National Workshop on Advances in Materials and Mechanics of Concrete Structures, Indian Institute of Technology, Chennai, 2-3 July, 2004.
68. Bhargava, P., Bhowmick, R., Sharma, U.K., 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.
69. Sharma, U.K., 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.
70. Bhandari, N.M., Krishna, P., Kaushik, S.K., and Sharma, U.K., "Structural Damages due to Cyclone and their Retrofitting –A case Study" World Congress on Natural Disaster and Mitigation, New Delhi, 19-22 February, 2004.
71. Kaushik, S.K., and Sharma, U.K., "Seismic Performance Examination of RC Buildings as per Asian Concrete Model Code (ACMC 2001)" World congress on Natural Disaster Mitigation, New Delhi, 19-22 February, 2004.
72. Sharma, U.K., Kaushik, S.K., and Bhargava, P., "A Review of Confinement Models for High Strength Concrete" Proceedings of Structural Engineering Convention, SEC 2003, I. T Kharagpur, 12-14 December, 2003.
73. Kaushik, S.K., Bhandari, N.M., and Sharma, U.K., "Retrofitting of Houses for Cyclone affected Regions" World conference on Disaster Management Infrastructure and Control System, Hyderabad, 10-12 November, 2003.
74. Kaushik, S.K., Kumar, P., and Sharma, U.K., "Fibre Reinforced Cement Composites-Indian Scenario" National Seminar on Reinforcement – Today & Tomorrow, Indian Chapter of ACI, Mumbai, 12-13 June, 2003.
75. Sharma, U.K., and Dubey, R., "Ultra High Performance Cement Based Composites", pp. 303-305, Proc. National Conference on Advances in Construction Materials, R.E.C. Hamirpur, 8-9 April, 2003.
76. Sharma, U.K., 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, Bangalore, 20-22 November, 2002.
77. Sharma, U.K., "Substitutes of Timber" National Conference on Materials and Machines for Construction, IE Local Centre, Lucknow, 19-20 Feb, 2000.
78. Sharma, U.K., "Role of Building Chemicals for Low Cost Housing" National Seminar on Role of Building Chemicals in Construction Industry, MNREC Allahabad, 18-19 July, 1997.
79. 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", R.E.C.14-15 Hamirpur, 1995.

80. Sharma, U.K., And Kukreja, C.B., “Network Techniques in Construction Management – An Overview” National Seminar, MNREC. 24-25 Feb Allahabad, 1994.

CODES/BOOKS PUBLISHED:

1. Shah, A. H., Sharma, U. K., Bhargava, P., Reddy, G. R., Singh, T., & Lakhani, H. (2015). “A Full Scale Fire Test on a Pre Damaged RC Framed Structure”, *Advances in Structural Engineering*, 3, 2259-2274, Springer, India, 2015.
2. 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. Awarded Research Exchange Fellowship by The Royal Academy of Engineering, U.K. to work at University of Edinburgh during June, 2012 to August, 2013.
6. 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 **(Completed)**.
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 **(Completed)**.
14. Title- “Strength and Deformability of RCC frames under Earthquake and Fire” BRNS, Sanctioned amount = Rs. 78.24 Lacs. **(Completed)**.
15. Title- “Mechanical Properties of Nano-Silica Based High Performance Concrete” NBCC, Sanctioned Amount = Rs. 24 lacs. **(Completed)**.
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 **(Completed)**.
18. Title- “Characterizing Corrosion Activity in reinforced Concrete Structure along Indian Coastline” Ushta Infinity Construction Co.Pvt.Ltd.Vadodra, Sanctioned Amount = Rs.5.7 lacs **(Ongoing)**.
19. Title-“Retrofitting of corroded specimens using Ultra-High-Performance Fiber-Reinforced Cementitious Composite” Thermax Limited (Cemical Division) MIDC, Bhosari Pune Sanctioned Amount = Rs.3.3 Lacs **(Ongoing)**.
20. Title-“A Comparative Study of Concretes Containing Different Mineral Admixtures with respect to durability and service life” Elkem South Asia Pvt. Ltd. Navi Mumbai, Sanctioned Amount =11.4 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, Topic: Thermo-Mechanical Properties of High Performance Concrete Exposed to Elevated Temperatures: Awarded.
4. Arul Peter, Topic: Thermal-hygral behavior of High Performance Concrete: Awarded.
5. Danie Roy, Topic: Strengthening of Heat Damaged Reinforced Concrete Elements: Awarded
6. Tushar Kanti Dey, Topic: Behaviour of FRP Web Core Bridge Deck: Awarded.
7. Asif Hussain Shah, Topic: An Experimental Investigation of fire performance of earthquake damaged structures: Awarded.
8. G.B. Ramesh Kumar, Topic: Abrasion Resistance of Concrete Containing Marginal Aggregates: Awarded.
9. Harish Arora, Topic: Evaluation of Durability of FRP Strengthened Concrete Structural Elements: Awarded.
10. Franklin F. R. Frederick, Topic: Shear Strengthening of Reinforced Concrete Elements with FRP: Awarded.
11. Aditya Singh Rajput, Topic: Evolution and Upgradation of corroded confined concrete columns: Ongoing.
12. Lipi Mishra, Topic: Behaviour of Deteriorated Reinforced concrete Structures under fire: Ongoing.
13. Shujaat Hussain Buch, Topic: Fire Resistance of Reinforced Concrete Columns: Ongoing.
14. Kingsley Ukanawa, Topic: 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: Ongoing.
15. Aditi Chauhan, Topic: Service Life of RC Structural elements subjected to chloride induced corrosion: Ongoing.
16. Waibhaw Kumar, Topic: Fire Resistance of Composite Columns: 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, Topic: 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, Topic: Assessment of In-situ Strength of Concrete, July 2011.
15. N. Vamshi Krishna, Topic: Effect of Confinement on P-M Interaction of RCC Columns, July 2011
16. Suneel Ranaut, Topic: Effect of Super plasticizer on Corrosion vulnerability of Reinforced HPC, July 2011
17. Puneet Aggarwal, Topic: Development of Co-relation between Core-Cylinder-Cube Strength of Concrete, July 2011.
18. Ajay Ladani, Topic: Structural Properties of Hollow Clay Fired Brick Masonry, June 2012.
19. Pradeep Shekhawat, Topic: Design of Optimum Mixes of Concrete Containing Various Additives, June 2012.
20. Jayant Joshi, Topic: Strengthening of Under-confined Corroding R.C. Columns, June 2012.
21. Sujita Kumari, Topic: Optimization of Cement Content in Concrete Containing Mineral Admixtures, June 2012.
22. Ajith Chandran, Topic: Influence of In-service Exposure Conditions on the Performance of Confined Concrete, June 2013.
23. Vinti Pawar, Topic: Computer Aided Design of FRP Wrapped Fire Damage RC Elements, June 2013.
24. Srikant Iyer, Topic: Modeling of Corroded RCC Beams, June 2013.
25. Rameshwar Gupta, Topic: Effect of Damage on Fire Rating of RC Beams, June 2013.
26. Abhishek Jhamnani, Topic: Fire Resistance of HPC Columns and Thermal Spalling, June 2014.
27. Anshita Sharma, Topic: Energy Retrofit of Buildings, June 2014.
28. Manish Pathak, Topic: Seismic Strengthening of Unreinforced Masonry Buildings, June 2014.
29. Aditya Singh Rajput, Topic: Durability of FRP Reinforced Concrete Members, June 2014
30. Divy Jyoti Mishra, Topic: Corrosion of Confining Reinforcement in Columns, June 2014.
31. Ankit Agarwal, Topic: Behaviour of Nano-Silica Based Concrete Under Extreme Load, May 2015
32. Ranjeet Devidas Ramteke, Topic: Mechanical Properties Of Nanosilica Based High Performance Concrete, May 2015.
33. R. Rohit, Topic: Externally Bonded FRP Wraps For R.C.C. Columns, June 2015

34. Vipul Parkash, Topic: Durability of Bond Between Repair Material and Substrate Concrete, May 2015
35. Vishanu Bhagwan Topic: Durability of Expanded Polysterene Core Panel System May 2016.
36. Lt. Col Sushant Awasthi, Topic: GFRP as Internal Confinement Reinforcement for Deteriorating RCC Column May 2016.
37. Rohit Singh, Topic: Validation of Pore Pressure Theory on Fire Spalling of Concrete May 2016.
38. Hibretu Kaske Kassa, Topic: Investigation on Abrasion Resistance of Concrete, June 2017.
39. Holsamudrkar Nikhil Nagnath Topic: Stress-Strain Relationship for Concrete Columns Confined With FRP Ties, May 2017.
40. Chiranjeev Sager Topic: Durability properties of concrete incorporating different mineral admixtures, Ongoing.
41. Udit Pant Topic: FRP Retrofitting of Beam-Column Joints, Ongoing.
42. Sagar Jasuja Topic: Validation of carbonation induced Corrosion models for Indian Conditions, Ongoing.
43. Vinay Gaikwad Topic: Service life of RC Structure against chloride induced corrosion, Ongoing.
44. Tushar Patil Topic: Fire resistance of FRP reinforced concrete column, Ongoing.

MAIN CONSULTANCY PROJECTS (In last five years)

1. Condition Assessment of Residential Building of ONGC Dehradun, O.N.G.C. Dehradun, Rs.1947000.
2. Structural Evaluation of Blending Silo, Wonder Cement LTD. Udaipur, Rs.1150500.
3. Quality Audit of a building at Rohtak, Prasar Bharti, Construction Division, Chandigarh, Rs.1239000.
4. Inspection of a Dome Structure at Lucknow, U.P.R.N.N., Lucknow, Rs.531000.
5. Condition Assessment of Buildings at Agra, U.P. Avas Vikas Parishd, Rs. 1437500.
6. Evaluation of the Design of Pipe Rack, U.P.R.V.N.N. Harduaganj, Rs.1121000.
7. Condition Assessment & Repair of a Building at Noida, Garrison Engineer, MES Delhi, Rs. 546250.
8. Condition Assessment & Retrofitting of Service Reservoirs, UP Jal Nigam Kanpur, Rs.12937500.
9. Inspection of Building Structure of Town Hall, P.W.D. (West Bengal) Kolkata, Kolkata, Rs.4250000.
10. Structural Evaluation of a Building at Kolkata, Pushkarraj Construction PVT. LTD. Delhi, Rs.1006250.
11. Energy Absorption Tests of SFRS Panels from J&K Site, APCO Infratech PVT LTD. Lucknow, Rs.900000.

12. IN-Situ Investigation on a Clinker Silo-at Belgaum United India Insurance CO. LTD. Noida, Rs.1001875.
13. Condition Assessment of OHTS at Jhansi, Cantonment Board, Jhansi, Rs.741000.
14. NDT of Civil Works of Loktak Power Station Imphal, NHPC, Loktak Station, Imphal, Rs.3246706.
15. N.D.T. Evaluation Building of Hotel Janpath Delhi, I.T.D.C. Delhi, Rs.940500.
16. NDT of A Auditorium at Rudrapur, Uttarakhand Institute of Rural Development Rudrapur, Rs.598500.
17. Structural Analysis of Rotary Kiln Pier, ACC, Gagal, Bilaspur (HP), Rs.1095510.
18. Proof Consultancy of Quality Audit of CGEWHO, Central Govt. employee welfare housing organization CGEWHO, Janpath, New Delhi, Rs.2809000.
19. Evaluation of Design & Repair of a Building at Noida, D.S. Group Noida, Rs.1404500.
20. Quality Audit of a School Building, U.P. Jal Nigam, Lucknow, Rs.842700.
21. Condition Assessment of Chimneys, NTPC, Sipat, Bilaspur, Chhattisgarh, Rs.4719120.
22. NDT & INSITU Inspection & Testing of a Building, DS Group, Noida, Rs.842700.
23. Condition Assessment of Super Bazaar Building, NDMC, New Delhi, Rs.1095510.
24. Condition Assessment of a Building, Hans Hospitals Bahadrabad, Haridwar, Rs.505620.
25. NDT of Baira Siul Power Station Chamba (HP), NHPC LTD. BSPS Chamba, Rs.955060.
26. Experimental Investigation of Properties of Construction Materials & Design Mix. GGM, E.P. (I) LTD.C.U.C.D.P. Sector-5, Channi Himmat, Jammu (J&K)-1800015, Rs.674160.
27. Evaluation and Repair of Overhead Tank, U.P. Jal Nigam, Noida, Rs.505620.
28. Inspection & NDT Testing of Raft Foundation, West Bengal Electronics Industry Development Corporation LTD., Kolkata, Rs.842700.
29. Condition Assessment of Structures of OFD Dehradun, Ordnance Factory, Dehradun, Rs.1067420.
30. Evaluation and Strengthening of UGR, UP Jal Nigam, Meerut, Rs.505620.
31. Ndt of AIIMS Residential Complex Rishikesh, HLL Life care LTD.Noida, Rs.505620.
32. Vetting of Structural Design of Irrigation Tunnel, NICC-SKS Pathankot, Rs.730340.
33. Testing of Box Cut & Rocker Leg Foundation AT U.G. Mines Hindustan Zinc LTD. Rampur Agucha Mines, Rajasthan, Rs.589890.
34. Condition of Various Structures of RBIPMT, Delhi, North Delhi Municipal Corporation, Delhi, Rs.2415740.
35. Evaluation & Restoration of School Building, North Delhi Municipal Corporation, New Delhi, Rs.730340.

36. Inspection and NDT Testing of Haz House, UP Rajkiya Nirman Nigam Ltd., Haridwar, Rs.842700.
37. NDT of Foundation of Overhead Tank, U.P. Jal Nigam Rampur, Rs.505620.
38. NDT of Turbine Bearing Pedestal, HPGCL, Panchkula, Rs.505620.
39. Structural Rehabilitation of Manipur Bhavan AT Delhi, PWD, Manipur New Delhi, Rs.827251.
40. Structural Auditing of Regional HUB of NSG at Mumbai, NBCC, LTD.Mumbai, Rs.2481750.
41. NDT Evaluation of Overhead & Underground Water Tanks, U.P. JAL Nigam Muzaffarnagar, Rs.1654500.
42. UPV and Hammer Test on JNV Building Mohali, UP Jal Nigam New Delhi, Rs.827250.
43. Vetting of Structural Design of A Pump House, Mahashiv Design & Consultancy Services Lucknow, Rs.551500.

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 Low Cost and Seismic Resistant Housing.	India Habitat Center, New Delhi. Federation International Du Beton.	26.11.2004.
8. National Seminar on “Engineered Building Materials”.	INAE, IIT Bombay.	18-19 Jan’2003.
9. National Seminar on “Materials and	I.E. Luchnow.	19-20 Feb’2000.

Machines for Construction”.		
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
18. 4th International Workshop on Concrete Spalling due to Fire Exposure: Fire Spalling.	Leipzig, 2015	8 - 9 October, 2015
19. Workshop on Sustainable and Efficient Structures in Smart Cities, I.I.T. Roorkee – N.B.C.C. Joint R&D Centre on “Sustainable Civil Infrastructure”.	I.I.T. Roorkee – N.B.C.C. Joint R&D Centre ,Greater Noida	17th September, 2016
20. Workshop on GFRP Reinforcement for Concrete Structures	Toronto	2 May, 2017
21. 5 th International Workshop on Concrete Spalling.	Boras, Sweden	12-13 October, 2017

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, and 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, and 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