

CURRICULUM VITAE

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Educational Qualifications

Degree	University/ Institute	Year	Specialization
Ph. D.	I.I.T. Madras	1998	**
M. E. (Civil)	SGSITS, Indore (DAVV)	1987	Structural Engineering
B.E. (Civil)	SGSITS, Indore (DAVV)	1985	Civil Engineering
H. S. S. C.	M. P. Board of Secondary Education, Bhopal (M.P.)	1980	Maths, Physics and Chemistry

** Ph. D. thesis Title: “*Optimum Design of FRP Box-girder Bridges*”.

Professional/Research/Teaching Experience

Employer	Designation	Period of Employment	
		From	To
The Director IIT Roorkee	Professor	23-10-12	Contd.
	Assoc. Professor	06-02-07	22-10-12
	Asstt. Professor	21-9-01	05-02-07
The Director SGSITS Indore	Sr. Lecturer	7-6-95	20-9-01
	Lecturer	7-6-89	07-6-95

Nature of Duties/work: Teaching, research & consultancy

Teaching Experience:

Total 27 years of teaching experience. Taught various subjects related with structural engineering at U.G. and P.G. level. Subjects taught in last 5 years are: Mechanics of Composites, Bridge Engineering, Structural Analysis, Behaviour and Design of Steel Structures

Area of Research Interest:

Structural Engineering with emphasis on

- Behavior and design of bridges
- Behavior and design of laminated composite structures & Steel-Concrete Composites
- Stability problems in steel and other thin walled structures
- Genetic algorithm and ANN applications in structural engineering problems

Honours / Awards:

- Awarded the position of **Indian Railway Chair Professor in the area of Bridge Engineering** from 25/09/14 (for a period of three years)

Dissertation Supervised: P.G. (M. E./ M.Tech.): 50

Ph.D.: 08 (awarded) + 03 (in progress)

Doctoral Thesis Supervision:

S.No.	Name of the student	Title of thesis	Year of registration	Year of completion (or in progress)	Co-guide if any
1	G. Mohan Ganesh	Optimum design of composite floor system	03/1/2003	Sept. 2006	Prof. S.K. Kaushik
2	Rajeev Chandak	Study of shear lag behaviour of laminated composite box-beams	29/7/2003	Feb. 2007	Dr. P. Bhargava
3	Upendra K. Mallela	Optimum design of laminated composite stiffened panels	27/7/2004	Dec. 2007	–
4	J. Karthikeyan	Long-term deformation of high performance prestressed concrete bridges	2004	November, 2008	Prof. N. M. Bhandari
5	M. A. Tantary	Performance of fiber based concrete in transfer beams	July 2005	May, 2008	Dr. J. Prasad
6	L. Venkat	Genetic Algorithm based Optimum design of cable stayed bridges	July 2006	Feb.,2010	Prof. K.K. Singh
7	Rakesh Kumar	Study of track-bridge interaction phenomenon	July 2008	July 2013	-
8	Banti A. Gedam	Long term behavior of medium span bridges	July 2010	Sept.-2015	Prof. N. M. Bhandari
9	Kasi Viswanathan M.	Behaviour of laminated composite box-sections subjected to axial and lateral loads	July 2013	In progress	-
10	Madhusudan G. Kalibhat	Parametric studies on behavior of bridges	July 2014	In progress	

11	Qazi Inaam	Behavior and design of thin-walled structures	July 2015	In progress	
12	Ali Mubarack C. K.	Bridge Deck Behaviour	July 2016	In progress	

Publications

Journals/ Conferences

Published

International Journals	24
National Journals	18
International Conf./ Symp.	23
National Conf./ Sem.	15

Details of Research Publications

International Journals

1. Upadhyay, A. and Kalyanaraman, V., "Optimum Design of Fibre Composite Stiffened Panels using Genetic Algorithms" Engineering Optimisation, Vol.33, 2000, pp 201-220
2. Upadhyay, A. and Kalyanaraman, V., "Simplified Analysis of FRP Box-girders" Composite Structures, Vol. 59, 2003, pp 217-225
3. G. Mohan Ganesh, Akhil Upadhyay, and S.K. Kaushik, "Simplified Design of Composite Slabs Using Slip Block Test", Journal of Advanced Concrete Technology, vol.3, no.3, 2005, pp 403-412
4. Upendra K. Mallela and Akhil Upadhyay, "Buckling of laminated composite stiffened panels subjected to in-plane shear – a parametric study", Thin-Walled Structures, Vol 44(3), 2006, pp 354-361
5. G. Mohan Ganesh, Akhil Upadhyay, and S.K. Kaushik, "Assessment of Horizontal Shear Strength Parameters of Profile Deck Slab by Artificial Neural Network", Asian Journal of Civil Engineering, Vol 7(4), 2006, pp 287-300
6. V.Giri and A.Upadhyay, "ANN based prediction of Moment coefficients in slabs subjected to patch load", Structural Engineering and Mechanics, Vol 24(4), 2006, pp 509-514
7. J. Karthikeyan, Akhil Upadhyay, and N. M. Bhandari, "Artificial Neural Network for Predicting Creep and Shrinkage of High Performance Concrete", Journal of Advanced Concrete Technology, vol.6, no.1, 2008, pp 135-142
8. Rajeev Chandak, Akhil Upadhyay, Pradeep Bhargava, "Shear lag prediction in symmetrical laminated composite box beams using artificial neural network" Structural Engineering and Mechanics, vol.29, no.1, May 2008, pp 77-89
9. Venkat Lute, Akhil Upadhyay and K.K. Singh, "Support vector machine based aerodynamic analysis of cable stayed bridges", Advances in Engineering Software 40 (2009) 830–835
10. Venkat Lute, Akhil Upadhyay and K.K. Singh "Computationally Efficient Analysis of Cable Stayed Bridge for GA-based Optimization" Engineering Applications of Artificial Intelligence vol. 22, June 2009, pp 750-758
11. M. Bhagwat, S. Sasmal, B. Novák, A. Upadhyay, "Dynamic performance evaluation of straight and curved cable-stayed bridges" Bridge Structures, Vol. 5, Nos. 2–3, June–September 2009, pp. 87–95

12. Upendra K. Mallela and Akhil Upadhyay, "Validity Of Simplified Analysis For The Stability Of Laminated Composite Stiffened Panels Subjected To In-Plane Shear" *Structural Engineering and Mechanics*, vol.32, no.4, July 2009, pp 583-586
13. Upadhyay, A. and Kalyanaraman, V., "Optimum design of FRP Box-girders" *Structural Engineering and Mechanics*, Vol. 35 No. 5, July30 2010, pp 539-554
14. Hemendra K. Jain and Akhil Upadhyay, "Buckling behavior of blade-, angle-, tee-, and hat-stiffened FRP panels subjected to in-plane shear" *Journal of Reinforced Plastics and Composites*, December 2010, vol. 29, no. 24, pp 3614-3623
15. M. Bhagwat, S. Sasmal, B. Novák, A. Upadhyay, "Investigations on seismic response of two span cable stayed bridges" *Earthquakes and Structures*, Vol. 2, Nos. 4, 2011, pp. 337-356
16. M. A. Tantary, A. Upadhyay, J. Prasad, "Steel fibre based concrete in compression" *International Journal of Advanced Engineering Technology*, Vol. II, Issue I, January-March 2011, pp 96-111
17. Venkat Lute, Akhil Upadhyay and Krishna Kumar Singh "Genetic algorithms-based optimization of cable stayed bridges" *J. Software Engineering & Applications*, 2011, 4, pp 571-578.
18. Rakesh Kumar and Akhil Upadhyay, "Effect of Temperature Gradient on Track Bridge Interaction" *Interaction and Multiscale Mechanics*, Vol. 5, NO. 1(2012), pp 1-12
19. Tantary, M. A., Upadhyay A. and Prasad J., "Stress Strain Behaviour Of Steel Fibre Based Concrete In Compression", *i-manager's Journal of Structural Engineering (ISSN-2278-7887)*, Vol.1, No.3, September-November 2012, pp.32-38
20. Banti A. Gedam, Akhil Upadhyay and N M Bhandari, 'Study of an Apt Creep and Shrinkage Model for Normal Grade of Concrete', *International Journal of Scientific Computing*, vol.6,no. 2, 2012, pp380-384
21. Upendra K. Mallela, Akhil Upadhyay, "Buckling of laminated composite stiffened panels subjected to linearly varying in-plane edge loading" *International Journal for Computational Methods in Engineering Science and Mechanics*, 15(1), 2014, pp. 33-44
22. Banti A. Gedam, N.M. Bhandari and Akhil Upadhyay, "An apt material model for drying shrinkage and specific creep of HPC using artificial neural network" *Structural Engineering and Mechanics*, Vol. 52, No. 1 (2014) 97-113
23. Banti A. Gedam, N.M. Bhandari and Akhil Upadhyay, "Influence of Supplementary Cementitious Materials on Shrinkage, Creep and Durability of High Performance Concrete" *Journal of Material in Civil Engineering*, Volume 28, Issue 4 (April 2016), ASCE-04015173-1-11
24. Upendra K. Mallela, Akhil Upadhyay, "Buckling load prediction of laminated composite stiffened panels subjected to in-plane shear using artificial neural networks" *Thin-Walled Structures*, 102(May 2016), pp 158-164

National Journals

1. Mishra, A. K. and Upadhyay A., "Column Design Using ANN" *Indian Concrete Institute Journal*, Vol. 5, No. 2, July-September 2004, pp 17-19
2. Akhil Upadhyay, A. Gairola, Praveen Kumar, "Wind tunnel investigation for a cable stayed bridge", *Journal of Wind & Engineering*, Vol. 2, No. 1, July 2005, pp. 33-39
3. Upendra K. Mallela and Akhil Upadhyay, "Artificial neural network based prediction of buckling load of laminated composite panels" *Journal of Structural Engineering*, Vol 33(6), February-March 2007, pp. 515-521
4. Tantrik, M. A., Upadhyay A. and Prasad J., "Design aid for shear strength of steel fibre based concrete", *The Indian Concrete Journal*, January 2007, pp. 37-42
5. Joshi N. and Upadhyay A., "Use of FRP Composites In Deployable Bridges: Possibilities and

Challenges” Sapper, Journal of The Institution of Military Engineers, Vol. 20, No.1, April 2008, pp. 31-38

6. Tantrik, M. A., Upadhyay A. and Prasad J., “Steel Fibre Based Concrete In Its Fresh State”, Indian Concrete Institute Journal, Vol.9, No.1, April-June 2008, pp.13-22
7. Venkat Lute and Akhil Upadhyay, “Effect of Design Wind Speeds on Optimum Design of Microwave Towers” Journal of Wind & Engineering, Vol. 5, No.2, 2008, pp. 40-49
8. Venkat Lute and Akhil Upadhyay, “Slip block test: Interpretation and validation”, The Indian Concrete Journal, December 2008, pp. 9-15
9. Shital C. Chaudhari and Akhil Upadhyay, “Optimum design of pre-stressed concrete girder bridges using genetic algorithm” The Bridge & Structural Engineer, Vol.40, No.1 March 2010, pp. 25-36
10. Abhinav Kumar and Akhil Upadhyay, “Stability analysis of laminated composite box beams” Journal of Indian Building Congress, Vol.18, No.1, 2011, pp.123-132
11. Sandip Kumar Saha, Akhil Upadhyay and Balthasar Novák, “Performance evaluation of RC semi-integral bridge under seismic loading” The Bridge & Structural Engineer, Vol.41, No.1, March 2011, pp. 37-53
12. Karthikeyan, J., Upadhyay, A. and Bhandari, N. M. "Long-term deformation of a simply supported HPPC twin-cell box girder bridge" The Bridge and Structural Engineer, Vol. 41 No. 2, June 2011, pp 1-25.
13. Rakesh Kumar and Akhil Upadhyay, “Influence of Thermal Effect on Continuous Welded Rail over Bridges” The Bridge & Structural Engineer, Vol.42, N0.1, March 2012, pp 51-67.
14. Arun Das and Akhil Upadhyay, “Creep and Shrinkage Prediction: Comparison of provisions of IRC: 112-2011 and CEB-FIP 1990” The Bridge & Structural Engineer, Vol.42, N0.4, December 2012, pp 1-20.
15. Vinay Chaganti and Akhil Upadhyay, “Effect of partial interaction theories for steel concrete composite girder” The Bridge & Structural Engineer, Vol.43, N0.3, September 2013, pp 137-143.
16. Banti A. Gedam, Akhil Upadhyay and N. M. Bhandari “Performance of shrinkage and creep prediction models for normal strength concrete” The Bridge & Structural Engineer, Vol.43, N0.3, September 2013, pp 145-155.
17. Karthikeyan, J., Upadhyay, A. and Bhandari, N. M. "Creep and shrinkage behavior of HPC" The Indian Concrete Journal, Vol. No.10, Oct. 2013
18. Shital C. Chaudhari and Akhil Upadhyay, “Distortional analysis of laminated composite box-girders” i-manager’s Journal of Civil Engineering (ISSN-2231-1063), Vol.3, No.4 Sept.-Nov. 2013, pp. 1-15

Details of Sponsored Research Project

Title of the Project : **“Optimum Design of Composite Floor System”**
Funding Agency : MHRD, Government of India
Duration : 2 Years (completed in 2006)
Amount : Rs. 15.00 Lakhs

Short Term Course:

1. “Analysis and Design of Bridges: Existing and New Trends” AICTE Sponsored, 30/5/11 to 03/6/11, IIT Roorkee
2. “Survey, Investigations and Design of Bridges” Sponsored by PWD Bihar, 11/3/2013 to 15/3/2013, IIT Roorkee

Details of Consultancy Projects

S.No	Period	Organization	Nature of Work
1	May-July 2000	M/S DECON Design Consultants & Architects. Bhopal	Checking of design of a skew bridge over railway crossing at Ratlam
2	July 2001	EE, PWD, Barwani (MP)	Structural design of box girder bridges
3	March 2003	DGM, BHEL, Haridwar	Checking of structural safety of existing structure for the proposed increased crane capacities
4	May 2005	Prasar Bharati (BCI), Office of Chief Engineer (NZ), New Delhi	Structural design of 45 m high self supporting steel tower
5	2005-2006	Consulting Engg. Services, Nehru Palace, New Delhi	Vetting of structural design of Basholi cable stayed bridge on river Ravi
6	2005	VKS Infratech management India Pvt. Ltd	Proof checking of 200 m long PSC girder bridge on Hindon River
7	2006	Delhi, PWD	Proof Checking of design of Bridge on Neela Hauz, New Delhi
8	2006	Superintending Engg. PWD Haldwani U.A. River Khatima	Structural design of 80 m long PSC Bridge on Kaman
9	2005-2006	HPWD, Govt. of Himachal Pradesh	Vetting of Structural Design of 315m(185m central span)long PSC Bridge over Gobind sagar reservoirs
10	2005-contd.	Scot Wilson & Kirkpatrick India Pvt. Ltd	Proof checking of six spans of ROB at Patna
11	2005-contd.	GILCON Ltd. Mumbai	Proof checking of design and drawings of ROB 101 & 101A at Muzaffarpur

12	2006-2007	EE, PWD, Construction Division Khatima(Uttaranchal)	Structural design of RCC T-girder bridge and abutment
13	2006-onward	Various agencies	Model tests in wind tunnel
14	2006-2007	L&T RAMBOLL, Chennai	Proof checking of redesign of pier P65 and it's foundation, Chirayatand, Patna ROB
15	2006-2007	MITES, New Delhi	Proof checking of design of steel plate-girder and truss bridges, J & K
16	2007	HPWD, Govt. of Himachal Pradesh	Proof checking of design of super and sub structure of a balanced cantilever bridge, J & K
17	2007	PWD, Ghansali Uttarakhand	Strengthening of existing steel & concrete bridge for enhanced loading, Ghansali, Uttarakhand
18	2008	EE, National Highway Division, PWD Ghaziabad	Design of 3-cell box-culvert bridge
19	2009-10	Gamon India Ltd., Mumbai	Assessment of lateral load carrying capacity and stability analysis of foundation of piers of Bagchal bridge, H.P.
20	2010	G.M., MGR, N.T.P.C., Korba	Health assessment of load line truss bridge across river Ahiran
21	2009-10	E. E., PWD, Haldwani	Design of 30m long pre-cast pre-stressed concrete girder bridge over river Gola, U.K.
22	2010-11	E.D., B&S, RDSO, Lucknow	Proof checking of structural design of a composite girder type road over bridge (30m span)
23	2011-12	URS Scott Wilson India Pvt. Ltd., New Delhi	Proof checking of structural design of ROB at LC-31 in Bihar
24	2012-13	U.P. JAL NIGAM, GHAZIABAD	Proof checking of structural design of 1000 kl water tank
25	2012-13	PWD, HALDWANI	STRUCTURAL DESIGN OF 20M SPAN BRIDGE DECK AND AN ABUTMENT AT GOLA RIVER
26	2012-13	URS SCOTT WILSON INDIA GURGAON	PROOF CHECKING OF STRUCTURAL DESIG OF SUBSTRUCTURE OF HARINAGAR ROB IN LIEU OF 31 IN BIHAR

27	2014-15 & 2015-16	RITES, Gurgaon	Proof checking of structural design of flyover UER-I & UER-II
28	2014-15	Transpan Infra Pvt. Ltd., Dehradun	Proof checking of structural design of steel truss bridges

Other Responsibilities:

Current

Co-coordinator, Center for Railway Research (CRR), IITR

Past

- Co-ordinator, Structural Engineering Group (2014-16)
- Chairman – P.G. Admission (2014-15)
- Chief Advisor (2012-14), Dy. Chief Advisor (2010-11) Staff Advisor-Star Gazing section (2006-11) (Hobbies Club)
- Vice-chairman – P.G. Admission (2013-14)
- Vice-chairman (Civil)-Construction Division (2009-2011)