

(CV)

1. **NAME AND PHOTOGRAPH:** Dr RAJEEV KUMAR GARG



2. **DESIGNATION AND COMPLETE ADDRESS INCLUDING EMAIL ID.**

Chief Scientist, Bridge Engineering and Structures Division, and

Professor, Engineering Sciences, Academy of Scientific and Innovative Research
(AcSIR@CRRI, New Delhi) (<https://acsir.res.in/facultylist/>)

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3. **AREAS OF INTEREST**

- Structural Dynamics including Wind & Earthquake and Vibration Analysis;
- FE Modeling for Risk & Reliability and Masonry Arch Bridges;
- Management of Bridges including- Structural Health Monitoring, Remaining Life Assessment & Failure Analysis and MBIU.

4. **EDUCATIONAL QUALIFICATION** – starting from the highest degree

S. N.	Degree/Certificate	Year of passing	University/Institute	Subjects
1	Ph.D.	1997	I.I.T. Delhi	Wind Engineering
2	M. Tech.	1987	I.I.T. Madras	Engineering Mechanics
3	B. Tech.	1985	G.B.Pant Univ. of Agri. & Tech., Pant Nagar	Civil Engineering
4	B.Sc.(Hons.)	1981	DN College, Meerut (Ch.Ch.Univ, Meerut)	Phy., Chem., Maths.

5. **Professional Experience** - in reverse chronological order

Sl. No	From	To	Name of Organisation	Position held
1.	2014	Till date	CSIR-Central Road Research Institute, Mathura Road, New Delhi	Chief Scientist (G)
2.	2008	2014	CSIR-Central Road Research Institute, Mathura Road, New Delhi	Sr. Principal Scientist (F)
3.	2001	2008	CSIR-Central Road Research Institute, Mathura Road, New Delhi	Scientist "E2"/
4.	1997	2001	CSIR-Central Road Research Institute, Mathura Road, New Delhi	Scientist "E1" / Sr. Scientist
5.	1992	1997	Structural Engineering Research Center, Ghaziabad	Scientist "C"
6.	Sep., 1987	Sep. 1992	Structural Engineering Research Center, Ghaziabad	Scientist "B"

6. **Membership to Professional Bodies**

- *Member, Mechanization and Instrumentation Committee (G4), Indian Roads Congress, (2015-2017).*
- *Member, Special Structures Sectional Committee CED38, Bureau of Indian Standards, (2012-2017).*
- *Member Secretary, Instrumentation Committee (G5), Indian Roads Congress, (2006-2008 and 2009-2011, 2012-2015).*
- *Member, Maintenance and Rehabilitation Committee - B8. Indian Roads Congress (2005-08).*
- *Member, Executive Committee of Indian Society for Wind Engg. (ISWE) for two terms (2002-06).*
- *Member, International Centre for Urban Safety Engineering (a society) (ICUS/ INCEDE), The University of Tokyo, Tokyo.*
- *Member of the advisory board "Skill Council" of Haryana Vishwakarma Skill University (HVSU).(2017-2019)*
- *Member, Indian Concrete Institute –WUP, Ececutive Committee (2021).*
- **Life member** of various technical societies in professional field namely,
 - Sr P.E. (ECI)
 - Institution of Engineers (I),
 - Indian Society for Wind Engineering (ISWE),
 - Indian Concrete Institute (ICI),
 - Indian Society for Earthquake Technology (ISET),
 - Computer Society of India (CSI),
 - Aeronautical Society of India (AeSI),
 - The Society of Power Engineers (SPE),
 - Indian Society for Construction Material & Structures (ISCMS),
 - Indian Geo-technical Society (Delhi Chapter),
 - Indian Roads Congress,
 - Indian Institution of Bridge Engineers

7. ACHIEVEMENTS

a. HONOURS AND AWARDS

- Construction Industry Development Council (**CIDC**) has awarded Achievement **Vishwakarma Award 2017** (category- Scientist) on 7th March 2017.
- National Research Development Corporation of India (**NRDC**) has awarded **Innovation Award-2014** to the technology “Design and Development of an Indigenous Mobile Bridge Inspection Unit (MBIU)” developed by CSIR laboratories namely CSIR-CRRI, New Delhi and CSIR-CMERI-CoEFM, Ludhiana) on 24th March 2017. This award carried a prize of Rs five lacs for the team. Dr. Rajeev Kumar Garg, led the team (Principal Investigator) of this technology which was funded by CSIR and DST, New Delhi.
- **CSIR-DAAD fellowship** to carry out R&D work in the field of Wind Engineering at Ruhr University, Bochum, Germany from June, 1992 to Sep. 1994.
- **Commendation Certificate** from IRC for outstanding Performance as Member-Secretary, Instrumentation Committee (G-5) for Jan 2009 to Dec 2011.

b. INTELLECTUAL PROPERTY RIGHTS (IPR)

- i. The **patent** awarded entitled “Vehicle mounted automatic controlled mobile bridge inspection device”. **Indian Patent** No. 338725 dated 18.6.2020. (Role as team leader of the project jointly with CSIR-CMERI-CoEFM, Ludhiana).
- ii. **Copyright awarded.** Rajeev Kumar Garg on “CSIR_CRRI Database of Failure of Bridges in India from 1977 To 2017”. **Indian Copyright.** ROC Number [L-99523/2021](#), Diary Number 16962/2020-CO/L. dated 16.2.2021.
- iii. **Trademark awarded** (3569337, 3569339, 3569340, 3577030). For “*FiboStrain* and *FibroStrain*”, for Fiber bragg grating strain sensors developed (jointly with CSIO, Chandigarh).
- iv. **Trademark awarded** (3571371, 3571372). For “*SetuCare*”, and “*BridgeCare*” for MBIU (jointly with CSIR-CMERI-CoEFM, Ludhiana).

c. RESEARCH PROJECTS – IN THREE GROUPS

Participation in the “R&D activities” of the Laboratory/Institute/CSIR		
Title of Project	Project Category	Role in Project
Development of Management System for Maintenance Planning and Budgeting of High Speed Road Corridors. (Completed)	SIP30 11 FYP- (CRRI)	Sub-module Leader & Team member
Innovative Technologies for Health Assessment and Damage Mitigation of Structures (I-HEAL). (Ongoing)	12 FYP- ESC-0110 (SERC)	Activity Leader (T5.6), Alternate nominee for Task Force Committee
Development of Robot for Underwater Inspection and Damage Detection of Bridges (UnWAR)	12 FYP- ESC-0113 (CMERI)	Team Member
Seismic Resistant Design of bridges- Comparative study of codal provisions (Completed)	In-house R&D OLP2302	Project Leader

Seismic resistant design of bridges: Performance of concrete bridges under seismic forces (Completed)	In-house R&D OLP0401	Project Leader	
Upgradation of R&D and testing facilities in the area of Bridges and Structural Engineering. (Completed)	In-house Capability OLP477	Specifications and procurement of vibration / sensors accelerometers and associated components.	
Study of fatigue of rail fasteners used in urban track induced vibration. (Completed)	OLP0569	Project Leader	
Redesigning of mobile bridge inspection unit (Completed)	OLP0598	Project Leader	
Participation in the R&D activities, sponsored by other Govt. Organizations			
Title of the Project	Sponsoring Agency	Role in Project	
Distress diagnostic, performance evaluation and bridge management system for concrete bridges, GAP 4413, (Completed)	DST/TSG/STS/200 4/50	CO-PI and PI (Later)	
Development of Critical Infrastructure Information System in GIS Environment for Maintenance of Bridges on National & State Highways. GAP 4456. (Completed)	DST/TSG/STS/200 5/7	Team member	
Development of Mobile Bridge Inspection Unit (Jointly with CSIR-CMERI-MERADO, Ludhiana) GAP 4470. (Completed)	DST/TSG/STS/200 6/76	PI/ Project Leader	
Construction of Roads In Cyclone Prone Areas. (Completed)	NDMA, Delhi	Contributed one chapter on bridges	
Development of Fiber Bragg Grating based Distributed Strain Sensor System for Concrete Bridges (Jointly with CSIO, Chandigarh) GAP 4492. (Completed)	DST (DST/TSG/NTS/20 09/32)	Co-PI & Project Leader for CRR I	
Intelligent Remote Health Monitoring (IRHM) for Bridge System (Jointly with SERC, Chennai). GAP 4539.(Completed)	DST DST/TSG/STS/201 1/43 G	CoPI and PL for CRR I	
Mission Mode Project. Technologies for Robust Structural Health Monitoring of Critical Infrastructure (Vertical 1) and Conservation & Restoration of Heritage Structure- (Vertical 2). For vertical-2 (V2)- HCP0018 (Task No. 3F- studies on arch bridges).	CSIR/ CBRI	CoPI and PL for CRR I	
Participation in the R&D activities, sponsored by Industry			
Title of the Project	Sponsoring Organization	Category Project	Role in project
External Technical Audit of 4-laning of Rewa-Katni-Jabalpur Section of NH-7 of Package-1 (km 242.600 to km 311.000) and Package-2 (km 311.000 to km 359.500 & km 378.500 to km 397.000) in the state of Madhya Pradesh under NHDP-IV on EPC Mode	NHAI M.P.	SSP4641	Member, Dec 19-Jun 21
Condition Assessment, Structural Evaluation and Suggestion for remedial measures of Ganga Bridge	Soma-Roadis Pvt. Ltd)	SSP4654	Member, Nov 20-Oct 21

at Varanasi			
Condition survey, Structural Evaluation and remedial measures of 9 no. of completed/ ongoing bridge projects under Rural Development Department, Odisha	Rural Dev. Dep. Govt of Odisha	SSP4656	Member, Dec 20-Mar 22
Impact on vibration levels on railway bridge between Andul-Sankrail during construction process	South Eastern Railway, Kolkata	CNP 2542	Project Leader Vibration monitoring & safety of existing bridge during construction
Quality Audit of structures of the 4 laning of Jetpur-Somnath Section NH 8D from km 0 to km 127/000 (Gujarat) on DBFOT Toll Basis under NHDP-Phase-III" and also test on 14km distressed road stretches of the section.6	NHAI	CNP2550	team Member / Completed Vibration monitoring in field and FEM analysis July 19-Mar 21
Structural safety Audit of major bridges at km 114+759 and at 64+047 of Four-Laning of Porbander-Jetpur Section on NH 88 in the state of Gujarat	Safeway Tollway Pvt Ltd	CNP2563	team Member / Report submitted Vibration monitoring in field and FEM analysis
Structural Safety Audit of major bridges at km 938+485 over the river Godavari near Rajamundry in the state of Andhra Pradesh/ Completed	Safeway Tollway Pvt Ltd	CNP2572	team Member Vibration monitoring in field and FEM analysis Nov 19-Dec 20
Structural Safety Audit of Structures on 4-Lane NH connectivity to ICTT Vallarpadam , stretch between Kalamassery (Chainage 0) to Vallarpadam (Ch. Km 17.150) on NH 966 A - Kerala.	NHAI Govt	CNP2564	team Member / Report submitted Vibration monitoring in field and FEM analysis
Investigation of Major Bridges at Km 38+800 of 4-Laned Section of Tuticorin-Tiruneveli, NH-7A	NHAI	CNP 2635	team Member / Completed Sep 20 -Aug 21
Third party Technical Assistant for two bridges on Agra Canal at Ch km 17.000, 22.515 near Faridabad	UP Irrigation	CNP 2651	team Member Oct 20-Nov 22
Assessing Condition of Distressed Bridge at Kangsabati Bridge on NH6 (Completed May 2009),	ICT Pvt. Ltd., New Delhi	CLP1563	Project Leader
Evaluation of Bridges for Increase in Axle Load of Freight Wagons for South-Eastern Railway (Completed)	South-Eastern Railway	SSP 4461	Project Leader (for later half)
Evaluation of Bridges for Increase in Axle Load of Freight Wagons for West Central Railway-Bhojakhho (Completed)	West Central Railway	SSP 4474	Project Leader

Evaluation of Bridges for Increase in Axle Load of Freight Wagons for Eastern Railway (Completed)	Eastern Railway	SSP 4467	Project Leader (for later half)
Study Of Vibrations Due to Movement Of Heavy Vehicular Traffic On The Munirka Flyover, Delhi (Completed)	Delhi PWD	CLP1819	Project Leader
Investigation for the use of Structural Steel Products in Transportation and Facility sector (Completed)	Nippon Steel & Sumitomo Metal Co., Japan	SSP-4518	Project Leader
Assurance of quality construction of corridor of elevated road on outer Ring Road from Madhuban Chowk to Mukarba Chowk, New Delhi (Completed)	Delhi PWD	CLP-1918	Project Leader
Assurance of quality construction of corridor of elevated road on outer Ring Road from Mangol Puri to Madhuban Chowk, New Delhi (Completed)	Delhi PWD	CLP-1919	Project Leader
Independent QA During Construction and Subsequent Performance Evaluation of Road and Bridges for Link Road Connecting NH-24 and NH-58 (Completed)	Ghaziabad Development Authority (GDA)	SSP-4521	Project Leader
Visual inspection of bridge at Janakpuri, Delhi (Completed)	MCD-IV, Delhi	TSP372	PL
Noise and vibration assessment at DMRC corridor (Completed May 2014)	DMRC	CLP1992	Co-Project Leader
An Independent review of Signature Bridge project for technical and contractual issues.	DTTDC, Delhi	SSP 4560	team Member
Collection and Analysis of bridge condition and inventory data by Mobile Bridge Inspection Unit on National Highways of Jharkhand State (under JV)	MoRTH/ ICT Pvt Ltd	SSP 4551	Co-Project Leader
Load Testing Of “Gheroli Bailey Bridge” In Betalghat Block, Nainital, Uttarakhand	PWD, Nainital	CNP 2296	Project Leader Completed
Quality Assurance of Construction of structures of Inner Ring Road (Phase-I), from Kuberpur to Fatehabad road, Agra	ADA, Agra	CNP 2045	team Member /Completed
Evaluation of condition of Ranjit Singh Flyover Connecting Barakhamba Road and Mata Sundari Road, New Delhi	NDMC, Delhi	CNP 2184	team Member Completed
Security Audit regarding the structural stability of existing Bridge & Flyover in New Town Kolkata.	PWD 2.30 Lacs	CNP 2200	team Member
Evaluation of the quality of construction of the Two 4-lane bridges and one 6-lane bridge across Agra canal at km 10.150,13.300,30.118 Faridabad.	Haryana Irrigation 34.35 Lacs	CNP 2202	team Member
Assessment of concrete strength of abutment of Karmnasha and durgawati bridge on NH-2 Near Varansi with core extration and non-destructive testing. (Completed)	NHAI 7.9 Lacs	CNP 2203	team Member
Assessment of damages in distressed span P1-P2 (outer carriageway) of bridge on 4-lane divided carriageway connecting NH-24 and NH-28 around Lucknow City using NDT (Completed)	PWD UP 23.0 Lacs	CNP 2208	team Member
Detailed investigation of existing bridges/flyovers regarding the structural	PWD WB 32.19 Lacs	CNP 2223	team Member (Completed)

stability security audit in New Town, Kolkatta.			
Technical audit of seven numbers bridge of NTPC Vindhyanchal as per Railway Manual (Completed)	PWD WB 14.95 Lacs	CNP 2224	team Member
Inventory and condition survey on the Project High way of conversion of Delhi-Gurgaon Section of NH-8 Access Controlled Eight/Six Lane Highway from RaoTulaRam Marg	NHAI/ Mill 40.25 Lacs	CNP 2236	team Member
Study of Seven Spans of Grade Separator in km 9&10 (Govt. Polytechnic Junction) in Lucknow, U.P. (Completed)	PWD UP 87.40 Lacs	CNP 2255	team Member
Instrumentation scheme, review of data observed during instrumentation and suggestion of remedial measures for three bridges under Lumding-Silchar B G Rail line (Completed)	PWD UP 13.80 Lacs	CNP 2256	team Member
Project Monitoring and Assurance of Quality Construction of Additional Two-lane Bridge Over Hindon on NH58E in Ghaziabad (Completed)	GDA UP 24.15 Lacs	CNP 1989	team Member
Evaluation of Bridges for Increase in Axle Load of Freight Wagons for West Central Railway-at Rohari/ Ganjal/Kalisindh/ Northern Railway (Completed)	West Central Railway	SSP – 4473, 4475, 4476 4463	Team member
Quality assurance and instrumentation of road over Palam Drain, Dwarka, New Delhi (remaining part/ report finalisation/Completed)	DDA	CLP 1095	Team member
Distress diagnostics and rehabilitation measures for a PSC girder bridge on Maskararo river (Saharanpur) (Completed Mar 2012)	UP PWD	CLP 1792	Team member
Preliminary Investigation of Arch Bridge On Upper Gang Canal, Meerut (Completed)	UP Irrigation	CLP 1790	Team member
Proof Checking of Design And Drawing Of PSC Bridge Over River Hindon On NH58E (Completed)	Ghaziabad Dev. Authority (GDA)	CLP 1779	Team member
Quality Assurance Of PSC Bridge Over River Hindon On NH58E	GDA	CLP 1780	Team member (Completed)
Construction of RPS drain cover Khanpur (Completed)	MCD	TSP691	Team member
Quality audit of Lucknow –Muzaffarpur National Highway Project (LMNHP- 8 Contracts), NHAI, (Completed Dec. 2012)	NHAI	CLP 1825	Team member
Assurance of quality construction of bridges over Agra canal in Faridabad	U.P. Irrigation.	CLP-1948	Team member
Partially Constructed Bridge near NTPC for field investigation (Completed)	U.P. Irrigation,	CLP- 1900	Team member
Performance evaluation of protective surface coatings for cement concrete	Wacker Silicones, Mumbai	SSP 4519	Team member
Design of Pedestrian Subway (Completed)		CLP 1959	Team member
Proof checking structural design pedestrian foot over bridge, PWD Delhi (Completed 2011)	TCPL, Delhi	CLP1659	Team member

Performance evaluation of the four spans of a grade separator and two spans of a ROB connecting National Highways 24 and 28 at Lucknow through load testing (Completed March 2009)	PWD, Lucknow	CLP 1540	Team member
Technical inspection of the ROB and RUB Road No.68 Nand Nagri, Delhi-93, under construction by the DTTDC (Completed)	DTTDC	CLP 1930	Team member
Detailed investigation of bridge over river Damodar -Burdwan (Krishak Setu) (Completed)	WB PWD	CLP 2068	Team member
Other small projects on bridge design & investigation (6 nos.) and material testing e.g. bearings, steel bars, bolts etc. CLP2025 -KrishakSetu/WBPWD/2014. CLP2032 -InvBridge/VOCPortT/.2014. CLP2038 -BridgeMathura/UPSBC/ 2014. CLP2055 - LoadTGangaAraCh/ SPSingla/ 2015. TSP815 -Bearing/DMRC/4.2014. TSP845 -MSBolt/L&T/01.2015.	DMRC, UPSBC, L&T, SPSingla, WBPWD, VOC PortTrust	CLP/ TSP complete d	Team member
Quality Assurance of Construction of structures of Inner Ring Road (Phase-I) from Kuberpur to Fatehabad road, Agra (Completed)	ADA	CLP 2045	Team member
Structural analysis, design and drawings of foot over bridge on Palam drain road Dwarka, New Delhi (Completed)	DDA	CLP 2039	Team member
Design of pedestrian subway (Completed, Feb 2014)	MES, New Delhi	CLP 1959	Team member
Aerodynamic studies of proposed 4-lane Cable Stayed Bridge over Burdwan yard (Completed)	CES	CLP 1833	Team member
Design of 6 lane single span bridge on Gurgaon canal Faridabad (Completed)	YWS, Irrigation, Faridabad	CLP1910	Team member
Wind tunnel tests for scaled RC chimneys and cooling towers	Agencies	-	PL/Member
Analysis of a multi-storeyed building	Agency	-	Member
Wind tunnel test of scaled microwave tower	DOT	-	PL
Checking the design of foundation of several microwave towers at various places in country	Pvt. Agencies	-	PL and team member
Design check of 100/120 m guyed tower	ECIL	-	PL
Design check of 100 m microwave tower	Pvt. Agency	-	PL
Analysis and design of modular microwave tower	Pvt. Agency	-	PL
Analysis of a building	GDA	-	Team member
Full scale test of atomic power plant shell (ICW) (Kakrapar) 1988	NPC	-	Team member

d. **RESEARCH PUBLICATIONS** (in two parts, Papers in Journals and in Conferences)

JOURNAL PAPERS

- Rajeev Kumar Garg, Satish Chandra & Aman Kumar (2020): Analysis of bridge failures in India from 1977 to 2017, **Journal Structure and Infrastructure Engineering** (Taylor Francis/ SCI 2.62), DOI: 10.1080/15732479.2020.1832539
- Garg, R.K., Kashif QI, K. Balaji (2018) Towards Seismic Resilient Bridges on an Urban Mass Rapid Transport Network. Proc. **ASCE India Conference 2017- Urbanization Challenges In Emerging Economies: Moving Towards Resilient Sustainable Cities and Infrastructure** 12 - 14 December 2017, New Delhi.
- Rajeev K.**Garg**, Rajesh Chak, Vinod R. Dahake, Ashwani Kumar and Abhijit Mahapatra (2021). Structural and Functional Design of a Low Cost Vehicle Mounted Mobile Bridge Inspection Unit (MBIU). **Journal Indian Highways** (Indian Roads Congress), Vol. 49(7), Pp. 29-35.
- Kashif, Q. I., Garg, R.K., and Rao, K. B. (2021). “Reliability based safety amelioration of bridge corridors considering intersections under seismic aftershocks.” (Under review).
- Kashif, Q. I., Garg, R.K., and Rao, K. B. (2021). “Value of Risk-Informed Decision for Bridge Corridors Crossing Intersections under Seismic Hazard-Aftershocks” (Under review).
- Garg,S.M., Pratima Singh, Bharat Gupta and Rajeev Garg (2021). Manipulation of Standard Link Mechanism for Robotic Application Using Artificial Neural Network and PID. In book: Machine Learning for Robotics Applications. DOI: 10.1007/978-981-16-0598-7_1
- Kashif et al, Village roads in flood prone areas: problems and rehabilitation strategies, *Sadak Darpan* (Hindi), Issue no. 17 (December), CSIR-CRRI, New Delhi, Pp. 33-42. (2018)
- Rajeev Kumar Garg and Rajeev Sharma (2020). Technology Development of Mobile Bridge Inspection Unit at CSIR in India. *Swadeshi Vigyan Patrika*, The Vigyan Bharti (VIBHA), Delhi, India, Vol. 1 (2), Pp. 25-31, July-Dec, 2020 (Published 26.02.2021; www.swadeshiscience.org) (<https://drive.google.com/file/d/1ETCTBTGcv4SePDXW-r9SfLP68tRiTYV8/view>).
- Inqalabi, K.Q., R.K. Garg and K. Balaji Rao. Seismic Vulnerability of Urban Bridges due to Liquefaction using Nonlinear Pushover Analysis and assessing parameters for Damage Detection. *Procedia Engineering*, Vol. 173C (2017) pp. 1739-1746. DOI: <http://dx.doi.org/10.1016/j.proeng.2016.12.211>, (CiteScore: **0.56**).
- G.K. Sahu, **R.K. Garg** and Ram Kumar (2008). “Performance evaluation and rating of bridges under uncertain structural parameters using integrated load test” *Journal Scientific & Ind. Res (R&D)*, (SCI journal) Vol. 67 (9), Pp. 703-707.
- **R.K. Garg** and K. K. Chaudhry (2007). “Wind Induced Flow-Field around Complex Shaped Buildings” in *Indian Concrete Institute Journal*, Vol. 8 (1), pp.33-41.
- **R.K. Garg**, Ram Kumar, G.K. Sahu and S. Garg (2006). “Sensors and Actuators for Bridge Management – Recent Trends” in *The Bridge & Structural Engineer, ING-IABSE Journal*. Vol. 36(2), pp. 1-21.

- Ram Kumar, G.K. Sahu, **R.K. Garg**, VV Rao and MVB Rao (2005). “Retrofitting of a three-span two-girder PSC bridge” in The Bridge & Structural Engineer, ING-IABSE Journal. Vol. 36(2), pp.45-50.
- Ram Kumar, **R.K. Garg**, G.K. Sahu, VV Rao and MVB Rao (2005). “Evaluation and rehabilitation of distressed PSC girder bridge” in Construction Journal of India (CJI), pp.45-50.
- R.K. **Garg**, S.P. Sharma, K.K. Chaudhry (1991). Simulation of Atmospheric Winds in Wind Tunnels: State of the Art. Jn. Aeronautical Society of India Nov. 1991, pp. 241-263.
- S.K. Agarwal, R.K. **Garg** & Lakshmy P (1991). Wind Resistant design of Structures. Int. Jn. of Structures, Roorkee. 1991, Vol. 11 (1), pp. 55-95.
- K.K. Chaudhry & R.K. **Garg** (1993). Wind Pressure Distribution around the High Rise Building Curved in Plan. Jn. Structural Engineering, Madras. 1993 Vol.20, pp.129-134.
- S.K. Agarwal & R.K. **Garg** (1994). Wind Load Assessment on Free Standing Lattice Towers, Jn. Inst. Of Engg. (I), Civil Engg. Nov. 1994, Vol. 75, pp.171-177.
- R.K. **Garg**, J.X. Lou, M. Kasperski (1997). Some Features of Modeling Spectral characteristics of Flow in Boundary Layer in Wind Tunnels. Jn. of Wind Engineering and Industrial Aerodynamics. Vol. 72, pp.1-12, 1997.
- Ram Kumar, G.K. Sahu, R.K. **Garg**, VVLK Rao, MVB Rao (2004). Retrofitting of a three-span two-girder PSC bridge. The Bridge & Structural Engineer, ING-IABSE Journal. Vol. 34(4), Dec.2004, pp.57-70.
- R.K. **Garg** (1995). High Reynolds No. Simulation Tech. & Their Application to Circular Shaped Structures Model Test, by C. Barre and G Barnaud, Jn. W.E.I.A, Vol. 57, 1995 Jn. Wind Eng. Ind. Aero Vol. 57, 1995, pp. 145-158. in the same vol. pp. 416.
- R.K. **Garg** (1995). Wind Tunnel Study of an Oscillating Tall Building, by AAFediw et al, Jn. W. E. I.A, Vol. 57, 1995, pp. 249-160. Jn. Wind Eng. Ind. Aero, Vol. 57, 1995, in the same vol. pp.435.

CONFERENCES

- Alok Rathore and Rajeev Kumar Garg (2021). Assessing Resilience of Transportation Networks under Multi-Hazards: A Review. Paper No. 343. Civil Engineering for a Disaster Resilient Society: Select Proceedings of Virtual Conference on *Disaster* Risk Reduction (VCDRR, March 2021). (NIT- Surathkal, NIDM etc), India.
- Inqalabi, K. Q., Rathore, K. and R. K. Garg, Vulnerability of historic bridge under liquefaction hazard, International Symposium on Geotechnical aspects of Heritage Structures, IIT Chennai (Sep 2019).
- Prince T., R.K. Garg and Amal Raj. Structural Health Monitoring Using Experimental Modal Analysis. National Conf. Recent Adv in Civil Engg, (REACT) on June 16-17, 2016 at Vidya Academy of Sc & Tech, Thrissur, Kerala. Pp. 120-124.
- Prince T., R.K. Garg and Amal Raj. Vibration-based Health Monitoring and Damage Detection of Steel Beam. Paper No. 517. Proc. Structural Engineering Convention (SEC2016), SERC, Chennai. Dec. 21-23, 2016, Pp. 1064-1069.

- Kashif Q.I., Garg, R.K. and K. Balaji Rao. Study of Failure Behaviour Using Seismic Vulnerability Analysis Of Urban Bridges Due To Liquefaction. Paper No. 553. Proc. Structural Engineering Convention (SEC2016), SERC, Chennai. Dec. 21-23, 2016, Pp. 962-967.
- Inqalabi, K.Q. and Garg, R.K. Seismic Vulnerability Assessment Of Typical Urban Bridges Under Liquefaction, 6th International Conference Recent Advances In Geotechnical Earthquake Engineering and Soil Dynamics August 1-6, 2016, IIT Roorkee, Greater Noida.
- Rajeev Goel; P. Lakshmy; S.K. Sharma; R.K. Garg; G. K. Sahu; JK Goyal (2016), ‘Development of Bridge Maintenance Management System in GIS Environment in India’, To be published in the Proceedings of 2nd International Conference on ‘Sustainable Construction Materials and Technologies’, to be held at Las Vegas, USA during August 7-11, 2016 .
- Rajeev Goel, S.K. Sharma, J.K. Goyal, Lakshmy Parmeswaran; & Rajeev Garg (2016), ‘A Case Study of Strengthening of Distressed Prestressed Concrete Box Girder Bridge’, To be published in the Proceedings of 2nd International Conference on ‘Sustainable Construction Materials and Technologies’, to be held at Las Vegas, USA during August 7-11, 2016.
- Kashif Quamar Inqalabi and Garg, R.K. (2015). Seismic Risk Assessment of Bridges as Part of a Transportation Network. TIFAC-IDRiM Conference, 28th –30th October 2015, New Delhi.
- S.S. Gaharwar, Shraddha Sharma and R.K. **Garg** (2015). Use of construction and demolition waste (CDW) in concrete – a paradigm shift. Proc. BITCON 2015, Bhilai Institute of technology, Bhilai. Feb. 22-23.
- शुभमय गंगोपाध्याय, राजीव शर्मा, रवीन्द्र लैले, राजीव पटेल, विनोद दहाके, फरहत आज़ाद, राजीव सेठी व राजीव कुमार गर्ग (2015). मोबाइल ब्रिज इन्सपेक्शन यूनिट का भारत में निर्माण की प्रगति समीक्षा. सीएसआईआर- IICT-CCMB-NGRI organised Rashtriya Vaigyanik Sangoshthi- Make in India, 8-10, July at Hyderabad (Under print).
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e. ANY OTHER INFORMATION –

Number of Books authored/edited:

- (i) IRC:SR-22- “*SOAR on Areas of Application and Techniques of Instrumentation in Traffic Engineering*”. Indian Roads Congress, New Delhi. (As the Member-Secretary of IRC-Instrumentation Committee (G5) written several chapters, compiled & editing).
- (ii) IRC: SP:80. “Guidelines for Corrosion Prevention, Monitoring and Remedial Measures for Concrete Bridge Structures”. (As a Member of the Maintenance and Rehabilitation Committee -B 8 of IRC).
- (iii) IRC:SR-24- “*SOAR on Areas of Application and Techniques of Instrumentation in Highway Engineering*”. Indian Roads Congress, New Delhi (Under print).(Role-As the Member-Secretary of IRC-Instrumentation Committee (G5) written several chapters, compiled & edited the draft).
- (iv) One Chapter in “*Guidelines for planning and Construction of Roads in Cyclone Prone Area*”. (Guideline considered by Indian Roads Congress; sponsored & uploaded on its website for use of public by NDMA, New Delhi).
- (v) BIS Handbook **SP 64 (S & T): 2001** “Explanatory Handbook on IS Code of Practice for Design Loads (Other Than Earthquake) for Buildings & Structures, Part3- Wind Loads [IS875(Part3):1987]. (Role as a member of the project sponsored by BIS and responsible for all the solved examples).

The following is the list of **Grant-In-Aid Research Projects (GAP)** sponsored by DST, New Delhi in which the undersigned has been instrumental for successful completion (or under progress). Here, PI or PL stands for Principal Investigator or the Project Leader.

- Project No. CSIR-CRRI-GAP4413 (DST/TSG/STS/2004/50) entitled “Distress diagnostic, performance evaluation and bridge management system for concrete bridges” –completed as PI &PL.
- Project No. CSIR-CRRI-GAP4456 (DST/TSG/STS/2005/7) entitled “Development of Critical Infrastructure Information System in GIS Environment for Maintenance of Bridges on National & State Highways” – completed as a team member.
- Project No. CSIR-CRRI-GAP4470 (DST/TSG/STS/2006/76) entitled “Development of Mobile Bridge Inspection Unit” – completed as PI & PL, jointly with CSIR-CMERI-CoEFM.

- Project No. CSIR-CRRI-GAP4492(DST/TSG/NTS/2009/32) entitled “Development of Fiber Bragg Grating based Distributed Strain Sensor System for Concrete Bridges” –completed as Co-PI & PL, jointly with CSIR-CSIO.
- Project No. CSIR-CRRI-GAP4539 (DST/TSG/2011/43) entitled “Intelligent Remote Health Monitoring for Bridge System” –undergoing as Co-PI/PL jointly with CSIR-SERC.

Guiding students

- Several B. Tech, M. Tech and Ph. D. students are successfully guided.

Course Taught at AcSIR-@CRRI, New Delhi

- Analysis of bridges (a part-FEM), Dynamics of structures, Finite element analyse.

Training Imparted to professional (Selected)

- Coordinator for CSIR-CRRI Training Courses on “Bridge Distress Diagnostics, Performance Evaluation and Rehabilitation” for years 2013, 2014 and 2015. [It is an annual course being conducted at CSIR-CRRI].
- Delivered lecture entitled “Load Carrying Capacity and Residual Life Assessment of Concrete Bridges” in the training program on Bridge Diagnostic, Performance Evaluation and Rehabilitation on June 2010, 2011, 2012 and 2013 conducted by CRRI.
- Delivered lectures entitled "Load Carrying Capacity and Residual Life Assessment of Concrete Bridges" and "Performance Monitoring and Health Assessment of Highway Bridges through Instrumentation" in a short course for the engineers of state PWD during March 11-13, 2013 at Patna.
- Delivered lectures for the PGRPE programme under AcSIR, New Delhi (M. Tech) for two courses namely (i.) Bridges and Tunnelling, and (ii). Health monitoring (in sessions 2012/ 2014).
- Delivered lectures on “Analysis of Bridges” in a short course entitled Bridge Design and Construction, for engineers/professionals organized by CRRI (during 25 - 29 Nov., 2013).
- Panel member as an expert in *Panel Discussion on “Failure in bridge construction”*, organized by CIDC & CE&CR, on 16.4.2021 at 3-5 pm, New Delhi (online).
- Members of IABSE task group T1.5 on “Performance-Based Design Founded on Lessons from Bridge Failures”.
- Member, Technical Expert Committee of the Conference - [VCDRR2021](#) 'Conference Civil Engineering for a Disaster Resilient Society'.

Training Received (Selected):

- Science for Rural Societies, IIPA, New Delhi, Nov. 2015
- Empanelment for Evaluator Accreditation (Engg. & Tech.) May 2011, NBA, New Delhi.
- “Leadership Program” 2007, Sponsored by CSIR, New Delhi.
- Training on Equipment-“Structural Testing System” at BDI, Boulder (USA), Dec. 2005.
- Attended training “Internal quality audit as per ISO 9001:2000” May 2003, BIS.

- Attended workshop “Structural health monitoring” 1999, ISSS-SPIE at IISc Bangalore.
- 10th Int. Wind Engg. Conf. at Copenhagen, Aug. 1996.
- CSIR-DAAD fellowship at Ruhr University, Bochum (FRG) from June 1992 to Sep.94.
- Conference at First Euro-Afro. Wind Engg. Conf. at Guernsey (UK) 1993,
- Training “Industrial Aerodynamics”, Dept. Aero. Engg., IISc Bangalore (Jan-Mar, 1988).