

CURRICULUM VITAE

1. Name: Dr. RAJEEV GOEL



2. Address:

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3. Educational Qualifications:

Class	Year of Passing	University/ Institutions	Subject	Division
Ph.D	2007	Indian Institute of Technology Roorkee, Roorkee	Earthquake Engineering	---
Post Graduate Diploma	1995	Indira Gandhi National Open University, New Delhi	Human Resources Management	1 st
Master of Engineering	1989	University of Roorkee, Roorkee	Structural Engineering	1 st with Honours
Bachelor of Engineering	1987	Motilal Nehru Regional Engineering College, Allahabad	Civil Engineering	1 st with Honours
Intermediate	1983	UP Board, Allahabad	Hindi, English, Maths, Physics, Chemistry	1 st
High School	1981	UP Board, Allahabad	Hindi, English, Maths, Science, Technical Drawing	1 st with Honours

Ph.D Topic:

Creep and Shrinkage Effects on Seismic Response of Prestressed Concrete Structures

Ph.D Guides:

- Prof. D.K Paul, Earthquake Engineering Department, IIT Roorkee
- Dr. Ram Kumar, Chief Scientist, CSIR-CRRI, New Delhi

4. Professional Experience:

S. No.	Name of Organisation	Period	Position held
1.	CSIR-Central Road Research Institute, New Delhi	May 2020 to till date	Chief Scientist and Head, Bridge Engineering and Structures division
2.	CSIR-Central Road Research Institute, New Delhi	January 2020 to April 2020	Chief Scientist and Alternate Head (Bridge Engineering and Structures division) with additional charge of Coordinating Officer (Maharani Bagh Staff Quarters and Horticulture)
3.	CSIR-Central Road Research Institute, New Delhi	January 2017 to December 2019	Senior Principal Scientist and Alternate Head (Bridge Engineering and Structures division) with additional charge of Coordinating Officer (Maharani Bagh Staff Quarters and Horticulture)
4.	CSIR-Central Road Research Institute, New Delhi	November 2016 to December 2016	Senior Principal Scientist and Alternate Head (Bridge Engineering and Structures division)
5.	CSIR-Central Road Research Institute, New Delhi	July 2013 to November 2016	Senior Principal Scientist
6.	CSIR-Central Road Research Institute, New Delhi	January 2013 to July 2013	Senior Principal Scientist and Head, Civil Engineering division
7.	CSIR-Central Road Research Institute, New Delhi	September 2011 to December 2012	Principal Scientist and Head, Civil Engineering division
8.	CSIR-Central Road Research Institute, New Delhi	January 2008 to August 2011	Principal Scientist
9.	CSIR-Central Road Research Institute, New Delhi	March 2004 to December 2007	Senior Scientist
10.	Council of Scientific & Industrial Research, ESD, New Delhi	January 2004 to March 2004	Senior Scientist
11.	Council of Scientific & Industrial Research, ESD, New Delhi	April 2001 to December 2003	Scientist

12.	CSIR-Structural Engineering Research Centre, Ghaziabad	October 1996 to April 2001	Scientist
13.	Tehri Hydro Development Corporation Ltd., Rishikesh	July 1994 to October 1996	Engineer (Civil)
14.	Tehri Hydro Development Corporation Ltd., Rishikesh	January 1991 to June 1994	Assistant Engineer (Civil)
15.	Tehri Hydro Development Corporation Ltd., Rishikesh	January 1990 to January 1991	Engineer (Trainee)
16.	University of Roorkee, Roorkee	August 1989 to January 1990	Research Assistant

Besides the above, I worked as Faculty of Engineering Sciences, Academy of Scientific and Innovative Research (AcSIR) as per following details

- ‘Professor’ since January 2013
- ‘Associate Professor’ from January 2008 to December 2012

During my Professional Career, I have handled more than 180 projects as Principal Investigator / Co-Principal Investigator/ Team. Some of the works, in which I was involved during my professional career are as given below:

At CSIR-Central Road Research Institute, New Delhi

- R&D Management
- Planning & actively involved in the activities related to research and development of bridges and structures
- Creation of National Test facility for Bridge Expansion Joints
- Development of Bridge maintenance management system
- Residual life assessment and rating of existing rail and road bridges
- Performance monitoring of railway bridges
- Quality assurance of highway bridges
- Development of computer software
- Structural analysis & design, instrumentation, performance monitoring, health assessment, evaluation & rehabilitation of bridges, buildings and other Civil Engineering Structures
- Seismic response of PSC structures including bridges considering nonlinear material properties and effects of creep and shrinkage
- Performance monitoring of bridges through instrumentation

- Assessment of railway bridges for increased axle loads
- Structural analysis, design and drawings of bridges and structures
- Project monitoring and quality assurance of bridges and structures during their construction
- Intelligence remote health monitoring of bridges
- Planning & execution of the activities related to renovation/ construction and maintenance of CRRI office as well as residential campus
- Industry sponsored research and consultancy work in the field of Bridges and Structural Engineering
- Dissemination of knowledge through organizing Webinars / Seminars / Conferences / Training programs / Lectures as well as delivering lectures

At Academy of Scientific and Innovative Research (AcSIR)

- Design of several course curriculum
- Guided/ Guiding Post-graduate and Ph.D students
- Doctoral Advisory Committee member for several Ph.D students
- 'External Examiner' for several Post-graduate students

At Council of Scientific & Industrial Research, ESD, New Delhi

- Structural analysis and design of various Civil Engineering Structures
- Repair and rehabilitation of various Civil Engineering Structures
- Inspection and guidance during strengthening work

At CSIR-Structural Engineering Research Centre, Ghaziabad

- Planning & actively involved in the activities related to research and development
- Development of computer software
- Industry sponsored research and consultancy work in the field of Structural Engineering
- Dissemination of knowledge through organizing seminars, conferences, training programs, lectures, etc. and delivering lectures

At Tehri Hydro Development Corporation Ltd., Rishikesh

- Structural analysis and design of spillways
- Tender drawings and excavation drawings for Chute & Shaft spillways
- Technical specifications for Spillways
- Construction drawings for spillways
- Development of software for Computer-aided analysis & design of Retaining walls of spillways, Hydro Power generation, Flood routing
- Preparation of Technical Reports

- Structural design of steel bridge

At University of Roorkee, Roorkee

- Computer-aided seismic analysis of TAJ MAHAL monument
- Computer-aided seismic analysis of Narora Atomic Power plant

5. Patents / Copyrights / Trademarks:

3) Patents

Sl. No.	Title	Country/ Countries	Filed on (Patent No. & Date)	Granted on (Date)	Names of the inventors
1	Concrete composition and method of preparation thereof	India	2020310464 07 A, 04.12.2020	-	Neha, Sudisht Mishra and Rajeev Goel

b) Copyrights

Sl. No.	Title	Country/ Countries	Filed on (Patent No. & Date)	Granted on (Date)	Names of the inventors
1	Software CRASH	India	2009	2015	Rajeev Goel, Ram Kumar and DK Paul
2	Software DAPCAS	India	2009	2015	Rajeev Goel, Ram Kumar and DK Paul
3.	“CSIR-CRRI- Database of Failure of Bridges in India from 2018 to 2021”	India	Application No. 029CR2022, 21.03.2022	2022	Rajeev Kumar Garg, G.K. Sahu, Rajeev Goel, S.S. Gaharwar and J.K. Goyal

c) Trademarks

Sl. No.	Title	Country/ Countries	Filed on (Patent No. & Date)	Granted on (Date)	Names of the inventors
1	Setucare	India	3571371 in Class 9, 15.6.2017	Dec 22, 2017	Rajeev Goel and others

2	Setucare	India	3571372 in Class 42, 15.6.2017	Dec 28, 2017	Rajeev Goel and others
3	Fibostrain	India	3569337 in Class 42, 13.6.2017	Dec 28, 2017	Rajeev Goel and others
4	Fibrostrain	India	3577030 in Class 42, 23.6.2017	Dec 28, 2017	Rajeev Goel and others

6. Publications of Research Papers / Research Reports / Published Books / Review of Research Papers/Proposals:

Research Papers

- Paper in Journals : 14 Numbers
- Papers in International Conferences : 23 Numbers
- Papers in National Conferences : 31 Numbers
- Magazines : 23 Numbers

Research Reports

- Reports related to R&D projects : 70 Numbers
- Reports related to Health Assessment and Rehabilitation projects : 100 Numbers
- Reports related to Structural Analysis and Design of Bridges and Buildings : 40 Numbers
- Reports related to Quality Assurance / Safety Audit / Third Party Inspection / PMC : 85 Numbers
- Reports related to Hydro Power work : 10 Numbers
- Reports related to Material Evaluation and Testing : 9 Numbers

Number of Books Authored / Edited : 14 Numbers

Review of Research Papers/Proposals

- Research Papers for Journals (ASCE-Bridge Engineering, ACI-Structural and others) : 65 Numbers
- Research Proposals for DST, CSIR and others : 31 Numbers

7. Research Guidance/Supervision:**a) PhD Students**

- Guiding Er. Neha, Research Scholar, NERIST, Arunachal Pradesh
- Guiding Er. Gaurav Verma, Research Scholar of Academy of Scientific and Innovative Research
- Guiding Er. Neeraj Jain, Research Scholar of Academy of Scientific and Innovative Research
- Guiding Er. AK Goel, Research scholar of Singhanian University, Rajasthan
- Ph.D degree has already been awarded to Er. SK Jain and Er. Jasvir Singh.

b) PG and UG Students

- Guided/guiding several Post-Graduate Civil Engineering students of many Universities/Institutes
- Guided several Under-graduate/ AMIE Civil Engineering students of many Universities/Institutes

8. Notable Contributions:

- Developed methodology and technique for i) Assessment of present condition of bridges; ii) Quality assurance of bridges; iii) Repair, rehabilitation and strengthening of distressed bridges; iv) Load testing of bridges; v) Instrumentation and evaluation of bridges for increased axle loads; vi) Residual life assessment of bridges; vii) Rating of existing railway / highway bridges
- Creation of test facility of expansion joints at CSIR-CRRI (After the creation of Bridge expansion joints testing facility at CSIR-CRRI, Indian manufactures of bridge expansion joints will be able to save a lot of foreign exchange as this facility is presently not available in our country. Further, CSIR-CRRI may generate foreign exchange also from this facility by taking the works from the nearby countries as this facility is not available with them.)
- Developed bridge management system (Indo-BMMS) for prioritisation of maintenance
- Mobile Bridge Inspection Unit is the first indigenous made inspection unit for inspection, evaluation and maintenance of bridges.
- Developed methodologies for instrumentation and evaluation of bridges for increased axle loads
- Field studies for investigation and monitoring of bridges
- Formulation/revision of codes/guidelines as a Member of various Committees of Indian Roads Congress and Bureau of Indian Standards
- Organised Training programs, Seminars and Conferences
- Publication of Research papers

- Repair, rehabilitation and strengthening of several distressed bridges (By strengthening of distressed bridges, a lot of public money and time was saved. Otherwise, new bridges need to be constructed which will require more public money as well time to reconstruct, in comparison with strengthening.)
- Reviewed several Detailed Project / Feasibility report of bridges on Rural Roads
- Structural analysis & design of several bridges
- Upgradation of test facility at BES by procuring several equipment
- Renovation of major portion of the Institute
- Revision of Master Plan of the Institute as well as staff Colony
- Structural repairs and renovation / rehabilitation of the several buildings including twelve storeyed Multi-storey building at staff Colony
- Effectively managed Civil Engineering division as well as MBSQ of the Institute for better up-keeping and Infrastructural development
- Dissemination of knowledge through organizing webinars, seminars, conferences, training programs, lectures, etc.
- Delivering lectures during webinars, seminars, conferences, training programs, lectures, etc.
- Creating public awareness about benefits of good quality concrete construction, their right of getting good quality concrete and construction, etc.
- By imparting in-depth training/guidance to the students, good quality engineers & scientists are being prepared.
- The Intelligent Remote Health Monitoring System for Bridge Structures will be useful for the current health status of structures. Thus, this system will enable the Bridges Authorities to use it as an advanced Warning System.
- The developed indigenous Fiber Bragg Grating sensor will save the considerable amount of foreign exchange for importing such sensors.
- By using integrated approach for rating of bridges, one can reduce considerably time of the stoppage of traffic and huge arrangement required for load testing of bridges. Hence, reduces enormous amount on load testing expenditure and saving public precious time.

9. Highlight the significance/impact of my work on industry / CSIR / society / environment/nation as a whole:

- Mobile Bridge Inspection Unit (MBIU) is the first indigenous made unit which is extensively being used for inspection and investigation of bridges in several projects and is earning a lot of ECF. It saves a lot of time for making arrangements for inspection and maintenance of superstructure of bridges from bottom side.

The developed Mobile Bridge Inspection Unit is huge demand by the industry and presently being used in several projects and it earned a lot of ECF.

Various firms are approaching CSIR-CRRI for the license for its production. Licenses have already been given to two Indian Companies for manufacturing this MBIU. These companies have already delivered MBIU to the User agencies.

With the development of indigenous, robotic and cheaper Mobile Bridge Inspection Unit (MBIU), import of MBIU will be greatly reduced. This will lead in saving of foreign exchange.

- Developed methodologies for instrumentation and evaluation of bridges for increased axle loads
- Developed expertise for assessment and strengthening of distressed bridges
- Developed software Indo-BMMS, using which prioritisation of repair and allocation of funds for the maintenance of the distressed bridges in a network can be done scientifically.
- Developed Intelligent Remote Health Monitoring System will be useful for the current health status of structures.
- Working on a project, in which Test facility for bridge expansion joints is being created at CSIR-CRRI. This is a unique facility not only in India but also in the neighbouring countries which can be used for research as well as in generation of ECF.

10. Awards / Scholarship / Fellowship / Recognition / Honours / Professional Affiliations:

Awards

- Recipient of ‘Outstanding Concrete Technologist Award of Western UP’ for Year 2017 from Indian Concrete Institute
- Recipient of ‘Bharat Jyoti Award along with Certificate of Excellence’ for year 2008
- Recipient of ‘Rashtriya Gaurav Award along with Certificate of Excellence’ for Year 2004 for meritorious services, Outstanding performance and remarkable role
- Recipient of ‘Outstanding Achievement Award for Laboratory Support Services’, CSIR-CRRI for year 2011-12
- Recipient of 1st prize in R&D Technologies/ Expertise Brochure Competition, Organised by CRRI, New Delhi in September, 2004
- Recipient of 1st prize in Technical Paper Writing Competition in Hindi, Organised by CSIR-CRRI, New Delhi in September, 2021
- Recipient of 3rd prize in Technical Paper Writing Competition in Hindi, Organised by CSIR-CRRI, New Delhi in September, 2021

Scholarship

- Recipient of National Scholarship from 11th class to the completion of Graduation in Civil Engineering i.e. from 1981 to 1987

Fellowship

- Recipient of Fellowship for the entire period of Master in Engineering i.e. from 1987 to 1989

Recognition

- Recognised as ‘Coordinator, Principal Technical Auditor’ by National Rural Infrastructure Development Agency (NRIDA) since 2022
- Recognised as ‘Professional Engineer’ by Engineering Council of India in 2016
- Reviewer of Research papers for many International/National Journals such as ASCE Journal of Bridge Engineering; ACI Materials & Structural Journal; Computers and Concrete; Indian Roads Congress; etc.
- Reviewer of Research proposals for Science Engineering Research Board, Department of Science and Technology, Govt. of India

Academic Institutions

- Recognised as ‘External Examiner’ by following Institutes for Ph.D students:
 - RTM Nagpur University, Nagpur
 - National Institute of Technology, Hamirpur (HP)
 - Shri Venkateshwara University (Uttar Pradesh)
- ‘Doctoral Advisory Committee’ Member of Research Scholars of AcSIR and DTU, Delhi
- ‘External Examiner’ of PG students of AcSIR
- ‘External Examiner’ of UG students of DTU, Delhi

Professional Bodies

- Governing Council Member of
 - Indian Concrete Institute, Chennai (ICI) for the period 2011-2017
 - Indian Association of Structural Engineers, New Delhi for the period 2012-2014
 - Engineering Council of India for the period 2016-2018
- Vice-President (North Region), ICI for the period 2015-2017
- Chairman, ICI, Ghaziabad Centre for the period 2011-2013 and 2013-15
- Honorary Secretary, ICI, Ghaziabad Centre for the period 2001-2003, 2003-2005, 2005-2007, 2007-2009 and 2009-2011
- Member, Executive Committee, The Institution of Engineers (India), Ghaziabad Local Centre for the period 2010-2012, 2014-2016 and 2016-2018
- Member of ‘Membership Committee’ as well as ‘Action Plan, Seminar & Workshop Committee’ of Indian Association of Structural Engineers, New Delhi

Honours

- Chairman, Do-It-Yourself Booklet Preparation Committee on “Practical Handbook on CD’s and Bridges”, constituted by National Rural Infrastructure Development Agency (NRIDA).
- Member, IRC Expert Committee, constituted for formulating Guidelines for “Use of Fiber Reinforced Polymer Bars in National Highways works in different RCC structures such as bridges, viaducts, retaining walls, fascia panel of RE walls, drains etc.”
- Guest of Honour in several International / National Conferences / Seminars / Symposiums
- Chaired / Co-chaired Technical Sessions in several International / National Conferences / Seminars / Symposiums
- Advisory Committee Member of several International / National Conferences / Seminars / Symposiums
- Guest Faculty at Indian Academy of Highway Engineers for imparting training to Engineers of MoRTH/NHAI as well as several Academic Institutes
- Member, Board of Studies of following institutes for finalising the Curriculum of M.Tech and B.Tech courses in Civil Engineering
 - Sharda University, Greater Noida
 - SRM University, Sonapat
- Jury member for evaluation of the nominations for the various awards of Indian Concrete Institute (ICI) Headquarter as well as ICI Ghaziabad Centre during last more than ten years

Professional Affiliations:**a) Indian Roads Congress (IRC)**

Actively involved in development / upgradation of various codes as a Member Secretary / Member of following Committees of IRC:

- Member, BSS Committee since May 2020
- Member Secretary, B1 committee (General design features, bridges and grade separated structures) for period 2021-2023
- Member, B1 committee (General design features, bridges and grade separated structures) for period 2015-2017 and 2018-2020
- Member, B4 committee (Plain, reinforced and prestressed concrete structures) for period 2006-2008 and 2009-2011
- Member, B8 committee (Management, maintenance and rehabilitation of bridges) for period 2021-2023

b) National Rural Infrastructure Development Agency (NRIDA)

- Chairman, Do-It-Yourself Booklet Preparation Committee on “Practical Handbook on CD’s and Bridges”
- Audited Bridge DPR’s of several States of the Country for NRIDA in the capacity of Principal Technical Auditor

c) Bureau of Indian Standards (BIS)

Actively involved in following Committees of BIS for development / upgradation of various codes:

- Member, Civil Engineering Board since 2021-22
- Principal Member, Framing document for launching Ready Mixed Concrete certification since July 2018
- Member, Structural Engineering and Structural Sections Sectional Committee, CED 07 since 2021-22
- -Member, Standardization Work under the Special Structures Sectional Committee, CED-38 since 2021-22
- Member Earthquake Engineering Sectional Committee, CED-39 since 2021-22
- Member, Concrete Reinforcement Sectional Committee, CED-54 since 2021-22
- Alternate Member, Construction Management Including Safety in Construction Sectional Committee, CED-29 since 2021-22
- Alternate Member, Safety in Construction Sectional Committee, CED-45 since 2021-22
- Alternate Member, BIS Panel on “Plain, Reinforced and Prestressed Concrete, CED 46:P8 during 2010-12 and 2015-17
- Alternate Member, BIS Panel on “Standardization work under the special structures sectional committee”, CED 38 during 2018 to 2021

11. Membership of Professional Bodies:**Life Fellow**

- Indian Association of Structural Engineers
- Indian Concrete Institute
- Indian Institution of Bridge Engineers
- Indian Society of Earthquake Technology
- The Institution of Engineers (India)

Life Member

- Computer Society of India
- Ferrocement Society (India)
- Indian Geotechnical Society, Delhi Chapter

- Indian Roads Congress
- Indian Society for Construction Materials and Structures
- Indian Society of Rock Mechanics and Tunnelling Technology
- Indian Society for Non-destructive Testing
- Indian Society for Wind Engineering
- Indian Water Resources Society
- Institution of Vastu Science (India)
- The Indian Science Congress Association

Professional Engineer

- Engineering Council of India

CSIR-CRRI, New Delhi