

## Brief CV



1. **Name :** Er. Rajesh Kumar
2. **Date of Birth:** 15.01.1992 (30.5 yrs)
3. **ORCID number:** [0000-0002-2512-2659](https://orcid.org/0000-0002-2512-2659)
4. **Present Designation :** Senior Scientist & Head-Organic Building Materials
5. **Educational Qualifications:**

Sr. No.	Degree	University/ institute	Year	Subject
1.	B. Tech. (Hons.)	Madan Mohan Malaviya University of Technology, Gorakhpur, India	2012	Civil Engineering
2.	M. Tech. (Hons.)	Academy of Scientific and Innovative Research, India	2014	Building Engineering & Disaster Mitigation
3.	Ph. D.	Indian Institute of Technology (IIT), Delhi, India	Ongoing w.e.f. Jan' 2020	Structural Engineering

9. **Specialization:** Civil Engineering (Building Materials & Concrete Technology)

10. **Work Experience:** 10 Years +

Sr. No.	Name of the organisation	Designation	From	To	Duty performed
1.	CSIR-Central Building Research Institute, Roorkee, India	Trainee Scientist/ Scientist- B	05-09-2012	07-01-2016	The research work in the project, 'Cost-effective Building Products using Low grade limestone Waste' has been carried out.
2.	CSIR-Central Building Research Institute, Roorkee, India	Scientist/ Scientist- C	08-01-2016	07-01-2020	The R&D projects related to Stone wastes utilization, Lightweight concretes, Composite cement etc.
3.	CSIR-Central Building Research Institute, Roorkee, India	Senior Scientist/ Scientist- E1	08-01-2020	Till date	The R&D projects related to Statistical modelling, ANOVA, Multi-attribute optimization technique, Low carbon/Limestone Calcined Clay Cement, Low Energy/CSAB cement etc.

### 11. Current Research Area

Statistical modelling, ANOVA, Multi-attribute optimization technique, Stone wastes utilization, Lightweight concretes, Low carbon/Limestone Calcined Clay Cement, Low Energy/CSAB cement, Stabilized mud composite, Portland limestone cement

### 12. R&D Project activities: 08 Nos.

Sr. No.	Year	Topic of research	Sponsoring agency	Gist of research	Role
1.	2020-23	Development of low energy- low carbon ECO cementitious binders via synergistic use of low graded industrial wastes for sustainable	Ministry of Environment, Forest and Climate Change, New Delhi	The thermodynamic calculation of phase equilibrium to contribute to understanding the cement chemistry. Phase transformation on cooling is being studied using a non-	PI

		development		equilibrium model to predict the final phase distribution. Calculations will be performed on Ternary CaO-SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> or quaternary system CaO-SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> -Fe <sub>2</sub> O <sub>3</sub> which is the basis of the high temperature chemistry in the rotary kiln.	
2.	2020-23	Development of performance improved precast lightweight composite materials using solid wastes	Ministry of Environment, Forest and Climate Change, New Delhi	<b>Goal/s:</b> To develop precast lightweight composite materials using solid wastes	<b>Co-PI</b>
3.	2022-23	Studies on mechanical and durability properties of Normal and High Strength Concrete with Graphene	M/s. Reliance Industries Limited, India	Graphene-based advanced high-performance concretes for commercial applications	<b>PI</b>
4.	2017-21	Structural Interlocking Masonry Blocks using Industrial / Agro-Industrial Wastes	Indo-U.S. Science and Technology Forum (IUSSTF), New Delhi	<b>Goal/s:</b> To develop cost effective and durable Masonry Blocks having high thermal insulation properties using industrial / agro industrial waste.	<b>Co-PI of Task</b>
5.	2020-22	Utilization of marble waste to develop cost-effective sustainable building products	Council of Scientific and Industrial Research, New Delhi	<b>Goal/s:</b> 1. Cement chemistry with Marble waste 2. To develop eco-efficient building Products	<b>Co-PI</b>
6.	2018-20	Development of compatible repair materials for stone masonry in heritage structures	Council of Scientific and Industrial Research, New Delhi	The hybrid lime/OPC based mortars by incorporating water dispersible polymer blends and synthetic fiber were developed. These repair materials will be suitable for patching, cracking & reinforcement application.	<b>Co-PI of Task</b>
7.	2016-18	Development of Flooring/ Wall Tiles-Paver blocks & Lightweight blocks using Kota stone waste.	Council of Scientific and Industrial Research, New Delhi	<b>Goal/s:</b> • To develop the formulation for Tiles/Paver Blocks using Kota stone cutting/slurry waste • To develop the formulation for Lightweight Blocks and its optimization • Scale up of the developed process up to pilot level	<b>Co-PI</b>
8.	2016-17	Development of Engineered Lightweight Mud-Phuska Composite using Industrial-cum-Agricultural Wastes	Council of Scientific and Industrial Research, New Delhi  (CSIR-800 project)	<b>Goal/s:</b> 1.Characterization & Stabilization of soil as per IS: 2115-1980 2.Making of Mud- composites using different Wastes and soils 3.Evaluation of Physico - mechanical, thermal properties of Mud-composites	<b>PI</b>

**13. Publications: (\*Corresponding author)**

**International Journal papers (SCI): 11 Nos.**

Sl. No.	Author/s	Year	Topic of paper	Name of Journal/ publisher
1.	Abhilasha, <b>Rajesh Kumar*</b> , Rajni Lakhani, RK Mishra, S Khan	2022	Utilization of Solid Waste in the Production of Autoclaved Aerated Concrete and their Effects on its Physio-mechanical and Microstructural Properties: Alternative sources, characterization, and performance insights	International Journal of Concrete Structures and Materials, Springer Nature. <a href="https://doi.org/10.1186/s40069-022-00569-x">https://doi.org/10.1186/s40069-022-00569-x</a> <b>(Impact Factor: 3.2/2021)</b>
2.	<b>Rajesh Kumar*</b> & Abhishek Srivastava	2022	Influence of lightweight aggregates and Supplementary Cementitious Materials on the properties of Lightweight Aggregate Concrete.	Iranian Journal of Science and Technology, Transactions of Civil Engineering, Springer Nature. ISSN: 2228-6160. <a href="https://doi.org/10.1007/s40996-022-00935-5">https://doi.org/10.1007/s40996-022-00935-5</a> <b>(IF: 1.461/2021)</b>
3.	P. Tomar, <b>R. Kumar*</b> , R. Lakhani, A. Srivastava & V. K. Chibber	2022	Improvement in hygroscopic property of Macro-defect free cement modified with Hypromellose/ potassium methylsiliconate copolymer and pulverized fly ash	Journal of Thermal Analysis and Calorimetry, Springer Nature. e-ISSN: 1588-2926. <a href="https://doi.org/10.1007/s10973-022-11447-9">https://doi.org/10.1007/s10973-022-11447-9</a> <b>(IF: 4.755/2021)</b>
4.	<b>Rajesh Kumar*</b> , P. Tomar, A. Srivastava, R. Lakhani & V. K. Chibber	2022	Improvement of Mechanical and Microstructure Properties of Modified Fly Ash-Blended Low Carbon Cement with Hydroxy Propyl Methyl Cellulose Polymer	Iranian Journal of Science and Technology, Transactions of Civil Engineering, Springer Nature. ISSN: 2228-6160. <a href="https://doi.org/10.1007/s40996-022-00855-4">https://doi.org/10.1007/s40996-022-00855-4</a> <b>(IF: 1.461/2021)</b>
5.	<b>Kumar, R*</b> , Srivastava, A., & Lakhani, R.	2022	Industrial wastes-cum-Strength enhancing additives incorporated lightweight aggregate concrete (LWAC) for energy-efficient building: A comprehensive review	Sustainability, 14(1). <a href="https://doi.org/10.3390/su14010331">https://doi.org/10.3390/su14010331</a> <b>(IF: 3.889/2021)</b>
6.	<b>Kumar, R.*</b>	2021	Effects of high volume dolomite sludge on the properties of eco-efficient lightweight concrete: Microstructure, statistical modeling, multi-attribute optimization through derringer's desirability function, and life cycle assessment	Journal of Cleaner Production / Elsevier, 307, 127107. <a href="https://doi.org/10.1016/j.jclepro.2021.127107">https://doi.org/10.1016/j.jclepro.2021.127107</a> <b>(IF:11.072/Q1)</b>
7.	Anurag, <b>Kumar, R.*</b> , Goyal, S., & Srivastava, A.	2021	A comprehensive study on the influence of supplementary cementitious materials on physico-mechanical, microstructural and durability properties of low carbon cement composites	Powder Technology, 394, 645-668. <a href="https://doi.org/10.1016/j.powtec.2021.081">https://doi.org/10.1016/j.powtec.2021.081</a> <b>(IF:5.64/Q1)</b> .
8.	<b>Kumar, R.*</b>	2020	Modified mix design and statistical modelling of lightweight concrete with high volume micro fines waste additive via the Box-Behnken design approach	Cement & Concrete Composites / Elsevier <b>(IF: 7.856/Q1)</b> . <a href="https://doi.org/10.1016/j.cemconcomp.2020.103706">https://doi.org/10.1016/j.cemconcomp.2020.103706</a>
9.	Hou, P.*, Guo, Z., Li, Q., Zhang, X., Liu, J., Cheng, X., <b>Kumar, R.</b> , Srinivasaraonai, B., & Singh, L	2019	Comparison study on the sulfate attack resistivity of cement-based materials modified with nanoSiO <sub>2</sub> and normal SCMs: pore structure and phase composition	Construction & Building Materials / Elsevier, 228, 116764. <a href="https://doi.org/10.1016/j.conbuildmat.2019.116764">https://doi.org/10.1016/j.conbuildmat.2019.116764</a> <b>(IF: 4.419/Q1)</b> .

10.	Kumar, R., Lakhani, R.*, & Tomar, P.	2018	A simple novel mix design method and properties assessment of foamed concretes with limestone slurry waste	Journal of Cleaner Production / Elsevier, 171, 1650–1663. <a href="https://doi.org/10.1016/j.jclepro.2017.10.073">https://doi.org/10.1016/j.jclepro.2017.10.073</a> (IF: 6.395/Q1).
11.	Tomar, P., Lakhani, R.*, Chhibber, V. K., & Kumar, R.	2018	Macro-defect free cements: a future oriented polymer composite materials for construction industries	Composite Interfaces / Taylor and Francis Ltd., 25, 607-627. <a href="https://doi.org/10.1080/09276440.2018.1439637">https://doi.org/10.1080/09276440.2018.1439637</a> (IF: 2.170/Q2).

## Scopus indexed papers/Book Chapters: 12 Nos.

1. **Rajesh Kumar\*** (2023). "Influence on Hydration and Microstructural Properties of Low Carbon Cementitious Binder Modified with Water Soluble Polymer and Fly Ash", Recent Advances in Materials, Mechanics and Structures. Lecture Notes in Civil Engineering, vol 269. Springer, Singapore. [https://doi.org/10.1007/978-981-19-3371-4\\_1](https://doi.org/10.1007/978-981-19-3371-4_1) (Scopus and EI Compendex database Indexed)
2. Chandra Shekhar Sharma & **Rajesh Kumar\*** (2023). "Influence of dry lime sludge on the physico-mechanical & microstructural properties of low carbon cementitious composites exposed at elevated temperature", Recent Advances in Materials, Mechanics and Structures. Lecture Notes in Civil Engineering, vol 269. Springer, Singapore. [https://doi.org/10.1007/978-981-19-3371-4\\_30](https://doi.org/10.1007/978-981-19-3371-4_30) (Scopus and EI Compendex database Indexed)
3. **Rajesh Kumar\*** & Bibhakar Singh (2023). Cement stabilized mud blocks admixed with bagasse fibre, wheat straw and crumb rubber: Physico-mechanical and thermal investigation. Recent Advances in Structural Engineering & Construction Management, Lecture Notes in Civil Engineering, vol 277. Springer. [https://doi.org/10.1007/978-981-19-4040-8\\_49](https://doi.org/10.1007/978-981-19-4040-8_49) (Scopus and EI Compendex database Indexed) (**Best Paper Award by Springer-ICSMC: 2021 Jury**)
4. **Rajesh Kumar\*** (2023). Recent progress in newer cementitious binders as an alternative to Portland cement: Need for the 21st century. Recent Advances in Structural Engineering & Construction Management, Lecture Notes in Civil Engineering, vol 277. Springer. [https://doi.org/10.1007/978-981-19-4040-8\\_63](https://doi.org/10.1007/978-981-19-4040-8_63) (Scopus and EI Compendex database Indexed)
5. **Kumar, R.\*** & Lakhani, R. (2023). Studies on polymer-modified Lime-surkhi repair mortar for heritage buildings: Physico-mechanical and Microstructural characterization. Recent Advances in Structural Engineering & Construction Management, Lecture Notes in Civil Engineering, vol 277. Springer. [https://doi.org/10.1007/978-981-19-4040-8\\_60](https://doi.org/10.1007/978-981-19-4040-8_60) (Scopus and EI Compendex database Indexed)
6. Anurag and **Rajesh Kumar\*** (2023). "Optimization of clinker factor for low carbon penta-blended cement mortar via Box-Behnken Design of Response Surface Methodology", Recent Advances in Structural Engineering & Construction Management, Lecture Notes in Civil Engineering, vol 277. Springer. [https://doi.org/10.1007/978-981-19-4040-8\\_47](https://doi.org/10.1007/978-981-19-4040-8_47) (Scopus and EI Compendex database Indexed)
7. Ishan Bhandari and **Rajesh Kumar\*** (2022). "Limestone-Calcined Clay-Silica Fume Blended Cement: Statistical modelling and multi-attribute optimization through derringer's desirability function", Materials Today Proceedings, Elsevier. <https://doi.org/10.1016/j.matpr.2022.10.130>
8. Shagun Solanki, **Rajesh Kumar\***, Ankit Prakash Yadav and Sandeep Gupta (2022). "Development of cost-effective Vitrified tiles using high volume marble slurry for sustainable development", Materials Today Proceedings, Elsevier. (Manuscript Number: MATPR-D-22-06018)
9. **Kumar R.\***, Lakhani R., Kumar A. (2022). Physico-Mechanical and Thermal Properties of Lightweight Structural Concrete with Light Expanded Clay Aggregate for Energy-Efficient Buildings. Advances in Construction Materials and Sustainable Environment. Lecture Notes in Civil Engineering, vol 196. Springer, Singapore. [https://doi.org/10.1007/978-981-16-6557-8\\_14](https://doi.org/10.1007/978-981-16-6557-8_14) (Scopus and EI Compendex database Indexed)
10. **Kumar R.\***, Lakhani R., Singh B.K., Sharma M., Negi S.K. (2022). Agro-Industrial Wastes Incorporated Cement Stabilized Mud Composites for Roof and Wall Assembly in Energy Efficient Building Envelope. Advances in Construction Materials and Sustainable Environment. Lecture Notes in Civil Engineering, vol 196. Springer, Singapore. [https://doi.org/10.1007/978-981-16-6557-8\\_15](https://doi.org/10.1007/978-981-16-6557-8_15) (Scopus and EI Compendex database Indexed)
11. Srivastava A.\*, Singh S.K., **Kumar R.** (2022). Physical and Mechanical Characteristics of Cement Mortar with Coal Bottom Ash as Fine Aggregate Under Elevated Temperature. Advances in Construction Materials and Sustainable Environment. Lecture Notes in Civil Engineering, vol 196. Springer, Singapore. [https://doi.org/10.1007/978-981-16-6557-8\\_46](https://doi.org/10.1007/978-981-16-6557-8_46) (Scopus and EI Compendex database Indexed)
12. Lakhani, R.\*, **Kumar, R.**, & Tomar, P. (2014). Utilization of stone waste in the development of value added products: A state of the art review. *Journal of Engineering Science and Technology Review*. 7, Issue 3, 180-187, ISSN: 1791-2377. DOI: [10.25103/jestr.073.29](https://doi.org/10.25103/jestr.073.29) (Scopus indexed).

- **Reputed International Conference papers: 20 Nos.**

1. **Rajesh Kumar\*** & Bibhakar Singh (2022). "Novel lightweight Portland Pozzolana Cement (PPC) stabilized mud composites using crumb rubber & agricultural waste: Physico-mechanical and thermal performance"(To be published in *Materials Today Proceedings, Elsevier*)
2. Chandra Shekhar Sharma & **Rajesh Kumar\*** (2022). Use of low-grade limestone slurry to develop Sustainable low carbon Portland Limestone cementitious material. International Conference on Recent Developments in Civil Engineering, 20-21 OCTOBER 2022 MNNIT ALLAHABAD, PRAYAGRAJ, INDIA; In association with Indian Concrete Institute (ICI) & Indian Geotechnical Society (IGS). <http://mnnit.ac.in/rdc2022/> (Paper ID – 83). (Will be published in *Scopus with doi*)
3. Anurag Rajput, **Rajesh Kumar\***, Shweta Goyal, Sumedha (2022). Supplementary cementitious materials in low carbon cementitious binders and concrete composites: Fresh and Hardened Properties. International Conference on Recent Developments in Civil Engineering, 20-21 OCTOBER 2022 MNNIT ALLAHABAD, PRAYAGRAJ, INDIA; In association with Indian Concrete Institute (ICI) & Indian Geotechnical Society (IGS). (Paper ID – 96). (Will be published in *Scopus with doi*)
4. **Rajesh Kumar\*** (2022). "Eco-efficient Lightweight concrete with high volume micro fines via the Box Behnken design approach of Response Surface Methodology", The 11th Global Conference on Materials Science and Engineering CMSE 2022, Shenzhen, China, September 16-19, 2022. (Paper ID – CMSE4749). [https://opensz.oss-cn-beijing.aliyuncs.com/CMSE2022/file/CMSE2022-Conference%20Program\(v12\).pdf](https://opensz.oss-cn-beijing.aliyuncs.com/CMSE2022/file/CMSE2022-Conference%20Program(v12).pdf)
5. **Rajesh Kumar\*** (2021). "Experimental investigation on the effect of high volume micro fines on mechanical, seismic resistance and thermal properties of Aircrete", 11th International Conference on Sustainable Waste Management & Circular Economy and IPLA Global Forum 2021, Kolkata, West Bengal, India, pp. 1-19, 01st – 04th December 2021. (will be published online with DOI). (**Springer- IconSWM Excellence Award for Best Paper -2021**). (Paper ID – AB\_01). <https://www.iswmaw.com/>
6. Anurag Rajput and **Rajesh Kumar\*** (2021). "A comprehensive study on the multi-attribute optimization of clinker factor for sustainable cementitious system via Response Surface Methodology", 11th International Conference on Sustainable Waste Management & Circular Economy and IPLA Global Forum 2021, Kolkata, West Bengal, India, pp. 1-21, 01st – 04th December 2021. (Paper ID – AB\_02). <https://www.iswmaw.com/>
7. **Rajesh Kumar\*** & Bibhakar Singh (2021). "Studies on natural fibres incorporated Cement stabilized mud blocks", International Conference on Structures, Materials and Construction (ICSMC 2021), Jaypee University of Information Technology, Wagnaghat, HP, India, 12th – 13th Nov 2021. (Paper ID – 134). <https://ocs.springer.com/misc/home/ICSMC2021>
8. Anurag Rajput, **Rajesh Kumar\***, Shweta Goyal, Sumedha (2021). "Efficacy of supplementary cementitious materials in low carbon cementitious binders and concrete: An updated holistic approach", International Conference on Structures, Materials and Construction (ICSMC 2021), Jaypee University of Information Technology, Wagnaghat, HP, India, 12th – 13th Nov 2021. (Paper ID – 284). <https://ocs.springer.com/misc/home/ICSMC2021>.
9. **Rajesh Kumar\*** (2021). "Newer low carbon cementitious binders as an alternative to Ordinary Portland cement", International Conference on Structures, Materials and Construction (ICSMC 2021), Jaypee University of Information Technology, Wagnaghat, HP, India, 12th – 13th Nov 2021. (Paper ID – 274).
10. **Rajesh Kumar\*** and Rajni Lakhani (2021). "Physico-mechanical and Micro-structural characterization of HPMC incorporated Lime-surkhi repair mortar", International Conference on Structures, Materials and Construction (ICSMC 2021), Jaypee University of Information Technology, Wagnaghat, HP, India, 12th – 13th Nov 2021. (Paper ID – 271).
11. Anurag Rajput and **Rajesh Kumar\*** (2021). "Multi-attribute optimization for clinker factor of Low carbon cement mortar using Response Surface Methodology ", International Conference on Structures, Materials and Construction (ICSMC 2021), Jaypee University of Information Technology, Wagnaghat, HP, India, 12th – 13th Nov 2021. (Paper ID – 116).
12. **Kumar R.\***, Singh B.K. and Sharma M. (2021). "Cement Stabilized Mud Composites induced with Agro-Industrial Wastes", International Conference on Construction Materials and Environment, 2021 (ICCME 2021), Jaypee University of Information Technology, Wagnaghat, Solan, Himachal Pradesh, India, June 3-4, 2021. (Paper ID – 025).
13. **Kumar R.\***, Lakhani R., Kumar A. (2021). "Lightweight Structural Concrete with LECA for Energy-Efficient Buildings", International Conference on Construction Materials and Environment, 2021 (ICCME 2021), Jaypee University of Information Technology, Wagnaghat, Solan, Himachal Pradesh, India, June 3-4, 2021. (Paper ID – 024).
14. **Kumar, R.\***, Singh, B. K. and Lakhani, R. (2021). "Development of novel lightweight mud phuska composite using less cohesive soil, agricultural and rubber aggregates for roof and wall treatment", Abstracts of International Conferences & Meetings, 1(3). International Conference on Reuse and Recycling of Materials and their products (ICRM – 2020), Organized by Mahatma Gandhi University, Kottayam Kerala & Wroclaw University of Technology Wroclaw, Poland. December 11-13,2020. DOI: <https://doi.org/10.5281/zenodo.5052003>
15. **Kumar, R.\*** and Lakhani, R. (2021). "Development of lightweight aggregate concrete with optimum thermal transmittance for opaque wall assembly in composite climates ", Abstracts of International Conferences & Meetings, 1(3).International Conference on Reuse and Recycling of Materials and their



products (ICRM – 2020), Organized by Mahatma Gandhi University, Kottayam Kerala & Wroclaw University of Technology Wroclaw, Poland, December 11-13, 2020. DOI: <https://doi.org/10.5281/zenodo.5051936>

16. Rajni Lakhani, **Rajesh Kumar**, Priyanka Tomar\* and Nishant Kumar (2019). "Study of cement-lime mortars for heritage buildings: Micro-structural and Physico-mechanical aspects", International Conference on Advanced Materials, Nirmalagiri College, Kannur, Kerala, India, pp. 103-110, 12th – 14th June, 2019.

17. Priyanka Tomar\*, Rajni Lakhani and **Rajesh Kumar** (2018). "Effect of Hydroxy Propyl Methyl Cellulose and Fly Ash on the Fresh and Hardened Properties of Cement Paste", An International Conference on Advances in Construction Materials and Structures", IIT- Roorkee, March 7-8, 2018.

18. Priyanka Tomar\*, **Rajesh Kumar**, Rajni Lakhani and Shahnawaz Khan (2017). "Influence of the Self Crosslinkable Polymers on the Properties of the Fly ash Blended Composite Cements", An International conference on Mechanical, Manufacturing, Industrial and Civil Engineering", Jaipur, Rajasthan, pp. 52-62, Dec.17, 2017.

19. Rajni Lakhani\* and **Rajesh Kumar** (2016). "Value Added Building Products using Kota Stone Cutting and Slurry Waste", Emerging Building Materials and Construction Technologies, India Habitat Centre, New Delhi, India, Nov. 18, 2016.

20. **Rajesh Kumar\*** and Rajni Lakhani (2016). "Use of Kota Stone Slurry Waste in the Development of Non-Load Bearing Cellular Foamed Concrete Blocks", An International Seminar on Emerging Building Materials and Construction Technologies, BMTPC, New Delhi, India, March 21-22, 2016, Paper ID – 101.

- **Scientific Books / Book Chapters: 02 Nos.**

- Srivastava A., **Kumar R.\*** & Lakhani R. (2021). "Low energy Eco-cementitious binders as an alternative to Ordinary Portland Cement" in 'Smart Materials, Technologies, and Devices: Applications of Industry 4.0' published by Springer Nature Switzerland, C. M. Hussain, P. Di Sia (eds.). [https://doi.org/10.1007/978-3-030-58675-1\\_143-1](https://doi.org/10.1007/978-3-030-58675-1_143-1)
- Rajni Lakhani and **Rajesh Kumar\*** (2015). "Effective Utilization of Limestone Slurry Waste as Partial Replacement of Sand for Non-structural Cellular Foamed Concrete Blocks", RILEM Proceedings of International Conference on Sustainable Structural Concrete, La Plata Argentina, Sept. 15-18, 2015. URL- [http://www.rilem.org/gene/main.php?base=500218&id\\_publication=443&id\\_papier=10387](http://www.rilem.org/gene/main.php?base=500218&id_publication=443&id_papier=10387)

- **Documentary : 02 Nos.**

- Value-added sustainable Building Materials using Kota Stone Waste, 2019, Prepared by Agnii\_GOI, Delhi. (URL: <https://www.youtube.com/watch?v=tu40JXa4jTY>)
- Building Materials from Kota Stone Waste, 2018, Prepared by CSIR-CBRI, Roorkee. (URL: <https://www.youtube.com/watch?v=gcYo5RyH7jw&t=145s>)

- **Patents filed/granted: 01 No.**

- Lakhani, R. and **Rajesh Kumar**, "An improved process of making cement concrete interlocking paver blocks using Kotastone slurry" (Patent application no. **0059NF2021**, Filed in March' 2021).

- **Technology Transferred: 01 No.**

- Rajni Lakhani & **Rajesh Kumar**, "Building Products using Kota Stone Waste" to M/s Rajasthan State Pollution Control Board on 8th Aug.' 2017; Cost : 20 Lakhs) (<https://techindiacsir.anusandhan.net/online/Control.do>)

#### 14. Awards: 05 Nos.

Name of Award	Awarded by	Awarded for	Year
Diamond Jubilee Director's Technology Award - 2017	Director, CSIR- CBRI along with Jury	Best Technology Award for " Building Products using Kota Stone Waste " (Shared with Dr. R Lakhani)	2018
Best Research Paper Award-2021	Springer along with International Conference on Structures, Material and Construction- 2021	Best Research Paper on "Cement stabilized mud blocks admixed with bagasse fibre, wheat straw and crumb rubber: Physico-mechanical and thermal investigation"  (Authors: <b>Rajesh Kumar*</b> & Bibhakar Singh)	2021

Springer- IconSWM Excellence Award for Best Research Paper - 2021	Springer along with 11th IconSWM-CE & IPLA Global Forum 2021	Best Research Paper on "Experimental investigation on the effect of high volume micro fines on mechanical, seismic resistance and thermal properties of Aircrete"  (Author: <b>Rajesh Kumar*</b> )	2021
Diamond Jubilee Director's Award for Best Research Paper-2021	Director, CSIR-CBRI along with Jury	Best Research Publication ("Modified mix design and statistical modelling of lightweight concrete with high volume micro fines waste additive via the Box- Behnken design approach")  (Author: <b>Rajesh Kumar*</b> )	2022
IEI Young Engineers Award: 2022-23	The Institution of Engineers (India)	Contributions in Engineering Research (Civil Engineering)	2022

## 15. Country visited:

- University of Jinan, China; regarding Exchange visit (in BRICS project with Prof. Pengkun Huo) from 14.03.2019 to 29.03.2019

## 16. Any other:

S. No.	Society/Institution	Membership Category	Membership No.	Since
01.	RILEM	Young Member	41009	2021
02.	American Concrete Institute (ACI)	Member	02112222	2021
03.	Indian Concrete Institute (ICI)	Life Member	LM-13373	2022
04.	American Society of Civil Engineers (USA)	Member	012293040	2022
05.	ASTM International	Member	2368739	2022
06.	The Institution of Engineers (India)	Life- Member (MIE)	M-1748240	2022

- Member of RILEM TC Committee – EBD : Test methods to evaluate durability of blended cement pastes against deleterious ions (w.e.f. Feb' 2022) (<https://www.rilem.net/groupe/ebd-test-methods-to-evaluate-durability-of-blended-cement-pastes-against-deleterious-ions-426>)
- Mentored 04 Nos. of UG & PG (01 No. B. Des. & 03 Nos. M.Tech.) students, till July 2022. Interested PG students may contact.
- Teaching assignment (Spring semester) to PG students as Assistant Professor (AcSIR): Concrete Technology (ENG-CBRI-1-1120)
- Research Gate profile: <https://www.researchgate.net/profile/Rajesh-Sharma-54>
- ORCID ID: <https://orcid.org/0000-0002-2512-2659>
- Google scholar: [https://scholar.google.co.in/citations?hl=en&user=Nb2BsRIAAA&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.co.in/citations?hl=en&user=Nb2BsRIAAA&view_op=list_works&sortby=pubdate)
- Reviewer for Journals viz.- Cement & Concrete Composites, Computers and Concrete, Waste Management, Journal of Cleaner Production, Advances in Cement Research, Materials and Structures, Construction and Building Materials, Resources, Conservation & Recycling etc.
- Member of BIS Committee – Acid Resistance Flooring CED 5:6.
- Member of "Research ethics/ Publication ethics Committee" at CSIR-CBRI, Roorkee for 2021-24.
- AIR 805 (97.8 Percentile) in GATE 2012 (Civil Engineering).

## 17. Brief details along with significant contribution made in the field of Science & Technology

Er. Rajesh Kumar did his B. Tech. (Hons.) in 'Civil Engineering' from 'Madan Mohan Malaviya University of Technology, Gorakhpur (Uttar Pradesh), India'. He has obtained his Master's in the field of 'Concrete Technology' from the 'Academy of Scientific and Innovative Research (AcSIR, Chennai, India)'. Currently, he is doing his PhD from 'Department of Structural Engineering, IIT Delhi' in the area of Limestone Calcined Clay Cement (LC<sup>3</sup>) under the supervision of Prof. Shashank Bishnoi, Professor, IIT Delhi, India and Dr. N. Gopalakrishnan, Former Director, CSIR-CBRI, Roorkee, India. He is working as a Senior Scientist & Head in the 'Organic Building Materials Group' of 'CSIR-Central Building Research Institute, Roorkee'. His primary research interests include 'Statistical modelling, ANOVA, Multi-attribute optimization technique, Stone wastes utilization, Lightweight concretes, Low carbon/Limestone Calcined Clay Cement ([www.lc3.ch](http://www.lc3.ch)), Low Energy/CSAB cement, Stabilized mud composite, Portland limestone cement'. He has published more than 25 technical research papers in SCI/ Scopus indexed and reputed international conferences. He has been worked in the R&D projects on 'waste utilization' at CSIR-CBRI and contributed for technology transfer and Patent on Low-grade limestone waste utilization. India's first start-up plant for Low-grade limestone waste management; recognized by Central and State government (under Start-up Policy-2017, Waste to Wealth and Swachh Bharat Abhiyan) was inaugurated on 16.06.2018. The plant has the capacity to manufacture 8,000 flooring tiles, 3,500 rough paver and 5,000 bricks daily from the slurry. It can use up to 100 Ton Low-grade limestone waste per day. He is also an active reviewer of various SCI indexed journals.

- **Institutional profile:** <https://cbri.res.in/scientific-profiles/group-iv/senior-scientist/rajesh-kumar/>
- **Research-Gate profile:** [https://www.researchgate.net/profile/Rajesh\\_Sharma110](https://www.researchgate.net/profile/Rajesh_Sharma110)

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(Rajesh Kumar Sharma)