CV of Dr. PANKAJ GOEL

1. Name : Dr. PANKAJ GOEL
2. Date of Birth : Sept. 5th 1970
3. Present post : Sr. Technical Officer (3)
4. Academic Qualification

Degree (in reverse order, up to degree only	**Class / Grade**	**University**	**Year of Passing**	**Scholarship / Award**
PhD in Civil Engineering	NA	IIT Delhi	2024	
M-Tech in Construction Engineering & Management (Materials)	8.9 **(Gold Medal)**	IIT Delhi	2011	**Gold Medal from IIT Delhi** for being the Topper of M-Tech
B.E. (CIVIL)	1st Division 76% **(With Honors)**	Jamia Millia Islamia, New Delhi	2006	1st Division **With Honors**

5. Publications and Awards

A. Papers & Publications

1. International Journals

(i) Dr. Rakesh Kumar**, Dr. Pankaj Goel,** Prof. Manoranjan Parida, Naresh Borkar and Rajesh Lambe (2025), "Premature Pavement Distress- Free thin white-top overlay for

upgradation of 4-lane and 6-lane Carriage way: A Case Study", Indian Highways Journal of Indian Roads Congress, January 2025, Vol. 53 (1): 15-24

(ii) **Pankaj Goel,** Rakesh Kumar, and Bishwajit Bhattacharjee (2023-24), "Engineered Cementitious Composite Concrete as Pavement Overlay Material" presented at the annual session of the Indian Roads Congress and published in the Journal of Indian Roads Congress, Vol 82-3, July - September 2023: 10-18. This paper was awarded the Prof. B. B. Pandey Memorial Award on 8th November 2024 for their outstanding work at the 83rd annual session of the Indian Roads Congress held in Chhattisgarh, 8-11 November 2024.

(iii) **Pankaj Goel**, Rakesh Kumar and Bishwajit Bhattacharjee (2022), "Hybrid Fiber Reinforced Concrete Composite for Construction of Rigid Pavements", *Journal of Cement-Based Composites, 1, 5630:* 1-8.

(iv) Avnish Singh, Rakesh Kumar and **Pankaj Goel** (2021), "Factors influencing strength of Magnesium Oxychloride Cement", *Construction and Building Materials, 303, 124571*: 1-6.

(v) **Pankaj Goel**, Rakesh Kumar and Bishwajit Bhattacharjee (2015), "Performance of synthetic fiber reinforced concrete in the construction of pavements", *Indian Concrete Journal, 89 (4)*: 52-61.

(vi) Rakesh Kumar, **Pankaj Goel**, Renu Mathur and Bishwajit Bhattacharjee (2014), "Suitability of Synthetic Fiber for the Construction of Concrete Pavements", *Journal of Scientific and Industrial Research, 73*: 448-452.

(vii) **Pankaj Goel**, Rakesh Kumar, Bishwajit Bhattacharjee and Renu Mathur (2014), "Performance of concrete containing polypropylene multifilament fiber vis-a- vis fibrillated fibre" *Indian Concrete Journal, 88 (6)*: 16-24.

(viii) **Pankaj Goel,** Rakesh Kumar and Renu Mathur (2012), "An Experimental Study on Concrete Reinforced with Fibrillated Fiber", *SCI Journal of Scientific and Industrial Research, 71*: 722-726.

(ix) Arun Kumar Misra, Renu Mathur and **Pankaj Goel** (2011), "Evaluation of suitability of oil well drill cuttings for road making", *Journal of Scientific and Industrial Research, 70:* 305-307.

(x) Arun Kumar Misra, Renu Mathur, Y V Rao, Ajay Pal Singh and **Pankaj Goel**, (2009), "A new technology of marble slurry waste utilization in roads", *Journal of Scientific and Industrial Research, 69:* 67-72.

(xi) Arun Kumar Misra, Renu Mathur and **Pankaj Goel** (2007), "Wollastonite and Marble Slurry Dust- Inert Mineral Admixtures for cement concrete", *Indian Highways (Indian Roads Congress)*: 41-46.

(xii) Arun Kumar Misra, Renu Mathur and **Pankaj Goel** (2007), "Influence of Wollastonite on the Mechanical Properties of Concrete", *Journal of Scientific and Industrial Research, 66:* 1029-1034.

(xiii) Arun Kumar Misra, Renu Mathur and **Pankaj Goel** (2004), "Use of Phosphogypsum: An Industrial by-product in the stabilization of Black Cotton Soil", *Journal of Highway Research Bulletin (IRC), 70:* 65-75.

(xiv) Arun Kumar Misra, Renu Mathur and **Pankaj Goel** (2001), "Marble Slurry Dust in Roads: An Apt Solution for the Industrial Waste", *Journal of Highway Research Bulletin (IRC), 65 (12):* 83-92.

2. <u>In the Magazine</u>

(i) Dr. Rakesh Kumar and Dr. Pankaj Goel (2025), Pavement Quality Concrete Containing Wollastonite Mineral Micro-Fibre", Civil Engineering & Construction Review magazine, April 2025, Vol 38 (04): 20-28.

(ii) डॉ. राकेश कुमार, डॉ .पंकज गोयल और प्रोफेसर मनोरंजन परिड़ा (2024), "सीमेंट कंक्रीट की सड़कों में आने वाली चौड़ी दरारों की मरम्मत के लिए मैग्नीशियम ऑक्सीक्लोराइड सीमेंट-आधारित माइक्रो कंक्रीट का एक टिकाऊ और पानी मुक्त मरम्मत सामग्री के रूप उपयोग" राष्ट्रीय हिंदी विज्ञान सम्मेलन-2024, भोपाल 30-31 जुलाई, 2024 में प्रस्तुत किया और जिसे सर्वश्रेष्ठ शोध पत्र की श्रेणी में द्वितीय पुरस्कार मिला

(iii) Rakesh Kumar and Pankaj Goel (2022), "निर्माण उद्योग के लिए उभरते वैकल्पिक सीमेंट: CO_2 उत्सर्जन को कम करने की क्षमता, उनकी चुनौतियां और सीमाएं", सड़क दर्पण, संयुक्त प्रकाशन No 23 & 24, सीएसआईआर- केंद्रीय सड़क अनुसंधान संस्थान, नई दिल्ली: 36-42.

(iv) Rakesh Kumar and **Pankaj Goel** (2022), "Performance of curing compounds in development of strength in concrete mix to be used in the construction of Rigid Pavements", *New Building Materials & Construction World, 27 (09):* 68-78.

(v) **Pankaj Goel** and Rakesh Kumar (2014), "Magnetized water: An upcoming Technology for Construction Industry", *New Building Materials & Construction World, 19 (12)*: 126-132.

(vi) Rakesh Kumar, Renu Mathur, Arun Kumar Misra and **Pankaj Goel** (2013), "Manufacturing of Dry Lean Concrete (DLC) using Portland Pozzolana Cement", *New Building Material & Construction World, 19 (4)*: 118-124.

(vii) Arun Kumar Misra, Renu Mathur and **Pankaj Goel** (2011), "Strength of Concrete vs. Grade of Cement" *New Building Material & Construction World, 17 (4):* 122-126.

(viii) Manoj Kumar Singh, **Pankaj Goel**, Arun Kumar Misra and Renu Mathur (2010), "संगमर्मर उद्योग के अपशिष्ट पदार्थ**,** संगमरमर (मार्बल स्लरी डस्ट) के सड़क**,** तटबंध और कंक्रीट मैं उपयोगिता", निर्माण सुरभि राष्ट्रीय संगोष्ठी, केंद्रीय सड़क अनुसंधान संस्थान, नई दिल्ली.

(ix) Arun Kumar Misra, Renu Mathur and **Pankaj Goel** (2003), "Marble Slurry Waste – A Potential Building Material", *Indian Cement Review*, August 2003.

3. International Conference Proceedings

(i) Nadeem Khan, D M Rathva, Dr. Pankaj Goel and Dr. Rakesh Kumar (2025), "A Review on Ultra-High-Performance Concrete (UHPC): Utilization and Limitation in Road Infrastructure", International Conference on Advanced Materials for Sustainable Development (ICAMAD-2025), 28-29 March, MNIT Jaipur, India.

(ii) Pankaj Goel and Rakesh Kumar (2022), "A comparative investigation on the effectiveness of a wax and a resin based curing compound as an alternate of water curing for concrete pavement slab", Lecture Notes in Civil Engineering book series (LNCE, volume 193) *Roads and Airfield Pavement Technology, 193:* 575-583. DOI: 10.1007/978-3-030-87379-0_43. Publisher Springer.

(iii) Avnish Singh, Rakesh Kumar, and Pankaj Goel (2022), "Experimental study on MOC cement based micro concrete for repairing of wide cracks in concrete pavement slab", Lecture Notes in Civil Engineering book series (LNCE, volume 193) *Roads and*

Airfield Pavement Technology, 193: 141-149. DOI: 10.1007/978-3-030-87379-0. Publisher Springer.

(iv) Rakesh Kumar, Pankaj Goel, Renu Mathur and Bishwajit Bhattacharjee (2013), "A Laboratory Study on the uses of Synthetic Fiber in Concrete Pavements", *Proceedings of Indian Concrete Institute International Conference on Trends and Challenges in Concrete Structures, Ghaziabad, UP, India:* 311-320.

(v) Rakesh Kumar, Pankaj Goel and Renu Mathur (2013), *"Suitability of concrete reinforced with synthetic fiber for the construction of pavements"*, *Proceedings of Third International Conference on Sustainable Construction Materials and Technologies – SCMT3, Kyoto, Japan, e197* on CD.

(vi) Rakesh Kumar, Pankaj Goel and Renu Mathur (2012), "Conventional Vis-À-Vis Synthetic Fiber Reinforced Concrete for the Construction of Rigid Pavements", *Proceedings of International Conference on Fiber Reinforced Concrete- Global Development,* Nagpur-India, 112-124.

B. <u>Awards</u>

(i) Pr. B. B. Pandey Memorial Award on 8th November 2024 for their outstanding work on concrete in the 83rd annual session of the Indian Roads Congress held in Chhattisgarh, 8-11 November 2024.

(ii) सीमेंट कंक्रीट की सड़कों में आने वाली चौड़ी दरारों की मरम्मत के लिए मैग्नीशियम ऑक्सीक्लोराइड सीमेंट-आधारित माइक्रो कंक्रीट का एक टिकाऊ और पानी मुक्त मरम्मत सामग्री के रूप उपयोग" राष्ट्रीय हिंदी विज्ञान सम्मेलन-2024, भोपाल 30-31 जुलाई, 2024 में प्रस्तुत किया और जिसे सर्वश्रेष्ठ शोध पत्र की श्रेणी में **द्वितीय पुरस्कार मिला**

(iii)"Gold Medal Award" from IIT Delhi, for being the Topper of M-Tech Batch (2011) in Construction Engineering and Management.

(iv)**"Outstanding Performance Award"** Best Young Technical Officer of CRRI for 2008-2009.

6. Some of the Key Projects

I have been working as a Senior Technical Officer (3) in the Rigid Pavement Division of CSIR-CRRI for the last 28 years. I have wide experience in Civil Engineering Construction Materials, exclusively concrete pavements materials and have been involved in many sponsored, R&D and consultancy projects. Some of the key projects are given below.

(i) Evaluating the performance of Fiber Reinforced Concrete (micro synthetic, macro steel and their hybridization) for the construction of concrete pavements

(ii) Evaluating the performance of industrial waste materials such as Marble Slurry Dust, Wollastonite (natural microfiber), Phosphor-Gypsum, and fly ash in the construction of concrete pavements.

(iii) Evaluating the performance of different curing compounds.

(iv) Magnesium Oxychloride Cement – A water-free material for sand stabilization and repairing of Macro cracks in concrete pavements.

(v) I have also been involved in many Quality Assurance & Quality Control projects for concrete pavements.

(vi) Evaluating the performance of blended cements (PPC and PSC) for their possible use in the construction of concrete pavements.