

Dr. Rakesh Kumar

Assistant Professor,
Department of Mining Engineering,
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Education

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| Dec. 2011 – July, 2016 | Ph.D. Department of Mining Engineering,
Indian Institute of Technology Kharagpur, West Bengal, India
Thesis title: Anisotropic shear behaviour of rock joint replicas in constant normal load condition. |
| July 2008 – Aug. 2010 | M.Tech. (Mining Engg.), IIT BHU, Varanasi, U.P. India.
Thesis title: Design and Development of Mining Prop with Active Load Setting and Monitoring. |
| July 2002 – Sept. 2006 | B.E. (Mining Engg.), M.B.M. Engg. college, JNVU, Jodhpur. |

Experience

- **Assistant Professor**, Department of Mining Engineering, IIT Kharagpur, since 29th May, 2019
- **Assistant Professor**, Department of Mining Engineering, IIT (ISM)- Dhanbad, from 3rd July 2017 to 28th May, 2019.
- **Adjunct Assistant Professor of Practice**, Department of Mining Engineering, VNIT- Nagpur, from 26th July, 2016 to 30th May, 2017.
- **Assistant Mining Engineer (Vigilance)**, Department of Mines and Geology, Govt. of Rajasthan, from 1st April, 2015 to 25th July, 2016.
- **Engineer – Rock Mechanics**, Joy Mining Services India Pvt. Ltd. Kolkata, from 5 July, 2010 to 26 December, 2011. Worked in Tandsi mine (WCL), Jhanjra and Sarpi Mine (ECL)
- **Project Assistant (Level-II)**, Central Institute of Mining and Fuel Research (CIMFR), Nagpur, from 1 November, 2006 to 30 April, 2008 and worked in following projects:
 - Design of safe cut out distance & rock reinforcement system for Bord and Pillar mining using continuous miner in Kumbharkhani mine, Wani (North) area, WCL, Nagpur .
 - Development of a support unit & its performance evaluation to enhance safety and productivity of Ukwa underground mine, (MOIL).

Subject Taught

- Slope stability, Rock Mechanics Lab, Design of Underground Structures in Rocks, Ground Control, Surveying and Mine surveying,

Research Interest

- Experimental Rock Mechanics, Slope Stability, Fracture Mechanics, Mining methods

Research Guidance

- PhD: 2 (Ongoing), Mtech: 1 - Completed, 2- ongoing

Publications

- **Kumar R.** and Verma A.K. (2016). Anisotropic Shear Behavior of Rock Joint Replicas. *International Journal of Rock Mechanics and Mining Sciences*. 90:62-73. DOI: 10.1016/j.ijrmms.2016.10.005.
- Sarkar, S., **Kumar, R.** and Murthy, V.M.S.R. (2019). Experimental and Numerical Simulation of Crack Propagation in Sandstone by Semi Circular Bend Test. *Geotech Geol Eng.*; 37:3157–3169, <https://doi.org/10.1007/s10706-019-00833-0>
- **R. Kumar** and A.K. Verma (2017). Shear Behavior of Joint Replicas. *The Indian Mining and Engineering Journal*, 56(2):27-31, ISSN 0019-5944.

Conferences

- **R. Kumar** and A. K. Verma (2017). Anisotropic Shear Strength of Rock Joint Replicas – An Experimental Study. Int. Conf. on Deep Excavation, Energy Resource and Production (DEEP16), IIT Kharagpur.
- R. Kumar and A. K. Verma (2015). Experimental Study of Anisotropic Shear Strength of Rock Joints. ISRM 13th International Congress on Rock Mechanics, May 10-13, Montréal, Québec, Canada. ISBN: 978-1-926872-25-4.
- A.K. Verma, S. Khushtar **R. Kumar** and (2014). Influence of scale effect on anisotropic shear Strength behavior of rock joint, 8th Asian Rock Mech. Symp. (ARMS). 14-16 October, Sapporo, Japan, 249-256.
- A.K. Verma, K. Rajabrahma, **R. Kumar**, and V. Mukesh (2015). Experimental and Numerical Analysis to Determine the Transition from Mode-I To Mode-II Fracture. ISRM 13th International Congress on Rock Mechanics, May 10-13, Montréal, Québec, Canada. ISBN: 978-1-926872-25-4.
- **R. Kumar**, , M.R. Saharan, V.K. Singh, B.K. Srivastava, (2010). Performance analysis of an active load setting mining props. 6th Asian Rock Mechanics Symposium-Advances in Rock Engineering, 23-27 October, 2010, New Dehli.
- **R. Kumar**, S. Khushtar and A.K. Verma (2013). Anisotropic shear strength behavior of rock joints, Proceeding of the Int. Conf. on Coal and Energy – Technological Advances and Future Challenges (CETAFC 2013), Paul, Roy, Islam and Sinha (eds), 15-17 December, Kolkata, India, p. 347-353.
- M.R.Saharan, B. K. Jha, M. Sazid, **R. Kumar** (2010). Designing cut-out distance for continuous miners' operations using numerical modelling and rock mechanics instrumentation. Workshop on Applications of Rock Mechanics- Tools and Techniques, Nagpur, India, 15-17 January 2010.
- **R. Kumar**, M.R. Saharan, M. Sazid (2008). An experience with designing resin grouted rock bolts for coal mine tunnels. Workshop Of Rock Mechanics & Tunnelling Techniques 24-26 April, organized by ISRM & CBIP at Manali, (H.P.)
- S. Bharti, J. K. Modi, **R. Kumar** (2014). Performance of Grouted Rock Bolts in Rock Mass. National Seminar on Recent Trends in Mechanized Mining, Kothagudem, Telangana. 27-28 December.

Personal Details

- Date of Birth : 8th July 1985
- Gender : Male
- Nationality : Indian
- Marital Status : Married
- Languages Known : Hindi, English
- Home Town : Village- Gunawati, Tehsil-Makrana, District-Nagaur (Rajasthan)

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