

CURRENT POSITION

Senior Scientist, CSIR-Central Institute of Mining and Fuel Research (CIMFR), Barwa Road, Dhanbad– 826001, Jharkhand, India

EDUCATION

NATIONAL INSTITUTE OF TECHNOLOGY, RAIPUR, CG

Ph.D., Mining Engineering.

- Dissertation: *“Development of an innovative blasting technique for blast performance optimization”*.

B.Tech., Mining Engineering, CPI = 9.24/10. (*Gold medal*)

INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR, WB

M.Tech., Mining Engineering, CGPA = 9.20/10.

- Course project: *“Performance analysis of distributed spherical air gap blasting for surface mine blasts”*.

AREA OF INTEREST

Blasting Technology, Blast Fragmentation, Environmental effects of blasting, Mine Planning and Economics, Mining Legislation, Water management in mining and allied industry, Drone Photogrammetry.

AWARDS AND HONORS

- **Dr. Rajendra Prasad Memorial Award 2021** including a gold medal a certificate by Institution of Engineers (India) at Vigyan Bhavan, New Delhi.
- **Chhattisgarh Young Scientist Award 2019** including a plaque, certificate and a cash prize of 21,000 /- Rupees, by Chhattisgarh Council of Science and Technology, Department of Science and Technology, Government of Chhattisgarh (C.G.).
- **Young Scientist Award 2019** including a plaque and certificate by Northern Coalfields Limited, a Govt. of India Undertaking, Madhya Pradesh (M.P.).
- **Best Thesis Award 2017** for M. Tech. thesis from Department of Mining Engineering, IIT Kharagpur.
- **Institute Gold Medal** for 2015 batch of Mining Engineering from NIT Raipur.

PAST WORK EXPERIENCE

- Assistant Professor in Department of Mining Engineering Indian Institute of Technology, BHU, Varanasi.
- Faculty in Department of Mining Engineering National Institute of Technology, Raipur, India.

05 BEST PUBLICATIONS IN JOURNALS

- **Balakrishnan V.**, Pradhan M. and Dhekne P.Y., (2020). Investigating rock fragmentation in distributed spherical air-gap blasting technique, *Powder Technology*, 362, 101-110.
- Dhekne P. Y., **Balakrishnan V.**, and Jade R. K., (2020). Effect of Type of Explosive and Blast Hole Diameter on Boulder Count in Limestone Quarry Blasting, *Geotechnical and Geological Engineering*, 38, 4091–4097.
- **Balakrishnan, V.**, Pradhan, M., and Dhekne, P. Y. (2019). Field investigation in the detonation behaviour of emulsion explosive column induced with air gaps. *Mining Science*, 26, 55-68.
- **Balakrishnan, V.**, Pradhan, M., & Dhekne, P. Y. (2019). Effect of distributed spherical air-gaps on performance of emulsion explosive. *Journal of The Institution of Engineers (India): Series D*, 100(2), 155–162.
- **Balakrishnan V.**, Pradhan M., (2018), Performance analysis of using discarded water bottles in explosive column for surface mine blasts, *Chemical Engineering Transactions*, 67, 211-216.

05 RECENT PAPERS IN CONFERENCE PROCEEDINGS

- **Balakrishnan V.**, Mandal S.K., (December, 2021), *Mine valuation techniques and its relevance in Indian scenario*, paper presented in 4th International conference on opencast mining technology and sustainability, NCL, Singrauli, 65-67.
- Rathore A. S., Pradhan M., Deo S. V., & **Balakrishnan V.**, (January, 2021), *Potential Utilization of Coal Mine Overburden Material*, paper presented in 3rd International conference on opencast mining technology and sustainability, NCL, Singrauli, 157-163.
- **Balakrishnan V.**, Bhandari T., & Dhekne P.Y., (February, 2020), *Review of fragmentation prediction models*, paper presented in National seminar on recent practices and advancement in mineral industry, Visvesvaraya National Institute of Technology, Nagpur, 166-174.
- **Balakrishnan V.**, Pradhan M. & Dhekne P.Y., (December, 2019), *DAG blasting: A novel method of blasting using plastic waste*, paper presented in 2nd International conference on opencast mining technology and sustainability, NCL, Singrauli, 238-242.
- **Balakrishnan V.**, Pradhan M. & Pathak K., (April, 2018), *An innovative method of blasting for optimizing blast performance in iron ore mines*, paper presented in National seminar on responsible mining in new paradigm and growth and investment opportunity for mining and steel in mineral rich states, NMDC and FICCI, Raipur, 91-97.

MEMBERSHIP OF PROFESSIONAL BODIES

- Institute of Engineers (India)- Membership no: AM183656-3
- Lifetime membership of Alumni Associations of NIT Raipur and IIT Kharagpur.

REVIEWER

- Bulletin of Engineering Geology and the Environment
- International Journal of Rock Mechanics and Mining Sciences
- Arabian Journal of Geosciences
- Journal of South African Institute of Mining and Metallurgy

SOFTWARE PROFICIENCY RELATED TO MINING

- **Blasting Technology:** Wipfrag, Fragalyst, Blastware, Handitrap VOD
- **Mine Planning:** Surpac, Minex
- **Other:** MATLAB.

B. TECH. PROJECTS GUIDED

- “Rock Fragmentation Analysis” in year 2020-21.
- “Comparative Study between Slope Stability Methods of Slices with Flac/Slope and Oasys Softwares” in year 2019-2020.
- “Study of Various Slope Monitoring Techniques” in year 2019-20.

OTHER PERSONAL INFORMATIONS

- **Date of Birth:** June 22nd, 1992
- **Languages known:** English, Hindi, Malayalam.