

Brief Bio-data

1. Name: Dr. Avinash Paul

2. Date of Birth: 06-11-1976

3. Current Position and Address (Include Email ID and Contact Number)

Senior Principal Scientist, Room no: 14, Main Building, Rock mass characterization and innovative mining methods, e-mail: avinashpaul@cimfr.nic.in, avinashpaul02@yahoo.co.in, avinashpaul02@gmail.com, Mobile: 9431124271, 7004708980

4. Educational qualifications: (Graduation and above)

Sl. No.	Degree	Year of Passing	University/Institute	Subject
1	B. E	1999-2000	GGDU, Bilaspur, CG	Mining Engineering
2	Ph.D.	2020	IIT(ISM),Dhanbad,Jharkhand	Mining Engineering

5. Work experience:

Designation	Institute	From	To	Nature of Work
Scientist B	CIMFR,Dhanbad	04/01/2002	03/01/2007	R&D
Scientist C	CIMFR,Dhanbad	04/01/2007	03/01/2011	
Senior Scientist	CIMFR,Dhanbad	04/01/2011	03/01/2015	
Principal Scientist	CIMFR,Dhanbad	04/01/2015	03/01/2020	
Sr. Principal Scientist	CIMFR,Dhanbad	04/01/2020	Continuing	

6. Work Area(s)/ Specialization:

- Roof rock characterization and classification for underground mines and tunnels.
- To impart the systematic support for underground mines in different geo-mining conditions to overcome the induce stresses developed during the coal extraction.
- Instrumentation in underground mines to study the strata behavior of mine roof in terms of stress associated from the overlying strata.
- Stability analysis of the underground mine openings and parting by numerical modeling for development and depillaring panels.

7. Major contributions:

- Study carried out for preconditioning of resin bolting and guideline was given for formulation of SSR in 68 underground mines of SECL.
- Study for elimination goaf edge support and design of suitable bolting pattern in 4 underground mines of RG – I area, SCCL.
- Support design Guidelines formulation for varied depth under different goe-mining conditions for underground coal mines.
- Support design of Chromite mine for different openings such as decline, cross cut roadways, ore drive, footwall drive, and haulage junctions.
- Studied the retreat behavior of glacier with respect to climate change by its snout monitoring, geomorphological studies and mapping.

8. No. of Research Publications:

- Papers in Journals: 20 ,In conference/proceedings: 15, Invited lectures delivered: 3

List of best 05 publications

- 1) Paul, A., Singh, A. P., John, L. P., Singh, A. K., Khandelwal, M., 2012. Validation of RMR-based support design using roof bolts by numerical modeling for underground coal mine of Monnet Ispat, Raigarh, India—a case study, **Arabian Journal of Geosciences**, 5, pp.1435-1448.
- 2) Paul, A., Murthy, V.M.S.R., Prakash, A., Singh, A.K., 2018. Estimation of rock load in development workings of underground coal mines – A modified (RMR_{dyn}) approach. **Current Science**.114 (10): 2167 – 2174.
- 3) Paul, A., Murthy, V.M.S.R., Prakash, A., Singh, A.K., 2020. Prediction of rock load emphasizing excavation damage of in-situ rock caused by blasting in coal mines. **Current Science**. 118(1)123-132.
- 4) Paul, A., Kumar, N., Kumar, P., Singh, A. K., 2020. Application of CMRI-ISM RMR for Stability analysis of development workings for Ballarpur underground coal mine - An Empirical and Numerical Approach. **Journal of the Geological Society of India**, Vol.96, August 2020, pp.163-170.
- 5) Paul, A., Murthy, V.M.S.R., Prakash, A., Singh, A.K., 2020. Estimation of rock load for junctions based on roof failure cases for safe mining operation. **Arabian Journal of Geosciences**, Vol 13, No. 20, pp.1-10.

9. List of 5 Major Contract R&D Projects:

- Network project entitled “Development of suitable design methodology for extraction of coal at greater depth (>300m) for Indian geo-mining conditions.
- Monitoring of strata behaviour of supported roof for development workings at Sail Ghogri Mine, Reliance Cement Pvt. Ltd. Chhindwara, M.P
- Determination of RMR and scientific study on support design and suitable method of work in Jamuna ½ and Jamuna 5/6 incline, Jamuna UGRO, SECL.
- Advice on design of support system for two inclines of Bicharpur underground mine at Shahdol, GCPL, M.P.
- Geomorphological cum sedimentological appraisal of changme Khangpu glacier, funded by department of science and technology, New Delhi.

10. Honors/Awards/Recognitions/Fellowships/Scholarships/Professional Memberships received:

- Nominated for the Young Scientist award by ISCA.Indian Science Congress association.
- Nominated for Rocha medal for an outstanding doctoral thesis in rock mechanics or rock engineering from India by ISRM.
- Member of International Society of Rock mechanics & Rock Engineering (ISRM) and Mining Engineering association of India (MEAI)

11. Societal Contributions: R&D output indirectly related with development of skilled workmanship, upliftment of the financial condition, fulfillment of basic amenities like school, hospitals, good society, and providing better living opportunities.