

Brief Bio-data

1. Name: Kartik Varwade

2. Date of Birth: 06/05/1992

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

Scientist, Slope Stabilisation and Landslide Management Research Group,
CSIR-Central Institute of Mining and Fuel Research, Barwa Road, Dhanbad- 826015,
Jharkhand, India.

Email ID: kartik@cimfr.nic.in, kartikvarwade06@gmail.com

Contact: 9589442278 (M)

4. Educational qualifications: (Graduation and above)

Sl. No.	Degree	Year of Passing	University/Institute	Subject
1	B.Tech and M.Tech Dual Degree	2015	National Institute of Technology, Rourkela, Odisha (India)	Mining Engineering

5. Work experience:

Designation	Institute/Company	From	To	Nature of Work
Scientist	CSIR-Central Institute of Mining and Fuel Research, Dhanbad (Jharkhand), India	17/12/2018	Till Date	Research and Development (Slope Stability and Geotechnical Engineering)

6. Work Area(s)/ Specialization: Slope Stability, Rock Mechanics, Geomechanics, Surface Mining, Numerical Modelling, Applications of Remote Sensing for Slope Monitoring

7. Major contributions: (Max. 100 words):

Research and development work has been done in the field of slope stability (slope design and slope monitoring). Executed number of projects related to slope design as project leader and team member for various coal and metal mines of OMC, IMFA, ECL, CCL, NTPC, GIPCL, TSML, etc. along with slope monitoring studies at several mines. Planned field visits for collection of geotechnical data, relevant plans and sections including discussions with management. Projects related to R&D design work for the disposal of fly ash mixed with overburden material were carried out for the utilization of fly ash in external overburden dumps.

8. No. of Research Publications:

- Papers in Journals: NIL
- In conference proceedings: 02
- Invited lectures delivered: NIL
- List of best 05 publications
 - 1) Enhancement of Stability of Overburden Dumps Using Fly Ash: A Review, A. Kumar, J. K. Singh, S. K. Roy, R. Kumar, K. Varwade and P. Kumar, Advances in Mining, February 2020.
 - 2) Optimum Dump Slope Design of an Opencast Coal Mine, S. K. Roy, J. K. Singh, A. Kumar, M. Kumar, K. Varwade and R. K. Singh, Advances in Mining, February 2020.
- Books/Chapters authored/edited: NIL

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

- (i) **Project Title:** Optimal design and stability analysis of overburden dump at South Kaliapani Chromite Mine and advice thereon for Odisha Mining Corporation Ltd. **Role:** Project Leader, **Sponsoring Agency:** OMC Ltd., **Project Cost:** ₹1500000/-.
- (ii) **Project Title:** Advice on slope steepening and optimum pit slope design for Quarry-D of South Kaliapani Chromite Mine of OMC Ltd. **Role:** Project Leader, **Sponsoring Agency:** OMC Ltd., **Project Cost:** ₹1250000/-.
- (iii) **Project Title:** Geotechnical study for design and analysis of overburden dump mixed with fly ash for its disposal in MMAE OCP, Sasan RPL. **Role:** Team Member, **Sponsoring Agency:** Sasan Power Limited, Reliance Industries, **Project Cost:** ₹2500000/-.
- (iv) **Project Title:** Scientific studies for design and implementation of overburden dump mixed with fly ash for its disposal at DLCMP. **Role:** Team Member, **Sponsoring Agency:** NTPC Ltd., **Project Cost:** ₹3710000/-.
- (v) **Project Title:** Scientific study of pit and dump slope stability along with identification of causes, circumstances on recent slope failure, wide crack development and recommendation on safe operation at Govindpur Ph II OCP, Kathara Area, CCL. **Role:** Team Member, **Sponsoring Agency:** Central Coalfields Limited, **Project Cost:** ₹2800000/-.

10. (a) Name of Patents/Copyrights applied /granted/commercialized: NIL

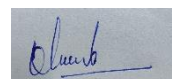
(b) Technologies/Products /knowhow/Services developed: NIL

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

- (i) Associate Member of The Institution of Engineers (India).
- (ii) Life Member of Mining Engineers' Association of India.

12. Societal Contributions

- (i) Optimum design of pit and dump slope of various mines through scientific study for long term stability with regard to safety and increasing production capacity.
- (ii) Constant monitoring of working and stabilized slopes to assess their stability with time and provide suitable remedial measures to avert any failure. Additionally through slope monitoring studies, predict and analyse the movement of the rockmass to determine the failure pattern which could help protect men and machinery from any mishap or accident due to slope failure.
- (iii) Part of the team which carried out two projects on developing strategy for the disposal of fly ash mixed with overburden material in external dumps of opencast coal mine leading to maximum utilization of fly ash as mandated by MoEF&CC, Govt. of India.



(Kartik Varwade)