

**1. Name:** Mr. Dilip Kumbhakar

**2. Date of Birth:** 05-September-1972

**3. Current Position and Address:**

Principal Scientist, Longwall Mining Division,  
CSIR-CIMFR, Dhanbad -826015.

E-mail: dilip@cimfr.res.in, dilipcimfr@yahoo.co.in

Mb No.: 9431729438



**4. Educational qualifications: (Graduation and above)**

Sl. No.	Degree /Certificate	Year of Passing	University/ Institute	Subjects
i	B.Tech.	1995	Indian School of Mines, Dhanbad	Mining Engineering
ii	M.Tech.	1997	Indian School of Mines, Dhanbad	Environmental Science and Engineering
iii	PhD	Pursuing	Indian School of Mines, Dhanbad	Engineering

**5. Work Experience**

Designation	Institution/company	From	To	Nature of Work
Scientist Group – IV (1)	CSIR-CIMFR	13-09-1996	31-12-2000	R&D
Scientist Group – IV (2)	CSIR-CIMFR	01-01-2001	31-12-2004	Do
Scientist Group – IV (3)	CSIR-CIMFR	01-01-2005	31-12-2009	Do
Principal Scientist	CSIR-CIMFR	01-01-2010	Till Date	Do

**6. Area of specialization:** Rock Mechanics, Numerical Modelling, Condition Monitoring & Reliability

**7. Honors/Awards received:**

- National Award for “*Use of Fly Ash for Stowing of Underground Mines*” conferred by Ministry of Environment and Forest, Ministry of Power and Ministry of Science & Technology, December 2005.
- Citation award by Director CMRI for rendering valuable services as Internal Quality Auditor in the year 1999
- As a member of Longwall Mining Discipline got citation and a cash prize of Rs. One thousand only by Director CIMFR for raising highest ECF in CIMFR in the year 2006
- As a member of Longwall Mining Discipline got citation and a cash prize of Rs. One thousand only by Director, CIMFR for raising the ECF of CIMFR through Grants-in-Aid Project in the year 2005-2006

**8. Fellowships/Scholarships:**

- GATE Scholarship -1995 : All India Rank 10

**9. No. of Research Publications:**

- Papers in journals: 6
- In conference proceedings: 24
- Invited/key-note addresses: Nil
- List of best 05 publications:

1. Prashant & Kumbhakar, D., “*Design and development of cemented fill system*”, Indian Mining & Engineering Journal pp 29-36, vol. 40, No. 5-6, May-June 2001.
2. Banerjee, G., Kushwaha, A., Kumbhakar, D. & Sinha, A., “*Prediction of strata and support behaviour during shortwall mining of developed bord & pillar working at Balarampur Mine, SECL*”, The Indian Mining & Engineering Journal, Vol.46, No. 11, November 2007.
3. Banerjee, G., Kumbhakar, D. & Sinha, A., “*Study of Caving Behaviour in Longwall Working – A Numerical Modelling Approach*”, Journal of Mines Metals & Fuels, Vol. 56, pp 77 to 82, May-June 2008.
4. Banerjee, G., Kumbhakar, D. & Yadava, K. P., “*Critical Face Width for a Longwall Panel–A Case Study*” Proceedings of the National Seminar on Meeting Rock Mechanics Challenge of Deep Underground Mining, organised by International Society for Rock Mechanics (India), Central Board of Irrigation & Power, New Delhi & CIMFR, pp 96-105, Dhanbad 22-24 April 2010.
5. Tomar, R. and Kumbhakar, D., "Rock Tale Drilling Prototype : An Innovative Design for Investigation of Rock Properties", International Journal of Science and Engineering Applications (IJSEA), Volume 4, Issue 6, November-December 2015)

**10. Number of Books authored/edited: Nil**

**11. (a) No. of Patents granted/applied for:**

Sl No.	Title	Country	Filed on (Date)	Patent No.	Names of other inventors
1.	An improved design of sand stowing bunker for hydraulic stowing of pond ash in coal mines.	India	0772DEL2006	In Process	J. K. Pandey, S. K. Kashyap, D. Kumbhakar & S. Tewary
3.	Continuous Roof Convergence Monitor For Underground Openings.	India	Sept. 2011	In Process	D. Kumbhakar, G.Banerjee, K.P. Yadava, A.K. Ghosh

**(b) Technologies developed, Licensed and/or commercialized:**

- Shortwall mining method for faster liquidation of pillars from developed B&P coal mine.

**12. Foreign visits: Nil**

**13. Details of Professional memberships:**

1. Member, Coal Ash Institute of India
2. Member, National Institute of Small Mines, India (NISM)

**14. Major contributions: ( Max. 150 words)**

Worked on strata and support behaviour study for longwall and shortwall workings, cavability assessment and support planning for caved longwall faces, hard roof management by water injection & deep hole surface blasting, reliability study of mining machinery, numerical modeling for strata behaviour and load on supports, micro-seismic monitoring in mines.

**15. Technologies and Products/ Services**

**(i) Developed:**

- a. Digital Roof Convergence Indicator for continuous and real time monitoring of strata behaviour

**(ii) Licensed: Nil**

**(iii) Commercialized: Nil**

**16. Designs and Prototype Developed:**

- a. Development of a Prototype for On-line Data Generation of Drilling Parameters to Investigate Various Rock Properties

**17. Honours and awards won for technological contributions or sociological impact of R&D:**

National Award for “*Use of Fly Ash for Stowing of Underground Mines*” conferred by Ministry of Environment and Forest, Ministry of Power and Ministry of Science & Technology, December 2005

**Signature**