

1. Name: Ashok Kumar

2. Date of Birth: 02.10.1990

3. Current Position and Address: Scientist

(with E-mail & Phone no.)

Strata Mechanics Department,

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4. Educational qualifications: (Graduation and above)

Sl. No.	Degree/ Certificate	Year of Passing	University/ Institute	Subjects
i	B. Tech.	2013	IIT (BHU), Varanasi	Mining
ii	M.Tech.	2015	AcSIR, CSIR-CIMFR, Dhanbad	Mine Safety Engg.

5. Work experience:

S.No.	Designation	Institution/company	From	To	Nature of work
i	Trainee Scientist	CSIR-CIMFR	Aug, 2013	Dec, 2015	R&D for efficient u/g coal mining
ii	Scientist-I	NIRM	Dec, 2015	April, 2016	-do-
iii	Scientist	CSIR-CIMFR	April, 2016	continued	-do-

6. Area of specialization:

Rock Mechanics, Numerical Modeling, Mechanised/Semi-mechanised Bord & Pillar Workings, Mining Methods for Extraction of Thick Coal Seam, Ground Control Investigation during Depillaring using Geo-technical Instruments.

7. Honors/Awards received:

- Got First Prize in X'hibit (a model making competition) organised in METTLE (a technical fest of IIT BHU Mining Engineering).
- Pratibha Samman awarded by Chief Minister of Bihar Mr. Nitish Kumar for qualifying IIT-JEE.
- Merit Certificate in 10th from CBSE for scoring 100 in Mathematics.

8. Fellowships/Scholarships: ---

- Merit cum Means Scholarship holder in B.Tech..

9. No. of Research Publications:

- Papers in journals : One (IJRMMS)
- In conference proceedings : Three (Two in international conferences)
- Invited/key-note addresses: ---
- List of best 05 publications:
 - (i) Singh R., **Kumar A.**, Singh A. K., Coggan J. and Ram S.(2016): “Rib/snook design in mechanised depillaring of rectangular/square pillars”, International Journal of Rock Mechanics and Mining Sciences, Vol. 84(2016), pp.119-129.
 - (ii) **Kumar A.**, Ram S. and Singh R. (2015): “Some practical rock mechanics considerations for rib/snook design in mechanised depillaring”, International Conference on “*Engineering Geology in New Millennium*” (EGNM-2015) October 27-29, 2015, Indian Institute of Technology, New Delhi, India, Special Publication, Journal of Engineering Geology, pp.394-409.
 - (iii) **Kumar A.**, Ram S., Singh A.K., Singh A.K., Kumar R. and Singh R. (2016): “A numerical modeling approach for rib/snook design in mechanised depillaring”, 6th Asian Mining Congress, February 23 – 26, 2016, Kolkata, India, The Mining Geological & Metallurgical Institute of India, pp.87-96.

10. Number of Books authored/edited: ---

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

- (i) "A model for rib/snook design in mechanised depillaring under moderate roof strata" by R. Singh, A. K. Singh, S. Ram, **A. Kumar**, R. Kumar and A. K. Singh: November 2015.

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

Developed design norms for the design of rib/snook for mechanised depillaring.

12. Foreign visits:

13. Details of Professional memberships: ---

14 . Major contributions: (Max. 150 words)

My extensive field study and numerical modelling provided valuable addition to R&D in mining industry.. Some of the important R&D contributions are:

- (i) Design of different elements for Continuous Miner based mechanised depillaring.
- (ii) Numerical Modeling and field investigation based performance evaluation.
- (iii) Extensive ground control study using different geo-technical instruments and automation of measurements of strata movement during underground coal mining.
- (iv) Empirical models for mining induced stress development during depillaring.

15. Technologies and Products/ Services

(i) Developed:

- Rib/snook design in CM based mechanised depillaring under moderate roof strata.
- Devised a formula to calculate the area of rib/snook for a given depth of cover and nature of roof.
- Manner of extraction and norms to design underground mining structures for a fully mechanized depillaring of locked-up coal pillars in the deep seated deposits.

(ii) Licensed:

(iii) Commercialized:

16. Designs and Prototype Developed:

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

A handwritten signature in blue ink that reads "Ashok Kumar". The signature is written in a cursive style with a horizontal line underlining the name.

Signature