



1. Name: AMIT KUMAR SINGH

2. Date of Birth: 14.10.1970

3. Current Position and Address: Senior Technical Officer (1)
(with E-Mail & Phone No.) Strata Mechanics Section,
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4. Educational qualifications: (Graduation and above)

Sl. No.	Degree/ Certificate	Year of Passing	University/ Institute	Subjects
i	B. Sc.	1993	Purvanchal University, Jaunpur (U.P.)	Agriculture
ii	M. Sc.	1996	MGCGV, Chitrakoot, Satna (M.P.)	Agriculture Extension

5. Work experience

Designation	Institution/company	From	To	Nature of work
Technical Assistant	CSIR-CIMFR	07.04.1999	to 06.042004	R&D
Senior Technical Assistant	CSIR-CIMFR	07.04.2004	to 06.042009	R&D
Technical Officer	CSIR-CIMFR	07.04.2009	to 06.042014	R&D
Senior Technical Officer-1	CSIR-CIMFR	07.04.2014	to till date	R&D

6. Area of specialization:

Thick seam mining and strata mechanics covering rock mechanics and mining methods, ground control, underground instrumentation and simulation of underground mining structures.

7. Honors/Awards received:

8. Fellowships/Scholarships:

9. No. of Research Publications: Total = 19
- Papers in journals: Twelve (One in foreign journals)
 - In conference proceedings: Seven (Two in international conferences)
 - Invited/key-note addresses:
 - List of best 05 publications:

1. Singh, Arun Kumar, Singh, Rajendra, Mandal, Prabhat Kumar, Kumar, Rakesh, **Singh, Amit Kumar** and Ram, Sahendra (2009): Rock mechanics challenges of depillaring at deep cover. *Journal of Mines, Metals and Fuels*, 57(9), pp. 298-306.
2. Singh, R. Ram, Sahendra, **Singh, Amit Kumar**, Prasad Shailly and Buragohain, John (2004): Underground extraction of contiguous coal seams/sections consisting thin parting: a case study. *Journal of South African Institute of Mining and Metallurgy (SAIMM)*, 104(1), pp. 17-27.
3. Mandal, P. K., Singh, Arun Kumar, Ram, S., **Singh, Amit Kumar**, Kumar Nirmal and Singh, R. (2004): Strata behaviour investigation of India's first depillaring face with continuous miner and shuttle car. *Minetech*, 25(6): pp. 3-12.
4. Mandal, P. K., Singh, Arun Kumar, Ram, S., **Singh, Amit Kumar** and Singh, R. (2004): Depillaring of a thick coal seam using cable bolts under shallow depth cover- A case study. *The Indian Mining and Engineering Journal*, 43 (7), pp. 11-18.
5. Buragohain, J., Singh, R., **Singh, Amit Kumar** and Ram, Sahendra (2001): *In-situ* investigations to study interaction between two close seams/sections extracted with critical interburden thickness. *Minetech*, Vol. 22, No. 4, July-August, Ranchi, pp. 13-23.

10. Number of Books authored/edited:

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

(1)"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:

I devoted my research activities development of the award winning mining methods like - cable bolting based depillaring of thick seams, wide stall mining etc.; my recently developed mining methods like: "Underpinning based simultaneous extraction of contiguous sections under fragile parting" and "Cross development based underground extraction of a critically thick coal seam standing on pillars and the development made along the roof horizon" have added new dimension in the field of optimal underground extraction of thick & contiguous coal seams of the country. Development and application of a new process: known as "Combined instruments Approach" (CIA) for the strata mechanics proved to be an efficient method to improve safety of underground workings.

12. Foreign visit: Visited ones Czech Republic

13. Details of Professional memberships:

14. Major contributions :(Max. 150 words)

I devoted last eighteen years of my services in different investigations related to more than 70 in-house and industry-sponsored projects, including three S&T projects of the Ministry of Coal, Govt. of India. My personal R&D efforts and management skill resulted successful completion of different industry-sponsored projects, S&T projects. My contributions are well proven and found to be of immense importance for excellence of production, productivity,

safety and conservation. I also initiated a collaborative R&D work with Institute of Geonics, Czech Republic. As per the feedbacks received from the industry, my developments have found perfect matching with the geo-mining conditions of our coalfields for techno-economic brilliance of the industry. some popular methods for safe and clean extraction of thick coal seams, appreciation from the involved industry, considerable number of publications in the best rock-mechanics/mining engineering journals/seminars symposium. Based on simple ideas and results of different field and laboratory investigations, my significant contributions are:

- Associated as principal investigator during field instrumentation, monitoring and analysis of the data during underground extraction of thick coal seam by cable bolting based depillaring of total thickness in single lift; especially at Madhusudanpur Colliery, ECL.
- Mining method/manner of pillar extraction using continuous miner technology for depillaring of developed coal seams.
- Optimisation of design of active reinforcement based breaker line support for a fully mechanised depillaring face with continuous miner and shuttle car.
- Strata movement analysis through instrumentation and monitoring during underground extraction of No. 1 seam by continuous miner with ram car combination at GDK-11 Incline mine, SCCL and L1B seam at Pinoura Mine, SECL.

15. Technologies and Products/ Services

(i) Developed:

- Development of a mining method for final extraction of a critically thick coal seam standing on pillars and developed along the roof horizon.
- Development of an empirical relationship for estimation of amount and range of mining induced stress over the pillars/stooks/ribs around a depillaring face.
- Development of Combined Instrument Approach (CIA) for strata movement study.

(ii) Licensed:

(iii) Commercialized:

All the above mentioned methods/processes are extensively used and being used by the coal mining industry. Technical services related to implementation of these developments under the given site conditions have been rendered (in terms of sponsored/ consultancy projects) to more than twenty coal mines and most of them have achieved good success.

16. Designs and Prototype Developed:

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

Signature